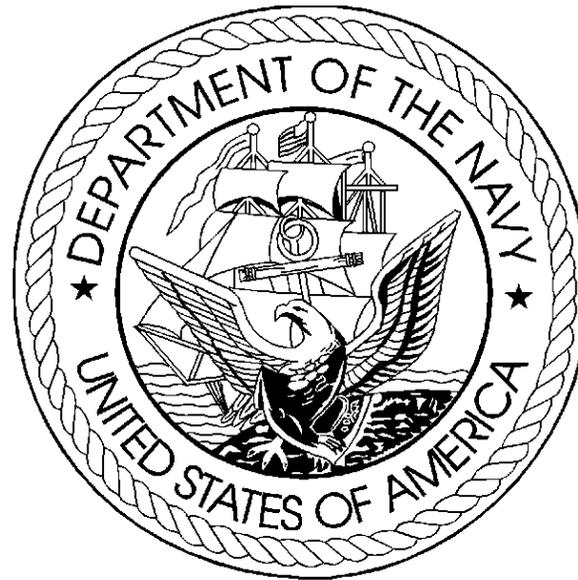


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**Department of Defense
Fiscal Year (FY) 2014 President's Budget Submission**

April 2013



Navy

Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Navy

Budget Activity 7

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Navy • President's Budget Submission FY 2014 • RDT&E Program

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Department of Defense
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 Exhibit R-1 FY 2014 President's Budget
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 (Dollars in Thousands)

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Appropriation	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base
Research, Development, Test & Eval, Navy	17,723,271	17,848,141	60,119		17,908,260	15,974,780
Total Research, Development, Test & Evaluation	17,723,271	17,848,141	60,119		17,908,260	15,974,780

R-1C: FY 2014 President's Budget (Published Version), as of February 27, 2013 at 13:28:53

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Department of Defense
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Summary Recap of Budget Activities	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base
Basic Research	590,619	605,021			605,021	615,306
Applied Research	812,531	790,302			790,302	834,538
Advanced Technology Development	674,173	584,402			584,402	583,116
Advanced Component Development & Prototypes	4,361,733	4,335,297	4,600		4,339,897	4,641,385
System Development & Demonstration	5,980,572	5,747,232	2,173		5,749,405	5,028,476
Management Support	1,167,031	845,077	5,200		850,277	886,137
Operational Systems Development	4,136,612	3,975,546	48,146		4,023,692	3,385,822
Undistributed		965,264			965,264	
Total Research, Development, Test & Evaluation	17,723,271	17,848,141	60,119		17,908,260	15,974,780
Summary Recap of FYDP Programs						
Strategic Forces	150,203	161,263			161,263	153,018
General Purpose Forces	1,429,687	1,422,932	6,762		1,429,694	1,489,417
Intelligence and Communications	1,327,153	1,176,330	7,600		1,183,930	671,724
Research and Development	13,393,865	12,883,923	11,973		12,895,896	12,391,516
Central Supply and Maintenance	80,174	87,270			87,270	83,973
Administration and Associated Activities	441	965,264			965,264	
Classified Programs	1,341,748	1,151,159	33,784		1,184,943	1,185,132
Total Research, Development, Test & Evaluation	17,723,271	17,848,141	60,119		17,908,260	15,974,780

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	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base

Summary Recap of Non-RDT&E Title FYDP Programs						

Mobility Forces	50,632	42,811			42,811	56,058
Total Research, Development, Test & Evaluation	50,632	42,811			42,811	56,058

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Summary Recap of Budget Activities	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base
-----	-----	-----	-----	-----	-----	-----
Basic Research	590,619	605,021			605,021	615,306
Applied Research	812,531	790,302			790,302	834,538
Advanced Technology Development	674,173	584,402			584,402	583,116
Advanced Component Development & Prototypes	4,361,733	4,335,297	4,600		4,339,897	4,641,385
System Development & Demonstration	5,980,572	5,747,232	2,173		5,749,405	5,028,476
Management Support	1,167,031	845,077	5,200		850,277	886,137
Operational Systems Development	4,136,612	3,975,546	48,146		4,023,692	3,385,822
Undistributed		965,264			965,264	
Total Research, Development, Test & Evaluation	17,723,271	17,848,141	60,119		17,908,260	15,974,780
Summary Recap of FYDP Programs						
-----	-----	-----	-----	-----	-----	-----
Strategic Forces	150,203	161,263			161,263	153,018
General Purpose Forces	1,429,687	1,422,932	6,762		1,429,694	1,489,417
Intelligence and Communications	1,327,153	1,176,330	7,600		1,183,930	671,724
Research and Development	13,393,865	12,883,923	11,973		12,895,896	12,391,516
Central Supply and Maintenance	80,174	87,270			87,270	83,973
Administration and Associated Activities	441	965,264			965,264	
Classified Programs	1,341,748	1,151,159	33,784		1,184,943	1,185,132
Total Research, Development, Test & Evaluation	17,723,271	17,848,141	60,119		17,908,260	15,974,780

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

Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Se
1	0601103N	University Research Initiatives	01	126,836	113,690			113,690	112,617	U
2	0601152N	In-House Laboratory Independent Research	01	17,642	18,261			18,261	18,230	U
3	0601153N	Defense Research Sciences	01	446,141	473,070			473,070	484,459	U
		Basic Research		590,619	605,021			605,021	615,306	
4	0602114N	Power Projection Applied Research	02	98,452	89,189			89,189	104,513	U
5	0602123N	Force Protection Applied Research	02	194,050	143,301			143,301	145,307	U
6	0602131M	Marine Corps Landing Force Technology	02	43,901	46,528			46,528	47,334	U
7	0602235N	Common Picture Applied Research	02	70,935	41,696			41,696	34,163	U
8	0602236N	Warfighter Sustainment Applied Research	02	97,107	44,127			44,127	49,689	U
9	0602271N	Electromagnetic Systems Applied Research	02	104,457	78,228			78,228	97,701	U
10	0602435N	Ocean Warfighting Environment Applied Research	02	46,891	49,635			49,635	45,685	U
11	0602651M	Joint Non-Lethal Weapons Applied Research	02	4,652	5,973			5,973	6,060	U
12	0602747N	Undersea Warfare Applied Research	02	114,251	96,814			96,814	103,050	U
13	0602750N	Future Naval Capabilities Applied Research	02		162,417			162,417	169,710	U
14	0602782N	Mine and Expeditionary Warfare Applied Research	02	37,835	32,394			32,394	31,326	U
		Applied Research		812,531	790,302			790,302	834,538	
15	0603114N	Power Projection Advanced Technology	03	103,710	56,543			56,543	48,201	U
16	0603123N	Force Protection Advanced Technology	03	41,666	18,616			18,616	28,328	U
17	0603235N	Common Picture Advanced Technology	03	46,530						U
18	0603236N	Warfighter Sustainment Advanced Technology	03	68,955						U

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Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Se
19	0603271N	Electromagnetic Systems Advanced Technology	03	125,674	54,858			54,858	56,179	U
20	0603640M	USMC Advanced Technology Demonstration (ATD)	03	120,141	130,598			130,598	132,400	U
21	0603651M	Joint Non-Lethal Weapons Technology Development	03	12,035	11,706			11,706	11,854	U
22	0603673N	Future Naval Capabilities Advanced Technology Development	03		256,382			256,382	247,931	U
23	0603729N	Warfighter Protection Advanced Technology	03	55,867	3,880			3,880	4,760	U
24	0603747N	Undersea Warfare Advanced Technology	03	43,729						U
25	0603758N	Navy Warfighting Experiments and Demonstrations	03	50,062	51,819			51,819	51,463	U
26	0603782N	Mine and Expeditionary Warfare Advanced Technology	03	5,804					2,000	U
		Advanced Technology Development		674,173	584,402			584,402	583,116	
27	0603207N	Air/Ocean Tactical Applications	04	46,274	34,085			34,085	42,246	U
28	0603216N	Aviation Survivability	04	10,720	8,783			8,783	5,591	U
29	0603237N	Deployable Joint Command and Control	04	3,418	3,773			3,773	3,262	U
30	0603251N	Aircraft Systems	04	10,040	24,512			24,512	74	U
31	0603254N	ASW Systems Development	04	7,610	8,090			8,090	7,964	U
32	0603261N	Tactical Airborne Reconnaissance	04	8,294	5,301			5,301	5,257	U
33	0603382N	Advanced Combat Systems Technology	04	1,107	1,506			1,506	1,570	U
34	0603502N	Surface and Shallow Water Mine Countermeasures	04	126,760	190,622			190,622	168,040	U
35	0603506N	Surface Ship Torpedo Defense	04	122,311	93,346			93,346	88,649	U
36	0603512N	Carrier Systems Development	04	61,909	108,871			108,871	83,902	U

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37	0603525N	PILOT FISH	04	98,052	101,169			101,169	108,713	U
38	0603527N	RETRACT LARCH	04	80,180	74,312			74,312	9,316	U
39	0603536N	RETRACT JUNIPER	04	120,904	90,730			90,730	77,108	U
40	0603542N	Radiological Control	04	1,312	777			777	762	U
41	0603553N	Surface ASW	04	38,943	6,704			6,704	2,349	U
42	0603561N	Advanced Submarine System Development	04	843,646	555,123			555,123	852,977	U
43	0603562N	Submarine Tactical Warfare Systems	04	9,008	9,368			9,368	8,764	U
44	0603563N	Ship Concept Advanced Design	04	16,837	24,609			24,609	20,501	U
45	0603564N	Ship Preliminary Design & Feasibility Studies	04	17,611	13,710			13,710	27,052	U
46	0603570N	Advanced Nuclear Power Systems	04	463,683	249,748			249,748	428,933	U
47	0603573N	Advanced Surface Machinery Systems	04	17,721	29,897			29,897	27,154	U
48	0603576N	CHALK EAGLE	04	573,676	509,988			509,988	519,140	U
49	0603581N	Littoral Combat Ship (LCS)	04	297,125	429,420			429,420	406,389	U
50	0603582N	Combat System Integration	04	48,999	56,551			56,551	36,570	U
51	0603609N	Conventional Munitions	04	4,660	7,342			7,342	8,404	U
52	0603611M	Marine Corps Assault Vehicles	04	37,000	95,182			95,182	136,967	U
53	0603635M	Marine Corps Ground Combat/Support System	04	52,992	10,496			10,496	1,489	U
54	0603654N	Joint Service Explosive Ordnance Development	04	33,012	52,331	4,600		56,931	38,422	U
55	0603658N	Cooperative Engagement	04	54,422	56,512			56,512	69,312	U
56	0603713N	Ocean Engineering Technology Development	04	9,802	7,029			7,029	9,196	U

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57	0603721N	Environmental Protection	04	21,407	21,080			21,080	18,850	U
58	0603724N	Navy Energy Program	04	69,844	55,324			55,324	45,618	U
59	0603725N	Facilities Improvement	04	3,754	3,401			3,401	3,019	U
60	0603734N	CHALK CORAL	04	76,540	45,966			45,966	144,951	U
61	0603739N	Navy Logistic Productivity	04	4,054	3,811			3,811	5,797	U
62	0603746N	RETRACT MAPLE	04	272,049	341,305			341,305	308,131	U
63	0603748N	LINK PLUMERIA	04	54,816	181,220			181,220	195,189	U
64	0603751N	RETRACT ELM	04	114,374	174,014			174,014	56,358	U
65	0603764N	LINK EVERGREEN	04	142,858	68,654			68,654	55,378	U
66	0603787N	Special Processes	04	42,805	44,487			44,487	48,842	U
67	0603790N	NATO Research and Development	04	9,402	9,389			9,389	7,509	U
68	0603795N	Land Attack Technology	04	411	16,132			16,132	5,075	U
69	0603851M	Joint Non-Lethal Weapons Testing	04	40,189	44,994			44,994	51,178	U
70	0603860N	Joint Precision Approach and Landing Systems - Dem/Val	04	95,097	137,369			137,369	205,615	U
71	0603889N	Counterdrug RDT&E Projects	04	7,354						U
72	0604272N	Tactical Air Directional Infrared Countermeasures (TADIRCM)	04	71,738	73,934			73,934	37,227	U
73	0604279N	ASE Self-Protection Optimization	04	676	711			711	169	U
74	0604653N	Joint Counter Radio Controlled IED Electronic Warfare (JCREW)	04	60,853	71,300			71,300	20,874	U

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75	0604659N	Precision Strike Weapons Development Program	04	3,381	5,654			5,654	2,257	U
76	0604707N	Space and Electronic Warfare (SEW) Architecture/Engineering Support	04	39,250	31,549			31,549	38,327	U
77	0604786N	Offensive Anti-Surface Warfare Weapon Development	04		86,801			86,801	135,985	U
78	0605812M	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	04		44,500			44,500	50,362	U
79	0303354N	ASW Systems Development - MIP	04	1,078	13,172			13,172	8,448	U
80	0304270N	Electronic Warfare Development - MIP	04	11,775	643			643	153	U
		Advanced Component Development & Prototypes		4,361,733	4,335,297	4,600		4,339,897	4,641,385	
81	0604212N	Other Helo Development	05	41,473	33,978			33,978	40,558	U
82	0604214N	AV-8B Aircraft - Eng Dev	05	22,810	32,789			32,789	35,825	U
83	0604215N	Standards Development	05	47,406	84,988			84,988	99,891	U
84	0604216N	Multi-Mission Helicopter Upgrade Development	05	16,876	6,866			6,866	17,565	U
85	0604218N	Air/Ocean Equipment Engineering	05	5,492	4,060			4,060	4,026	U
86	0604221N	P-3 Modernization Program	05	3,294	3,451			3,451	1,791	U
87	0604230N	Warfare Support System	05	9,761	13,071			13,071	11,725	U
88	0604231N	Tactical Command System	05	75,683	71,645			71,645	68,463	U
89	0604234N	Advanced Hawkeye	05	129,414	119,065			119,065	152,041	U
90	0604245N	H-1 Upgrades	05	65,617	31,105			31,105	47,123	U
91	0604261N	Acoustic Search Sensors	05	49,353	34,299			34,299	30,208	U
92	0604262N	V-22A	05	71,938	54,412			54,412	43,084	U

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Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Se
93	0604264N	Air Crew Systems Development	05	2,620	2,717			2,717	11,401	U
94	0604269N	EA-18	05	14,770	13,009			13,009	11,138	U
95	0604270N	Electronic Warfare Development	05	93,692	51,304			51,304	34,964	U
96	0604273N	VH-71A Executive Helo Development	05	58,994	61,163			61,163	94,238	U
97	0604274N	Next Generation Jammer (NGJ)	05	160,793	187,024			187,024	257,796	U
98	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	601,347	337,480			337,480	3,302	U
99	0604307N	Surface Combatant Combat System Engineering	05	211,968	260,616			260,616	240,298	U
100	0604311N	LPD-17 Class Systems Integration	05	858	824			824	1,214	U
101	0604329N	Small Diameter Bomb (SDB)	05	23,188	31,064			31,064	46,007	U
102	0604366N	Standard Missile Improvements	05	55,546	63,891			63,891	75,592	U
103	0604373N	Airborne MCM	05	48,614	73,246			73,246	117,854	U
104	0604376M	Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) for Aviation	05		10,568			10,568	10,080	U
105	0604378N	Naval Integrated Fire Control - Counter Air Systems Engineering	05	28,279	39,974			39,974	21,413	U
106	0604404N	Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System	05	71,182	122,481			122,481	146,683	U
107	0604501N	Advanced Above Water Sensors	05	245,946	255,516			255,516	275,871	U
108	0604503N	SSN-688 and Trident Modernization	05	89,083	82,620			82,620	89,672	U
109	0604504N	Air Control	05	6,116	5,633			5,633	13,754	U
110	0604512N	Shipboard Aviation Systems	05	47,903	55,826			55,826	69,615	U

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Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Se
111	0604518N	Combat Information Center Conversion	05	3,315	918			918		U
112	0604558N	New Design SSN	05	109,117	165,230			165,230	121,566	U
113	0604562N	Submarine Tactical Warfare System	05	47,318	49,141			49,141	49,143	U
114	0604567N	Ship Contract Design/ Live Fire T&E	05	121,008	196,737			196,737	155,254	U
115	0604574N	Navy Tactical Computer Resources	05	3,003	3,889			3,889	3,689	U
116	0604601N	Mine Development	05	3,874	8,335			8,335	5,041	U
117	0604610N	Lightweight Torpedo Development	05	25,457	49,818			49,818	26,444	U
118	0604654N	Joint Service Explosive Ordnance Development	05	11,954	10,099			10,099	8,897	U
119	0604703N	Personnel, Training, Simulation, and Human Factors	05	12,552	7,348			7,348	6,233	U
120	0604727N	Joint Standoff Weapon Systems	05	7,303	5,518			5,518	442	U
121	0604755N	Ship Self Defense (Detect & Control)	05	71,094	87,662			87,662	130,360	U
122	0604756N	Ship Self Defense (Engage: Hard Kill)	05	20,041	64,079			64,079	50,209	U
123	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	179,033	151,489			151,489	164,799	U
124	0604761N	Intelligence Engineering	05	2,196					1,984	U
125	0604771N	Medical Development	05	32,118	12,707	2,173		14,880	9,458	U
126	0604777N	Navigation/ID System	05	38,389	47,764			47,764	51,430	U
127	0604800M	Joint Strike Fighter (JSF) - EMD	05	617,695	737,149			737,149	512,631	U
128	0604800N	Joint Strike Fighter (JSF) - EMD	05	632,042	743,926			743,926	534,187	U
129	0605013M	Information Technology Development	05	19,080	12,143			12,143	5,564	U
130	0605013N	Information Technology Development	05	28,919	72,209			72,209	69,659	U

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131	0605018N	Navy Integrated Military Human Resources System (N-IMHRS)	05	2,367						U
132	0605212N	CH-53K RDTE	05	606,255	606,204			606,204	503,180	U
133	0605450N	Joint Air-to-Ground Missile (JAGM)	05	108,395					5,500	U
134	0605500N	Multi-mission Maritime Aircraft (MMA)	05	595,532	421,102			421,102	317,358	U
135	0204202N	DDG-1000	05	249,780	124,655			124,655	187,910	U
136	0304231N	Tactical Command System - MIP	05	979	1,170			1,170	2,140	U
137	0304785N	Tactical Cryptologic Systems	05	31,740	23,255			23,255	9,406	U
138	0305124N	Special Applications Program	05	100,000					22,800	U
		System Development & Demonstration		5,980,572	5,747,232	2,173		5,749,405	5,028,476	
139	0604256N	Threat Simulator Development	06	27,687	30,790			30,790	43,261	U
140	0604258N	Target Systems Development	06	52,561	59,221			59,221	71,872	U
141	0604759N	Major T&E Investment	06	36,670	35,894			35,894	38,033	U
142	0605126N	Joint Theater Air and Missile Defense Organization	06	2,896	7,573			7,573	1,352	U
143	0605152N	Studies and Analysis Support - Navy	06	18,431	20,963			20,963	5,566	U
144	0605154N	Center for Naval Analyses	06	46,312	46,856			46,856	48,345	U
145	0605502N	Small Business Innovative Research	06	325,202						U
146	0605804N	Technical Information Services	06	1,230	796			796	637	U
147	0605853N	Management, Technical & International Support	06	56,441	32,782			32,782	76,585	U
148	0605856N	Strategic Technical Support	06	3,192	3,306			3,306	3,221	U

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149	0605861N	RDT&E Science and Technology Management	06	72,778	70,302			70,302	72,725	U
150	0605863N	RDT&E Ship and Aircraft Support	06	134,087	144,033			144,033	141,778	U
151	0605864N	Test and Evaluation Support	06	333,344	342,298			342,298	331,219	U
152	0605865N	Operational Test and Evaluation Capability	06	16,464	16,399			16,399	16,565	U
153	0605866N	Navy Space and Electronic Warfare (SEW) Support	06	4,152	4,579	5,200		9,779	3,265	U
154	0605867N	SEW Surveillance/Reconnaissance Support	06	7,642	8,000			8,000	7,134	U
155	0605873M	Marine Corps Program Wide Support	06	26,303	18,490			18,490	24,082	U
156	0305885N	Tactical Cryptologic Activities	06	1,198	2,795			2,795	497	U
157	0909999N	Financing for Cancelled Account Adjustments	06	441						U
		Management Support		1,167,031	845,077	5,200		850,277	886,137	
159	0604227N	HARPOON Modifications	07						699	U
160	0604402N	Unmanned Combat Air Vehicle (UCAV) Advanced Component and Prototype Development	07	202,188	142,282			142,282	20,961	U
161	0604717M	Marine Corps Combat Services Support	07	392						U
162	0604766M	Marine Corps Data Systems	07	1,617					35	U
163	0605525N	Carrier Onboard Delivery (COD) Follow On	07						2,460	U
164	0605555N	Strike Weapons Development	07						9,757	U
165	0101221N	Strategic Sub & Weapons System Support	07	87,454	105,892			105,892	98,057	U
166	0101224N	SSBN Security Technology Program	07	32,464	34,729			34,729	31,768	U
167	0101226N	Submarine Acoustic Warfare Development	07	6,210	1,434			1,434	1,464	U

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Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Se
168	0101402N	Navy Strategic Communications	07	24,075	19,208			19,208	21,729	U
169	0203761N	Rapid Technology Transition (RTT)	07	32,959	25,566			25,566	13,561	U
170	0204136N	F/A-18 Squadrons	07	148,313	188,299			188,299	131,118	U
171	0204152N	E-2 Squadrons	07	11,276	8,610			8,610	1,971	U
172	0204163N	Fleet Telecommunications (Tactical)	07	2,035	15,695			15,695	46,155	U
173	0204228N	Surface Support	07	3,292	4,171			4,171	2,374	U
174	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	8,581	11,265			11,265	12,407	U
175	0204311N	Integrated Surveillance System	07	29,275	45,922			45,922	41,609	U
176	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	5,085	8,435			8,435	7,240	U
177	0204460M	Ground/Air Task Oriented Radar (G/ATOR)	07		75,088			75,088	78,208	U
178	0204571N	Consolidated Training Systems Development	07	38,055	20,229			20,229	45,124	U
179	0204574N	Cryptologic Direct Support	07	1,447	1,756			1,756	2,703	U
180	0204575N	Electronic Warfare (EW) Readiness Support	07	17,686	19,843			19,843	19,563	U
181	0205601N	HARM Improvement	07	11,748	11,477			11,477	13,586	U
182	0205604N	Tactical Data Links	07	62,367	118,818			118,818	197,538	U
183	0205620N	Surface ASW Combat System Integration	07	28,927	27,342			27,342	31,863	U
184	0205632N	MK-48 ADCAP	07	45,130	28,717			28,717	12,806	U
185	0205633N	Aviation Improvements	07	101,135	89,157			89,157	88,607	U
186	0205658N	Navy Science Assistance Program	07	1,937	3,450			3,450		U

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187	0205675N	Operational Nuclear Power Systems	07	82,705	86,435			86,435	116,928	U
188	0206313M	Marine Corps Communications Systems	07	313,832	219,054			219,054	178,753	U
189	0206623M	Marine Corps Ground Combat/Supporting Arms Systems	07	153,435	181,693			181,693	139,594	U
190	0206624M	Marine Corps Combat Services Support	07	45,803	58,393	6,762		65,155	42,647	U
191	0206625M	USMC Intelligence/Electronic Warfare Systems (MIP)	07	19,627	22,966			22,966	34,394	U
192	0207161N	Tactical AIM Missiles	07	8,463	21,107			21,107	39,159	U
193	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	2,803	2,857			2,857	2,613	U
194	0208058N	Joint High Speed Vessel (JHSV)	07	3,991	1,932			1,932	986	U
199	0303109N	Satellite Communications (SPACE)	07	258,812	188,482			188,482	66,231	U
200	0303138N	Consolidated Afloat Network Enterprise Services (CANES)	07	24,039	16,749			16,749	24,476	U
201	0303140N	Information Systems Security Program	07	38,747	26,307			26,307	23,531	U
202	0303150M	WWMCCS/Global Command and Control System	07	1,226	500			500		U
203	0303238N	Consolidated Afloat Network Enterprise Services (CANES) - MIP	07	6,602						U
205	0305149N	COBRA JUDY	07	40,605	17,091			17,091		U
206	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	820	810			810	742	U
207	0305192N	Military Intelligence Program (MIP) Activities	07	4,099	8,617			8,617	4,804	U
208	0305204N	Tactical Unmanned Aerial Vehicles	07	9,353	9,066			9,066	8,381	U
209	0305206N	Airborne Reconnaissance Systems	07	20,000						U

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Line No	Program Element Number	Item	Act	FY 2012 (Base & OCO)	FY 2013 Base Request with CR Adj*	FY 2013 OCO Request with CR Adj*	Emergency Disaster Relief Act of 2013	FY 2013 Total Request with CR Adj*	FY 2014 Base	Se
210	0305207N	Manned Reconnaissance Systems	07		30,654			30,654		U
211	0305208M	Distributed Common Ground/Surface Systems	07	22,309	25,917			25,917	5,535	U
212	0305208N	Distributed Common Ground/Surface Systems	07	27,495	14,676			14,676	19,718	U
213	0305220N	RQ-4 UAV	07	548,617	657,483			657,483	375,235	U
214	0305231N	MQ-8 UAV	07	110,011	99,600			99,600	48,713	U
215	0305232M	RQ-11 UAV	07	979	495			495	102	U
216	0305233N	RQ-7 UAV	07	872	863	7,600		8,463	710	U
217	0305234N	Small (Level 0) Tactical UAS (STUASL0)	07	20,287	9,734			9,734	5,013	U
218	0305237N	Medium Range Maritime UAS	07	13,237						U
219	0305239M	RQ-21A	07	24,201	22,343			22,343	11,122	U
220	0305241N	Multi-Intelligence Sensor Development	07						28,851	U
221	0308601N	Modeling and Simulation Support	07	8,072	5,908			5,908	5,116	U
222	0702207N	Depot Maintenance (Non-IF)	07	24,473	27,391			27,391	28,042	U
223	0708011N	Industrial Preparedness	07	51,778	54,879			54,879	50,933	U
224	0708730N	Maritime Technology (MARITECH)	07	3,923	5,000			5,000	4,998	U
9999	9999999999	Classified Programs		1,341,748	1,151,159	33,784		1,184,943	1,185,132	U
		Operational Systems Development		4,136,612	3,975,546	48,146		4,023,692	3,385,822	
225	0901560N	Continuing Resolution Programs	20		965,264			965,264		U
		Undistributed			965,264			965,264		

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Element	Number	Item	Act	(Base & OCO)	Base Request	OCO Request	Disaster	Total Request	Base	
No	-----	-----	---	-----	with CR Adj*	with CR Adj*	Relief Act of	with CR Adj*	-----	-----
--							2013			
	Total Research, Development, Test & Eval, Navy			17,723,271	17,848,141	60,119		17,908,260	15,974,780	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604227N: <i>Harpoon Modifications</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	0.699	-	0.699	0.000	0.000	0.000	0.000	0.000	0.699
1843: <i>Harpoon Block III</i>	0.000	0.000	0.000	0.699	-	0.699	0.000	0.000	0.000	0.000	0.000	0.699

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

New Start

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 70s 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.

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.

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	0.699	-	0.699
Total Adjustments	0.000	0.000	0.699	-	0.699
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	0.699	-	0.699

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604227N: <i>Harpoon Modifications</i>	PROJECT 1843: <i>Harpoon Block III</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1843: <i>Harpoon Block III</i>	0.000	0.000	0.000	0.699	-	0.699	0.000	0.000	0.000	0.000	0.000	0.699
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 70s 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 2012	FY 2013	FY 2014
Title: Air Harpoon Container	0.000	0.000	0.699
Articles:			0
FY 2014 Plans: Fund will support asset build, qualification testing, and Insensitive Munitions (IM) testing.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.699

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

N/A

Remarks

D. Acquisition Strategy

FY14 additional 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.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604227N: <i>Harpoon Modifications</i>	PROJECT 1843: <i>Harpoon Block III</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Support	WR	NAWCWD:CHINA LAKE	0.000	0.000		0.000		0.200	Nov 2013	-		0.200	0.000	0.200	
Government Support	WR	NAWCAD:PATUXENT RIVER	0.000	0.000		0.000		0.159	Nov 2013	-		0.159	0.000	0.159	
Government Support	WR	NSWC:Various	0.000	0.000		0.000		0.340	Nov 2013	-		0.340	0.000	0.340	
Subtotal			0.000	0.000		0.000		0.699		0.000		0.699	0.000	0.699	

Remarks
 Various NSWC activities: Earle

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	0.000	0.699	0.000	0.699	0.000	0.699	

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	1,036.285	202.188	142.282	20.961	-	20.961	0.000	0.000	0.000	0.000	0.000	1,401.716
3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>	1,036.285	202.188	142.282	20.961	-	20.961	0.000	0.000	0.000	0.000	0.000	1,401.716

MDAP/MAIS Code(s): P388

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	198.251	142.282	41.158	-	41.158
Current President's Budget	202.188	142.282	20.961	-	20.961
Total Adjustments	3.937	0.000	-20.197	-	-20.197
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	8.184	0.000			
• SBIR/STTR Transfer	-4.247	0.000			
• Program Adjustments	0.000	0.000	-20.153	-	-20.153
• Rate/Misc Adjustments	0.000	0.000	-0.044	-	-0.044

Change Summary Explanation

Technical: N/A

Schedule:

System Development: Ship Integration Build 2

From 2nd QTR 2013 to 4th QTR 2013 due to carrier schedule change.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>	1,036.285	202.188	142.282	20.961	-	20.961	0.000	0.000	0.000	0.000	0.000	1,401.716
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2012	FY 2013	FY 2014
Title: Product Development	177.816	122.571	13.923
Articles:	0	0	0
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 2012 Accomplishments: Continue efforts in the Navy UCAS program designing, developing, integrating and validating the Navy UCAS Air Vehicle Segment, MCS and government led Aircraft Carrier Integration Segment. Installation of UCAS-D shipboard components on Nimitz class aircraft carrier. Continue AAR integration efforts. Continue Highly Integrated Photonics analysis and technical discussions for integration and installation on T-REX and ROADHAWK platforms. Continue process to transfer component fabrication processes from research facilities to a foundry environment. Continue to refine and prioritize system demonstration objectives and identify a demonstration platform.			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue 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. Finalize temporary installations of UCAS-D shipboard components on Nimitz class aircraft carrier. Continue AAR integration efforts. FY 2014 Plans: Continue AAR integration efforts. Complete Navy UCAS demonstration objectives and contract closeout.				
Title: Test and Evaluation Support		10.061	8.800	3.053
		Articles: 0	0	0
FY 2012 Accomplishments: After airworthiness and envelope expansion test completion, Air Vehicles 1 and 2 will transfer to NAWCAD Patuxent River, MD for shore-based carrier suitability testing. Conduct shore-based carrier suitability testing with Air Vehicles 1 and 2. Conduct the final verification testing of the CVN segment.				
FY 2013 Plans: Continue shore-based carrier suitability testing with Air Vehicles 1 and 2 at NAWCAD Patuxent River, MD. Conduct Sea Trial testing, including ship landings, for Air Vehicles 1 and 2 aboard a Nimitz class aircraft carrier.				
FY 2014 Plans: Complete UCAS Demonstration objectives and contract closeout.				
Title: Management		14.311	10.911	3.985
		Articles: 0	0	0
FY 2012 Accomplishments: Government management, engineering, and contract support.				
FY 2013 Plans: Government management, engineering, and contract support.				
FY 2014 Plans: Government management, engineering, and contract support. The Carrier Demonstration will be complete and management support is required for program closeout.				
Accomplishments/Planned Programs Subtotals		202.188	142.282	20.961
C. Other Program Funding Summary (\$ in Millions)				
N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>

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

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 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 final sea trials of X-47B air vehicles. Demonstrate Autonomous Aerial Refueling.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Aviation/ Ship Integration	C/CPFF	Rockwell/ AFRL:Rome, NY	8.535	1.766	Nov 2011	1.638	Nov 2012	0.500	Nov 2013	-		0.500	0.000	12.439	12.439
Aviation/ Ship Integration	C/CPFF	L-3 Com Titan:MD	10.278	1.857	Dec 2011	1.250	Dec 2012	1.030	Dec 2013	-		1.030	0.000	14.415	14.415
Aviation/Ship Integration	WR	NAWCAD:MD	39.626	18.664	Nov 2011	14.443	Nov 2012	4.279	Nov 2013	-		4.279	0.000	77.012	
Aviation/Ship Integration	C/CPIF	Various:Various	4.242	0.900	Jan 2012	0.843	Jan 2013	0.500	Jan 2014	-		0.500	0.000	6.485	6.485
Primary Hardware Development	C/CPIF	Northrop Grumman Corporation:CA	749.303	126.713	Dec 2011	87.187	Dec 2012	4.795	Dec 2013	-		4.795	0.000	967.998	967.998
Systems Engineering	WR	NAWCAD:MD	29.786	14.798	Nov 2011	12.857	Nov 2012	2.295	Nov 2013	-		2.295	0.000	59.736	
Product Development	Various	Various:Various	97.551	4.934	Dec 2011	4.353	Dec 2012	0.524	Dec 2013	-		0.524	0.000	107.362	
New Highly Integrated Photonics	Various	Various:Various	2.000	8.184	Mar 2012	0.000		0.000		-		0.000	0.000	10.184	10.184
Subtotal			941.321	177.816		122.571		13.923		0.000		13.923	0.000	1,255.631	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior year Support cost no longer funded in the FYDP	Various	Various:Various	20.861	0.000		0.000		0.000		-		0.000	0.000	20.861	
Subtotal			20.861	0.000		0.000		0.000		0.000		0.000	0.000	20.861	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	MIPR	Edwards AFB:CA	9.475	0.722	Nov 2011	0.150	Nov 2012	0.000		-		0.000	0.000	10.347	
Developmental Test & Evaluation	WR	NAWCAD:MD	16.374	8.971	Nov 2011	8.345	Nov 2012	2.953	Nov 2013	-		2.953	0.000	36.643	
Test & Evaluation	Various	Various:Various	1.006	0.368	Nov 2011	0.305	Nov 2012	0.100	Nov 2013	-		0.100	0.000	1.779	

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Unmanned Combat Air Vehicle (UCAV) ADV CP/PROTO DEV</i>				
Systems Development: Software Devel, Int, & Supt	1	2012	4	2012
Systems Development: Ship Integration: Build 2	1	2012	4	2013
Systems Development: Autonomous Aerial Refueling (AAR): System Integration - AAR	1	2012	2	2014
Systems Development: Autonomous Aerial Refueling (AAR): Surrogate/Air Vehicle Flight Test - AAR	1	2012	3	2013
Test & Evaluation: Surrogate Testing: Surrogate Testing	1	2012	4	2013
Test & Evaluation: Airworthiness Testing: Airworthiness Testing	1	2012	2	2012
Test & Evaluation: Land Based Carrier Control Area, Catapult Launch & Arrestment Testing: Land Based Carrier Control Area, Catapult Launch & Arrestment Testing	1	2012	4	2013
Test & Evaluation: Sea Trials: Sea Trials	1	2013	1	2014
Test & Evaluation: Sea Trials: First Ship Landing	3	2013	3	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604717M: (U)MARINE CORPS COMBAT SERVICES SUPPORT
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.392	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.392
2510: <i>MAGTF CSSE & SE</i>	0.000	0.392	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.392

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Global Combat Support System - Marine Corps (GCSS-MC) Global Force Management Data Initiative (GFM-DI). 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. The primary goal of the GFM-DI initiative is to support the capture of force structure authorization data, such as IUID data from the GCSS-MC system, and facilitate the accessibility of this data via web services.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	0.400	0.000	0.000	-	0.000
Current President's Budget	0.392	0.000	0.000	-	0.000
Total Adjustments	-0.008	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.008	0.000			

Change Summary Explanation

Funding supports the Joint Global Force Management - Data Initiative (GFM-DI).

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604717M: (U)MARINE CORPS COMBAT SERVICES SUPPORT	PROJECT 2510: MAGTF CSSE & SE
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2510: MAGTF CSSE & SE	0.000	0.392	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.392
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Global Combat Support System - Marine Corps (GCSS-MC) Global Force Management - Data Initiative(GFM-DI). 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. The primary goal of the GFM-DI initiative is to support the capture of force structure authorization data, such as Item Unique Identification (IUID) data from the GCSS-MC system, and facilitate the accessibility of this data via web services.

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

	FY 2012	FY 2013	FY 2014
Title: Golobal Combat Support System - Marine Corps (GCSS-MC)	0.392	0.000	0.000
Articles:	0		
FY 2012 Accomplishments: FY12 activities included the internal program planning to support the award of the GCSS LCM Warehouse Management System data requirements analysis work effort.			
Accomplishments/Planned Programs Subtotals	0.392	0.000	0.000

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

N/A

Remarks

D. Acquisition Strategy

The GFM-DI initiative support will be integrated into the GCSS-MC/LCM OEF Pilot fielding requirements analysis and program planning scheduled to commence in FY12. The OEF Pilot fielding will expand the retail supply functionality of Increment 1 by implementing select wholesale and retail warehouse management and automated information technologies, such as RFID and bar code scanning, and the study of IUID will be incorporated into the OEF Pilot analysis.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604717M: <i>(U)MARINE CORPS</i> <i>COMBAT SERVICES SUPPORT</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

E. Performance Metrics

Technical: Realignment of funds into PE 0604717M represents USMC commitment to the Department's Global Force Management-Data Initiative advocated by VCJCS.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					PE 0604766M: (U)MARINE CORPS DATA SYSTEMS							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.686	1.617	0.000	0.035	-	0.035	0.215	0.000	0.000	0.000	0.000	2.553
2906: <i>Marine Corps IT</i>	0.686	1.617	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.303
4043: <i>Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)</i>	0.000	0.000	0.000	0.035	-	0.035	0.215	0.000	0.000	0.000	0.000	0.250

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	1.650	0.000	0.069	-	0.069
Current President's Budget	1.617	0.000	0.035	-	0.035
Total Adjustments	-0.033	0.000	-0.034	-	-0.034
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.033	0.000			
• Program Adjustments	0.000	0.000	-0.034	-	-0.034

Change Summary Explanation

All GFM-DI funding support for Total Force Structure Management System (TFSMS) in PE 0604766M moves to project 4043 after FY 2012.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	PROJECT 2906: <i>Marine Corps IT</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2906: <i>Marine Corps IT</i>	0.686	1.617	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.303
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 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. Increment II development began in FY11 with the first major software release of Increment II to occur in FY12. The TFSMS Increment II Capability Development Document (CDD) defines the requirements and expectations for Initial Operational Capability (IOC) and Full Operational Capability (FOC). FOC is scheduled for FY16. FY12 R&D for TFSMS includes the first Increment II software release for the Systems Integration efforts, v3.0 (scheduled for the 4th Qtr FY12) and additional GFM capabilities. System Integration efforts will continue.

All GFM-DI funding support for TFSMS in PE 0604766M moves to project 4043 after FY 2012.

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

	FY 2012	FY 2013	FY 2014
Title: Total Force Structure Management System (TFSMS)	1.617	0.000	0.000
Articles:	0		
FY 2012 Accomplishments: Global Force Management (GFM) organizational server initial updates to expand civilian billets data.			
Accomplishments/Planned Programs Subtotals	1.617	0.000	0.000

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0206313M/463000: TFSMS	0.016	0.000	0.573		0.573	0.000	3.923	0.000	0.000	Continuing	Continuing
• 0206313M/461700: TFSMS	4.388	0.000	0.647		0.647	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	PROJECT 2906: <i>Marine Corps IT</i>

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 08. 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. Increment II FOC is scheduled for FY16.

E. Performance Metrics

Technical: This exhibit reflects a break-out of GFM-DI efforts into unique USMC PE's. All GFM-DI funding support for TFSMS in PE 0604766M moves to project 4043 after FY 2012.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	PROJECT 2906: <i>Marine Corps IT</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TFSMS R2 Sysms Integrator Developement	C/FPIF	SAIC:McLean, VA	0.456	1.262	Jan 2012	0.000		0.000		-		0.000	0.000	1.718	
Subtotal			0.456	1.262		0.000		0.000		0.000		0.000	0.000	1.718	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TFSMS HSI Dahlgren	WR	NSWCDD:Dahlgren, VA	0.230	0.131	Jun 2012	0.000		0.000		-		0.000	0.000	0.361	
Subtotal			0.230	0.131		0.000		0.000		0.000		0.000	0.000	0.361	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MCOTE A	Various	MCOTE A:Quantico, VA	0.000	0.174	May 2012	0.000		0.000		-		0.000	0.000	0.174	
JITC	WR	JITC:Balimore, MD	0.000	0.050	Jun 2012	0.000		0.000		-		0.000	0.000	0.050	
Subtotal			0.000	0.224		0.000		0.000		0.000		0.000	0.000	0.224	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.686	1.617	0.000	0.000	0.000	0.000	2.303	

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	PROJECT 4043: <i>Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4043: <i>Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)</i>	0.000	0.000	0.000	0.035	-	0.035	0.215	0.000	0.000	0.000	0.000	0.250
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 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.

The GFM-DI funding for TFSMS in PE 0604766M is in project 2906 in FY 2012.

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

	FY 2012	FY 2013	FY 2014
Title: Total Force Structure Management System (TFSMS)	0.000	0.000	0.035
Articles:			0
FY 2014 Plans: Funding to support Engineering Change Proposals (ECPs).			
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.035

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0206313M/463000: <i>TFSMS</i>	0.016	0.000	0.573		0.573	0.000	3.923	0.000	0.000	Continuing	Continuing
• 0206313M/461700: <i>TFSMS</i>	4.388	0.000	0.647		0.647	0.000	0.000	0.000	0.000	Continuing	Continuing
• 0604766M/C2906: <i>TFSMS</i>	1.617	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	PROJECT 4043: <i>Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)</i>

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 08. 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. Increment II FOC is scheduled for FY16.

E. Performance Metrics

Technical: This exhibit reflects a break-out of GFM-DI efforts into unique USMC PE's. The GFM-DI funding for TFSMS in PE 0604766M is in project 2906 in FY 2012.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605525N: (U) <i>CARRIER ONBOARD DELIVERY (COD) FOLLOW ON</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	2.460	-	2.460	1.474	1.474	1.476	1.503	Continuing	Continuing
3339: <i>Carrier Onboard Deliver Recapitalization</i>	0.000	0.000	0.000	2.460	-	2.460	1.474	1.474	1.476	1.503	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Funding supports the analytic, 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 effort is an FY14 new start. Studies for this effort were previously funded under Studies and Analysis Support - Navy, project element 0605152N using the same project unit.

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	2.460	-	2.460
Total Adjustments	0.000	0.000	2.460	-	2.460
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	2.460	-	2.460

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605525N: (U) <i>CARRIER ONBOARD DELIVERY (COD) FOLLOW ON</i>	PROJECT 3339: <i>Carrier Onboard Deliver Recapitalization</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3339: <i>Carrier Onboard Deliver Recapitalization</i>	0.000	0.000	0.000	2.460	-	2.460	1.474	1.474	1.476	1.503	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Funding supports the analytic, 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.

Studies for this effort were previously funded under Studies and Analysis Support - Navy, project element 0605152N using the same project unit.

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

	FY 2012	FY 2013	FY 2014
Title: Carrier Onboard Delivery Recapitalization	0.000	0.000	2.460
Articles:			0
FY 2014 Plans: Develop the statutory and regulatory 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 (CDD). Perform risk reduction activities. Prepare draft Request For Proposal.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	2.460

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

N/A

Remarks

D. Acquisition Strategy

A full and open competition or Limited Competition for Mods will be held.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605525N: (U) <i>CARRIER ONBOARD DELIVERY (COD) FOLLOW ON</i>	PROJECT 3339: <i>Carrier Onboard Deliver Recapitalization</i>

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605525N: (U) <i>CARRIER ONBOARD DELIVERY (COD) FOLLOW ON</i>	PROJECT 3339: <i>Carrier Onboard Deliver Recapitalization</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Engineering Support	WR	NAWCAD:Pax River, MD	0.000	0.000		0.000		1.835	Nov 2013	-		1.835	Continuing	Continuing	Continuing
Program Management Support	Various	Various:Various	0.000	0.000		0.000		0.600	Nov 2013	-		0.600	Continuing	Continuing	Continuing
Travel	Various	Various:Various	0.000	0.000		0.000		0.025	Oct 2013	-		0.025	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		2.460		0.000		2.460			

Remarks
 FY14 funding will be used to prepare acquisition documentation and perform technical analysis of the alternatives.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	0.000	2.460	0.000	2.460			

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605525N: (U) <i>CARRIER ONBOARD DELIVERY (COD) FOLLOW ON</i>	PROJECT 3339: <i>Carrier Onboard Deliver Recapitalization</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Carrier Onboard Delivery Follow On</i>				
Acquisition Milestones: Milestones: MS B	2	2016	2	2016
Acquisition Milestones: Acquisition Documentation: Acquisition Documentation	1	2014	3	2014
Acquisition Milestones: Acquisition Documentation: RFP Draft	3	2014	3	2014
Acquisition Milestones: Acquisition Documentation: Acquisition Documentation Approval	1	2015	1	2016
Acquisition Milestones: Acquisition Documentation: Source Selection	2	2015	4	2015
Acquisition Milestones: Acquisition Documentation: RFP Release	1	2015	1	2015
Systems Development: Development Contract Awards: Contract Award	2	2016	2	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					PE 0605555N: (U) <i>STRIKE WEAPONS DEVELOPMENT</i>							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	9.757	-	9.757	6.590	0.000	0.000	0.000	0.000	16.347
3212: <i>MEDUSA JCTD</i>	0.000	0.000	0.000	2.000	-	2.000	0.000	0.000	0.000	0.000	0.000	2.000
3412: <i>Hellfire-R Integration</i>	0.000	0.000	0.000	7.757	-	7.757	6.590	0.000	0.000	0.000	0.000	14.347

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Research, Development, Test and Evaluation funding for Strike Weapons has been established to support weapons that will be employed on a multitude of fixed and rotary wing aircraft in support of offensive and defensive land and sea based targets across multiple missions areas. This will include integration as well as High Power Radio Frequency (HPRF) and High Energy Lasers (HEL) project units.

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 missions areas. Specific efforts include Advanced Precision Kill Weapons System (APKWS), MEDUSA Joint Capability Technology Demonstration (JCTD), and Hellfire-R Integration. This will include High Power Radio Frequency (HPRF) and High Energy Lasers (HEL) as well as Rockets Improvement Program (RIP) 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	9.757	-	9.757
Total Adjustments	0.000	0.000	9.757	-	9.757
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	9.757	-	9.757

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605555N: (U)STRIKE WEAPONS DEVELOPMENT	PROJECT 3212: MEDUSA JCTD
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3212: MEDUSA JCTD	0.000	0.000	0.000	2.000	-	2.000	0.000	0.000	0.000	0.000	0.000	2.000
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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.

FY14 funding will be used to cover the operational testing and completion of Quick Reaction Assesment (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. The addition of the APKWS 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 2012	FY 2013	FY 2014
Title: Digital Rocket Launcher	0.000	0.000	2.000
Articles:			0
FY 2014 Plans: FY14 funding will be used to cover the operational testing and completion of Quick Reaction Assesment (QRA) for the Digital Rocket Launcher (DRL).			
Accomplishments/Planned Programs Subtotals	0.000	0.000	2.000

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

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605555N: <i>(U)STRIKE WEAPONS DEVELOPMENT</i>	PROJECT 3212: <i>MEDUSA JCTD</i>

D. Acquisition Strategy

The MEDUSA Joint Capability Technology Demonstration was performed in FY09-FY12. The DRL is a Rapid Deployment Capability with Early Operational Capability in FY12; which will be a combination of procurement from government and contractor sources for the final product.

E. Performance Metrics

Successful development and test of new warhead, rocket motor and guidance system for FAC/FIAC.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605555N: <i>(U)STRIKE WEAPONS DEVELOPMENT</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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Medusa/DRL	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q																								
Acquisition Milestone																												
Early Operational Capability																												
Test & Evaluation																												
Quick Reaction Assessment																												
Quick Reaction Assessment Final Report																												
DRL Operational Test																												

2014PB - 0605555N - 3212

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605555N: (U) <i>STRIKE WEAPONS DEVELOPMENT</i>	PROJECT 3212: <i>MEDUSA JCTD</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Medusa/DRL				
Acquisition Milestone: Early Operational Capability: Early Operational Capability	2	2014	2	2014
Test & Evaluation: Quick Reaction Assessment: Quick Reaction Assessment	1	2014	2	2014
Test & Evaluation: Quick Reaction Assessment Final Report: Quick Reaction Assessment Final Report	2	2014	2	2014
Test & Evaluation: DRL Operational Test: DRL Operational Test	1	2014	2	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605555N: <i>(U)STRIKE WEAPONS DEVELOPMENT</i>	PROJECT 3412: <i>Hellfire-R Integration</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3412: <i>Hellfire-R Integration</i>	0.000	0.000	0.000	7.757	-	7.757	6.590	0.000	0.000	0.000	0.000	14.347
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

This is a New Start in FY 2014

A. Mission Description and Budget Item Justification

AGM-114-R is an Engineering Change Proposal to the fielded AGM-114-K, K2, K2A, P, P2, P2A and AGM-114-M 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 RW 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.

RDT&E funding will support a combination of ground software validation efforts, E3 environmental studies, and aircraft interface and launcher signal 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 2012	FY 2013	FY 2014
Title: Planned Program Entry	0.000	0.000	7.757
Articles:			24
FY 2014 Plans: Procure AGM-114R test articles to support DT/OT events with primary platforms. Conduct aircraft OFP 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.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	7.757

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605555N: (U)STRIKE WEAPONS DEVELOPMENT	PROJECT 3412: <i>Hellfire-R Integration</i>

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

Remarks

D. Acquisition Strategy

The US Army is currently in the developmental test phase of the 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 DT/OT 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 US Navy Platform Integration.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 060555N: (U) <i>STRIKE WEAPONS DEVELOPMENT</i>	PROJECT 3412: <i>Hellfire-R Integration</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	C/BOA	Lockheed Martin:Palmdale, CA	0.000	0.000		0.000		1.100	Dec 2013	-		1.100	0.000	1.100	1.100
Systems Engineering	C/BOA	Lockheed Martin:GRA, Huntsville	0.000	0.000		0.000		0.259	Oct 2013	-		0.259	0.000	0.259	0.259
Subtotal			0.000	0.000		0.000		1.359		0.000		1.359	0.000	1.359	1.359

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Studies & Analyses	TBD	TBD:TBD	0.000	0.000		0.000		1.227	Nov 2013	-		1.227	0.000	1.227	1.227
Subtotal			0.000	0.000		0.000		1.227		0.000		1.227	0.000	1.227	1.227

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	WR	NAWCWD:China Lake, CA	0.000	0.000		0.000		1.600	Nov 2013	-		1.600	0.000	1.600	
Test Articles	C/FFP	Lockheed Martin:Orlando, FL	0.000	0.000		0.000		1.560	Feb 2014	-		1.560	0.000	1.560	1.560
Operational Test & Evaluation	WR	NAWCAD:Patuxent River, MD	0.000	0.000		0.000		1.250	Nov 2013	-		1.250	0.000	1.250	
Subtotal			0.000	0.000		0.000		4.410		0.000		4.410	0.000	4.410	

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 060555N: (U) <i>STRIKE WEAPONS DEVELOPMENT</i>	PROJECT 3412: <i>Hellfire-R Integration</i>
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Hellfire-R Integration	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones								▲ Army IOC																				
Milestones																												
Test and Evaluation																												
									System Qualification Testing																			
									AH1W/Z DT/OT																			
													KC-130J Harvest Hawk															
										OT Live Fire Events 1 ▼				OT Live Fire Events 2 ▼														
																	MH-60R/S DT/OT											
														OT Live Fire Events 3 ▼												OT Live Fire Events 4 ▼		
Production Milestones																												
Deliveries																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0605555N: <i>(U)STRIKE WEAPONS DEVELOPMENT</i>	PROJECT 3412: <i>Hellfire-R Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Hellfire-R Integration</i>				
Acquisition Milestones: Army IOC	4	2013	4	2013
Test and Evaluation: System Qualification Testing	4	2013	4	2015
Test and Evaluation: AH1W/Z DT/OT	1	2014	4	2014
Test and Evaluation: KC-130J Harvest Hawk	3	2014	2	2015
Test and Evaluation: MH-60R/S DT/OT	1	2015	4	2015
Test and Evaluation: OT Live Fire Events 1	2	2014	2	2014
Test and Evaluation: OT Live Fire Events 2	4	2014	4	2014
Test and Evaluation: OT Live Fire Events 3	1	2015	1	2015
Test and Evaluation: OT Live Fire Events 4	4	2015	4	2015
Production Milestones: Army Phase I & II SQT12 Completion	1	2013	1	2013
Production Milestones: HF Romeo Pilot Line	1	2013	4	2013
Deliveries: AUR LRIP 1	1	2014	1	2014
Deliveries: Instrumented Test Article	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	619.407	87.454	105.892	98.057	-	98.057	109.021	107.078	103.961	99.577	Continuing	Continuing
0951: <i>Joint Warhead Fuze Sustainment Program</i>	35.019	41.498	61.576	81.456	-	81.456	99.417	104.392	101.194	96.700	Continuing	Continuing
2228: <i>Technical Applications Programs</i>	574.279	41.425	39.719	0.000	-	0.000	0.000	0.000	0.000	0.024	0.000	655.447
3097: <i>W78/88-1 Life Extension Program</i>	0.000	0.000	0.000	14.000	-	14.000	7.000	0.000	0.000	0.000	0.000	21.000
3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>	10.109	4.531	4.597	2.601	-	2.601	2.604	2.686	2.767	2.853	Continuing	Continuing

MDAP/MAIS Code(s): 178

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 be terminated in 2014.

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 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>
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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, 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	88.873	105.892	123.984	-	123.984
Current President's Budget	87.454	105.892	98.057	-	98.057
Total Adjustments	-1.419	0.000	-25.927	-	-25.927
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.419	0.000			
• Program Adjustments	0.000	0.000	-25.909	-	-25.909
• Rate/Misc Adjustments	0.000	0.000	-0.018	-	-0.018

Change Summary Explanation

Funding reduced in FY 2014 for the cancellation of Re-entry Systems Applications Programs (RSAP). Funding reduced in FY 2014 for the Integrated Nuclear Weapons Security System (INWSS) program to promote synergy in Research, Development, Test & Evaluation projects with Nuclear Security Enhancement Program (NSEP) projects. Funding realigned in FY 2014 from the Joint Warhead Fuze Sustainment Program (0951) to support the W78/88-1 Life Extension Program.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 0951: <i>Joint Warhead Fuze Sustainment Program</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0951: <i>Joint Warhead Fuze Sustainment Program</i>	35.019	41.498	61.576	81.456	-	81.456	99.417	104.392	101.194	96.700	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: TRIDENT II	41.498	61.576	81.456
Articles:	0	0	0
Description: Identify, prioritize, develop, proof, and demonstrate advanced technologies that will be leveraged and incorporated into future AF&Fs.			
FY 2012 Accomplishments: Continued development, proofing, demonstration, and technology maturation of identified advanced technologies for future AF&Fs Supported engineer working groups. Conducted AF&F sub-assembly design demonstrations Continued development of advanced safety and surety architecture solutions. Completed Conceptual Design Review. Commenced detailed design.			
FY 2013 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			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 0951: <i>Joint Warhead Fuze Sustainment Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Conduct Production Engineering <i>FY 2014 Plans:</i> 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 Critical Radar Arming and Firing Test (CRAFT) Develop and implement software changes due to AF&F				
Accomplishments/Planned Programs Subtotals		41.498	61.576	81.456
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				
Due to the realignment of funding in support of the W78/88-1 LEP, the program may not be able to deliver the First Production Unit (FPU) in December 2018 as directed by the Nuclear Weapons Council.				

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 0951: <i>Joint Warhead Fuze Sustainment Program</i>
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Proj 0951	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q																								
Joint Warhead Fuze Sustainment Program																												
Technology Maturation																												
Design Demonstration																												
Assembly Level Testing																												
Performance Assessment of Tested Designs																												
Development Tests																												
Production Engineering																												
General JCIDS Support																												
General Acquisition Planning Support																												

2014OSD - 0101221N - 0951

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 0951: <i>Joint Warhead Fuze Sustainment Program</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0951				
Joint Warhead Fuze Sustainment Program: Technology Maturation:	1	2012	4	2013
Joint Warhead Fuze Sustainment Program: Design Demonstration:	1	2012	4	2014
Joint Warhead Fuze Sustainment Program: Assembly Level Testing:	3	2012	4	2018
Joint Warhead Fuze Sustainment Program: Performance Assessment of Tested Designs:	1	2013	4	2018
Joint Warhead Fuze Sustainment Program: Development Tests:	3	2014	4	2018
Joint Warhead Fuze Sustainment Program: Production Engineering:	1	2013	4	2018
Joint Warhead Fuze Sustainment Program: General JCIDS Support:	1	2012	4	2018
Joint Warhead Fuze Sustainment Program: General Acquisition Planning Support:	1	2012	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2228: <i>Technical Applications Programs</i>	574.279	41.425	39.719	0.000	-	0.000	0.000	0.000	0.000	0.024	0.000	655.447
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

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

	FY 2012	FY 2013	FY 2014
Title: Technical Applications Program	41.425	39.719	0.000
Articles:	0	0	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2012
<p><i>FY 2012 Accomplishments:</i></p> <p>(\$21.202) 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 Science & Technology (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. Conducted Ground test advanced reentry material systems and advanced instrumentation components. Continued design development evaluation of Avionics Batteries and Avionics Computers.</p> <p>(\$20.223) Strategic Guidance Applications Programs (GAP): Continued to develop new architectures using telecom-based optical components for high-precision strategic gyro. 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 Conducted investigations to improve circumvention and recovery performance.</p> <p><i>FY 2013 Plans:</i></p> <p>(\$24.566) Reentry System Applications Program (RSAP): Maintain the current capability and support the planned service life extension of Navy reentry systems. Continue development and ground testing of reentry vehicle candidate heat shield and nose tip materials including those available from Science & Technology (S&T) Continue testing of alternative low-cost heat shield and replacement nose tip material. Analyze advanced aging material to determine its effectiveness. Continue testing of operationally aged heat shields to support aging trends and replacement materials assessments.</p>			
			FY 2013
			FY 2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities. Continue Reentry Body material development and advanced flight test instrumentation activities. Ground test advanced reentry material systems and advanced instrumentation components. Continue design development evaluation of Avionics Batteries and Avionics Computers. Program ends in FY 2014.</p> <p>(\$15.153) Strategic Guidance Applications Programs (GAP): Continue to evaluate emergent alternate sensor technologies, (accelerometer, gyro, and stellar) with an emphasis on providing existing performance in a significantly reduced form factor. Assess feasibility of advanced stellar sensor technologies for use in strategic applications; specifically, active pixel and camera-on-a-chip architectures will be evaluated. Utilize 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. Investigate concepts for enhanced system test and analysis Complete to the maximum extent possible all GAP development effort. Commence the orderly phase out and termination of the GAP program. Program ends in FY 2014.</p>			
Accomplishments/Planned Programs Subtotals	41.425	39.719	0.000

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 TRIDENT II (D5) development program and are currently engaged in the production and/or operational support of the deployed D5 Strategic Weapons 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

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>
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Proj 2228	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q																								
Technical Applications Programs																												
RSAP Contract Go-ahead & Milestones																												
RSAP Design Development Evaluation Alternative Heat Shield																												
RSAP Design Development Evaluation Avionics Battery																												
RSAP Design Development Evaluation Avionics Computers																												
RSAP System Test																												
GAP Contract Award																												
GAP Virtual Systems modeling & simulation trade studies for advanced system concepts																												
GAP Complete investigation concepts for enhanced systems test & analysis																												
GAP Evaluation of emerging alternate accelerometer technologies																												
GAP Evaluation of emerging alternate gyro technologies																												
GAP Assess feasibility/design & demo adv. strategic stellar sensor tech.																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2228				
Technical Applications Programs: RSAP Contract Go-ahead & Milestones:	1	2012	4	2013
Technical Applications Programs: RSAP Design Development Evaluation Alternative Heat Shield:	1	2012	4	2013
Technical Applications Programs: RSAP Design Development Evaluation Avionics Battery:	1	2012	4	2013
Technical Applications Programs: RSAP Design Development Evaluation Avionics Computers:	1	2012	4	2013
Technical Applications Programs: RSAP System Test:	1	2012	4	2013
Technical Applications Programs: GAP Contract Award:	1	2012	1	2013
Technical Applications Programs: GAP Virtual Systems modeling & simulation trade studies for advanced system concepts:	1	2012	4	2013
Technical Applications Programs: GAP Complete investigation concepts for enhanced systems test & analysis:	1	2012	4	2013
Technical Applications Programs: GAP Evaluation of emerging alternate accelerometer technologies:	1	2012	4	2013
Technical Applications Programs: GAP Evaluation of emerging alternate gyro technologies:	1	2012	4	2013
Technical Applications Programs: GAP Assess feasibility/design & demo adv. strategic stellar sensor tech.:	1	2012	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3097: <i>W78/88-1 Life Extension Program</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3097: <i>W78/88-1 Life Extension Program</i>	0.000	0.000	0.000	14.000	-	14.000	7.000	0.000	0.000	0.000	0.000	21.000
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 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.

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

	FY 2012	FY 2013	FY 2014
Title: New Accomplishment/Planned Program Entry	0.000	0.000	14.000
Articles:			0
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			
Accomplishments/Planned Programs Subtotals	0.000	0.000	14.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3097: <i>W78/88-1 Life Extension Program</i>

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

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3097: <i>W78/88-1 Life Extension Program</i>
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Proj 3097	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q																												
W78/88-1 Life Extension Program																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3097: <i>W78/88-1 Life Extension Program</i>

Schedule Details

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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>	10.109	4.531	4.597	2.601	-	2.601	2.604	2.686	2.767	2.853	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Chief of Naval Operations (CNO) has assigned the Strategic Systems Programs, 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 2012	FY 2013	FY 2014
Title: Integrated Nuclear Weapons Security Sys Dev	4.531	4.597	2.601
Articles:	0	0	0
FY 2012 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 2013 Plans:			
Continue efforts focused on developing an advanced underwater vehicle and diver detection and deterrence system, and enhanced underwater and surface barriers.			
Continue development of advanced technologies for Site-Wide Nuclear Weapons Security Systems including a secure wireless command network and enhanced automated security systems.			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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 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.			
Accomplishments/Planned Programs Subtotals	4.531	4.597	2.601

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

Line Item	FY 2012	FY 2013	FY 2014 <u>Base</u>	FY 2014 <u>OCO</u>	FY 2014 <u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• MCN/Various-1: <i>MILCON (CNI)</i> <i>(Nuclear Weapons Security)</i>	43.842	0.000	0.000		0.000	48.321	0.000	0.000	0.000	0.000	405.091
• OPN/Various-2: <i>OPN (Nuclear Weapons Security)</i>	58.518	61.981	52.605		52.605	50.084	68.809	70.042	71.300	Continuing	Continuing
• OMN/11D2D-3: <i>Fleet Ballistic Missile (Nuclear Weapons Security)</i>	76.402	80.245	85.249		85.249	88.965	90.549	92.099	93.724	Continuing	Continuing
• OMN/11D2D-5: <i>Fleet Ballistic Missile (Transit/Escort)</i>	130.290	115.516	120.510		120.510	83.737	85.215	87.195	88.756	Continuing	Continuing

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Nuclear Weapons Security Sys Dev	WR	NFESC:CA	1.355	0.410	Nov 2011	0.500	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	CNWS:CA	0.404	0.000	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	JHU APL:MD	1.819	1.043	Oct 2011	0.492	Mar 2013	0.202	Oct 2013	-		0.202	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	SNWS:CA	2.194	1.458	Dec 2011	0.550	Mar 2013	0.400	Oct 2013	-		0.400	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NSWC:VA	2.017	0.500	Oct 2011	0.300	Mar 2013	0.300	Oct 2013	-		0.300	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	JRC:VA	0.501	0.250	Oct 2011	0.816	Mar 2013	0.225	Oct 2013	-		0.225	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NUWC:RI	0.450	0.345	Nov 2011	0.093	Feb 2013	0.040	Oct 2013	-		0.040	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NEDU:FL	0.383	0.000	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	LMMS:CA	0.506	0.200	Feb 2012	0.456	Mar 2013	0.175	Oct 2013	-		0.175	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	MIPR	DOEI:ID	0.180	0.000	Oct 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	MIPR	DOE:NM	0.300	0.125	Oct 2011	0.000		0.300	Oct 2013	-		0.300	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>
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Proj 3158	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q																								
NWS Contract Go-ahead & Milestones																												
NWS Technology Development Strategies																												
NWS Capabilities Assessment																												
NWS Technology Maturation																												
NWS System Development & Demonstration Phase																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3158				
NWS Contract Go-ahead & Milestones:	1	2012	4	2018
NWS Technology Development Strategies:	1	2012	4	2018
NWS Capabilities Assessment:	1	2012	4	2018
NWS Technology Maturation:	1	2012	4	2018
NWS System Development & Demonstration Phase:	1	2012	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101224N: <i>SSBN Security Tech Program</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	32.464	34.729	31.768	-	31.768	32.131	32.689	33.527	34.101	Continuing	Continuing
0092: <i>SSBN Security</i>	0.000	32.464	34.729	31.768	-	31.768	32.131	32.689	33.527	34.101	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 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.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	33.519	34.729	35.477	-	35.477
Current President's Budget	32.464	34.729	31.768	-	31.768
Total Adjustments	-1.055	0.000	-3.709	-	-3.709
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.055	0.000			
• Program Adjustments	0.000	0.000	-3.551	-	-3.551
• Rate/Misc Adjustments	0.000	0.000	-0.158	-	-0.158

Change Summary Explanation

Technical: Not applicable.
 Schedule: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	25.171	6.210	1.434	1.464	-	1.464	3.308	3.346	3.168	3.221	Continuing	Continuing
1265: <i>Sub Defensive Warfare</i>	25.171	6.210	1.434	1.464	-	1.464	3.308	3.346	3.168	3.221	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This project develops a Submarine Acoustic Warfare System (SAWS) to improve the survivability of all U.S. Submarine classes.

This project funds the Next Generation Countermeasure (NGCM) program which entail simulating and determining the effectiveness 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 rigorously evaluated in representative acoustic environments, against projected threats through both digital and hardware-in-the-loop simulations, to determine their effectiveness in the NGCM, and how that improves submarine survivability. The technology is then incorporated into the appropriate countermeasure. The Torpedo Defense Working Group (TDWG) assesses fleet threats annually.

The key new capabilities for NGCM are adaptive countermeasure technology (ACM) with full duplex capability and mobility.

Funding provides In-Service Engineering Agent and Technical Direction Agent hardware and software development support for Countermeasure Devices (NAE Beacon, ADC 2/3/4) as well as CSA MK 2 and CSA MK 3 systems and Acoustic Augmentation Support Systems in the Acoustic Augmentation Support Program (AASP), including obsolete unit-level Technical Refresh.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	6.360	1.434	1.553	-	1.553
Current President's Budget	6.210	1.434	1.464	-	1.464
Total Adjustments	-0.150	0.000	-0.089	-	-0.089
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.150	0.000			
• Program Adjustments	0.000	0.000	-0.074	-	-0.074
• Rate/Misc Adjustments	0.000	0.000	-0.015	-	-0.015

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1265: <i>Sub Defensive Warfare</i>	25.171	6.210	1.434	1.464	-	1.464	3.308	3.346	3.168	3.221	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This project develops a Submarine Acoustic Warfare System (SAWS) to improve the survivability of all U.S. Submarine classes. The Torpedo Defense Working Group conducts assessments of current and projected countermeasure performance against current and projected threat weapons using the Weapons Analysis Facility (WAF).

This project funds the Next Generation Countermeasure (NGCM) program which entail simulating and determining the effectiveness 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 rigorously evaluated in representative acoustic environments, against projected threats through both digital and hardware-in-the-loop simulations, to determine their effectiveness in the NGCM, and how that improves submarine survivability. The technology is then incorporated into the appropriate countermeasure.

The key new capabilities for NGCM are adaptive countermeasure technology (ACM) with full duplex capability and mobility.

Funding provides In-Service Engineering Agent and Technical Direction Agent hardware and software development support for in-service countermeasure devices (NAE Beacon, ADC 2/3/4) as well as CSA MK 2 and CSA MK 3 systems and Acoustic Augmentation Support Systems in the Acoustic Augmentation Support Program (AASP), including obsolete unit-level Technical Refresh.

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

	FY 2012	FY 2013	FY 2014
Title: Sub Acoustic Warfare	6.210	1.434	1.464
Articles:	0	0	0
FY 2012 Accomplishments:			
- NGCM: Continued integration of technology by 2 development contractors.			
- Conducted Preliminary Design Reviews (PDRs).			
- FY12 delivery of 5 Special Test Units (STUs) from each developer was delayed.			
- Conducted TDWG and review and updated Threat Assessment.			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
- Critical Design Reviews (CDR) delayed due to funding restriction.			
<i>FY 2013 Plans:</i> - Continue integration of technology by contractors and continue development towards NGCM CDRs. - Start Contractor Testing of NGCM subsystems. - Continue low level TDWG activity.			
<i>FY 2014 Plans:</i> - NGCM: Continue integration of technology by contractors and testing of subsystems. - Conduct TDWG review and assessment.			
Accomplishments/Planned Programs Subtotals	6.210	1.434	1.464

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/221000/221005: <i>Submarine Acoustic Warfare</i>	20.503	21.489	24.077		24.077	27.312	26.286	29.236	29.676	Continuing	Continuing

Remarks

D. Acquisition Strategy
This project develops a Submarine Acoustic Warfare System (SAWS) 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 MK3 system will continue through FY18. 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 testing will be FY13 through FY18 and Navy DT will be in FY17-18, with OT in FY19-20 & MS C in FY21.

E. Performance Metrics
Progress Reviews
Execution Reporting and Reviews
Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
WAF ANALYSIS TDWG	WR	NUWC:NEWPORT, RI	10.000	1.241	Dec 2011	0.185	Dec 2012	0.185	Dec 2013	-		0.185	Continuing	Continuing	Continuing
NGCM SYSSTEM ENGINEERING	WR	NUWC:NEWPORT, RI	7.625	0.419	Dec 2011	0.253	Dec 2012	0.253	Dec 2013	-		0.253	Continuing	Continuing	Continuing
NGCM DEVELOPMENT 1	C/CPAF	Argon ST:Fairfax, VA	2.769	2.088	Feb 2012	0.383	Dec 2012	0.400	Dec 2013	-		0.400	Continuing	Continuing	Continuing
NGCM DEVELOPMENT 2	C/CPAF	Ultra:Braintree, MA	2.496	2.088	Feb 2012	0.383	Dec 2012	0.400	Dec 2013	-		0.400	Continuing	Continuing	Continuing
CSA MK3 SYSTEM ENGINEERING	WR	NUWC:KEPORT, WA	1.020	0.199	Dec 2011	0.100	Dec 2012	0.096	Dec 2013	-		0.096	Continuing	Continuing	Continuing
Subtotal			23.910	6.035		1.304		1.334		0.000		1.334			

Remarks
NGCM Development contracts awarded 12/22/2010 to Argon ST and Ultra.

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ACQUISITION WORKFORCE	Various	Not Specified:Not Specified	0.036	0.000		0.000		0.000		-		0.000	0.000	0.036	0.036
TRAVEL	WR	NAVSEA:Washington, DC	0.425	0.075	Nov 2011	0.030	Oct 2012	0.030	Oct 2013	-		0.030	Continuing	Continuing	Continuing
PROGRAM MANAGEMENT SUPPORT	C/CPAF	TECH MARINE:Washington, DC	0.800	0.100	Feb 2012	0.100	Nov 2012	0.100	Dec 2013	-		0.100	Continuing	Continuing	Continuing
Subtotal			1.261	0.175		0.130		0.130		0.000		0.130			

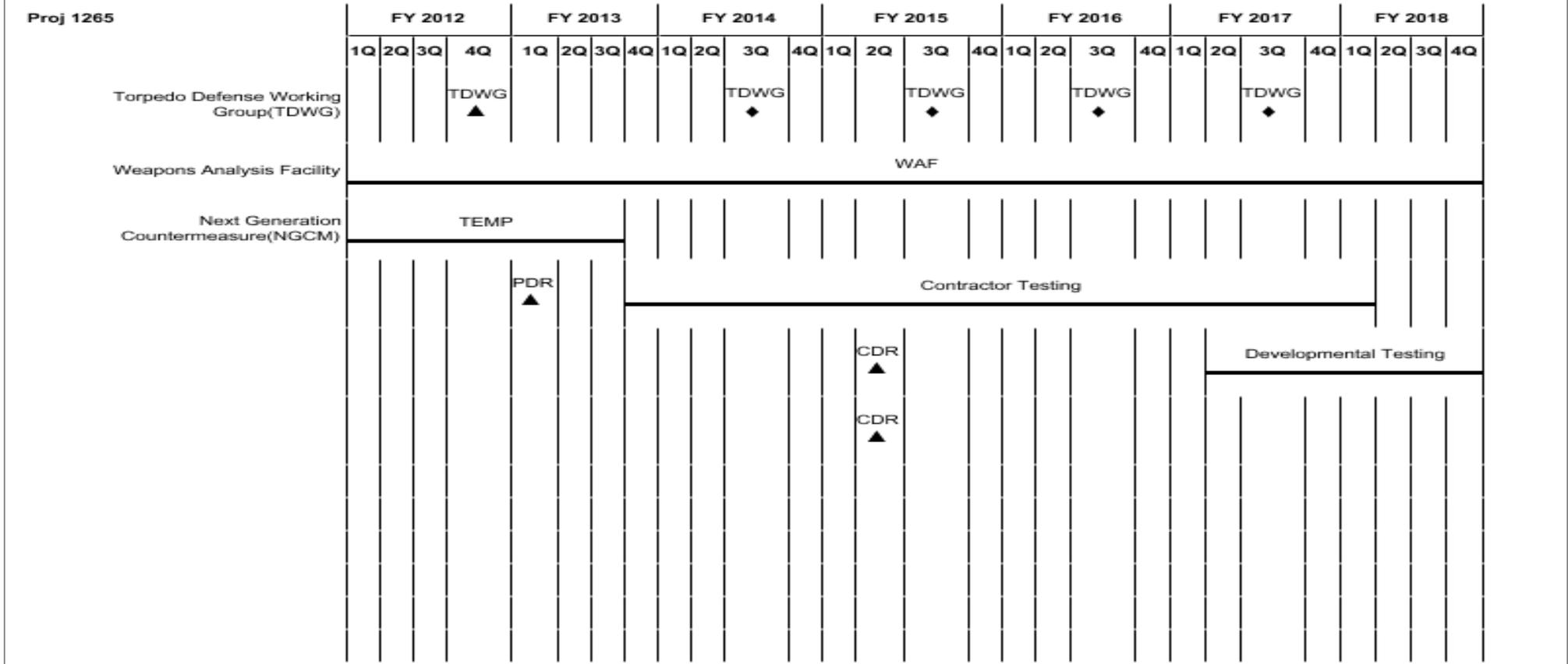
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		25.171	6.210	1.434	1.464	0.000	1.464		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1265				
Torpedo Defense Working Group(TDWG): FY14 TDWG	3	2014	3	2014
Torpedo Defense Working Group(TDWG): FY15 TDWG	3	2015	3	2015
Torpedo Defense Working Group(TDWG): FY16 TDWG	3	2016	3	2016
Torpedo Defense Working Group(TDWG): FY17 TDWG	3	2017	3	2017
Torpedo Defense Working Group(TDWG): TDWG	4	2012	4	2012
Weapons Analysis Facility: COUNTERMEASURE (CM) EFFECTIVENESS/WEAPON ANALYSIS FACILITY (WAF) VULNERABILITY	1	2012	4	2018
Next Generation Countermeasure(NGCM): TEST & EVALUATION MASTER PLAN (TEMP) Draft Approved	1	2012	3	2013
Next Generation Countermeasure(NGCM): PRELIMINARY DESIGN REVIEW (PDR)	1	2013	1	2013
Next Generation Countermeasure(NGCM): CONTRACTOR TESTING	4	2013	1	2018
Next Generation Countermeasure(NGCM): DEVELOPMENTAL TESTING (DT)	2	2017	4	2018
Next Generation Countermeasure(NGCM): CDR-1	2	2015	2	2015
Next Generation Countermeasure(NGCM): CDR-2	2	2015	2	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	378.884	24.075	19.208	21.729	-	21.729	14.285	11.766	12.284	12.512	Continuing	Continuing
1083: <i>Shore To Ship Com System</i>	119.697	13.865	18.187	21.729	-	21.729	14.285	11.766	12.284	12.512	Continuing	Continuing
3002: <i>Navy Strategic Comm Project</i>	259.187	10.210	1.021	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	270.418

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 is conducted to ensure compliance with Nuclear Command and Control System (C2) 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 E-6B Block I modification program corrects Airborne National Command Post program Follow-On Operational Test and Evaluation operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems. Block I designs, develops, integrates, and tests a multi-level security system, open systems architecture; replaces the intercommunications and Mission Computer Set; modifies the cooling, electrical, and Ultra-High Frequency Command, Control and Communications system; and addresses internet protocol bandwidth expansion impacts to pre-Block I baseline aircraft. Block I adds operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provides a foundation for evolutionary upgrades. Other modifications (Block IA engineering change proposal) include: an additional auxiliary power unit to enhance power and cooling capabilities supporting the additional systems in the multi-level security system, open systems architecture, a very low frequency transmitter obsolescence replacement, and a high power transmit set subsystem refurbishment.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	23.208	19.208	25.231	-	25.231
Current President's Budget	24.075	19.208	21.729	-	21.729
Total Adjustments	0.867	0.000	-3.502	-	-3.502
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.425	0.000			
• SBIR/STTR Transfer	-0.558	0.000			
• Program Adjustments	0.000	0.000	-3.694	-	-3.694
• Rate/Misc Adjustments	0.000	0.000	0.192	-	0.192

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>				PROJECT 1083: <i>Shore To Ship Com System</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1083: <i>Shore To Ship Com System</i>	119.697	13.865	18.187	21.729	-	21.729	14.285	11.766	12.284	12.512	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 development 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 (C2) Technical Performance Criteria (NTPC).

The Strategic Communications Assessment Program/Continued Evaluation Program provides constant assessment of the effectiveness of the end-to-end NC2 network and analysis of system performance in various mission locations.

Concept Development/System Planning provides Network Enabled Operation (NEO) that addresses Allied interoperability issues for submarine communications in an internet protocol environment. As new technologies are realized, coalition architectures are developed and tested to ensure continued interoperability. The United States/United Kingdom VLF Project Agreement provides mutual improvements to VLF transmission and reception capabilities for submarine operations by evolving and demonstrating modern technologies and advanced waveform techniques. Concept Development/System Planning also provides for the modeling of unique Very Low Frequency/Low Frequency (VLF/LF) submarine communications capabilities which include large physical shore broadcast antennas, underwater depth penetration studies and interoperable VLF waveform analysis. 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. Development of information assurance solutions for the Broadcast Control Authority (BCA) and Submarine Operating Authority wide area network are part of this program to mitigate vulnerability concerns.

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

	FY 2012	FY 2013	FY 2014
Title: Low Band Universal Communication System (LBUCS)	7.204	13.281	16.361

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>		PROJECT 1083: <i>Shore To Ship Com System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Articles:		0	0	0
<p>FY 2012 Accomplishments:</p> <ul style="list-style-type: none"> -Completed technical readiness review for transmit terminal. -Took receipt of LBUCS Transmit production representative articles (PRA). -Continued statutory and regulatory acquisition documentation in preparation for FY13 LBUCS Transmit Milestone C, including the Capability Production Document (CPD) and Information Support Plan (ISP). -Commenced LBUCS Transmit Developmental Testing (DT) and Operational Assessment (OA). <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> -Complete LBUCS Transmit DT and OA. -Commence LBUCS Transmit Low Rate Initial Production (LRIP). -Commence LBUCS Receive development. -Complete LBUCS Receive Preliminary Design Review (PDR) and Critical Design Review (CDR). -Commence development of a new Very Low Frequency (VLF) mode, which will be incorporated into the LBUCS Receive development effort. -Commence Submarine Operating Authority Wide Area Network (SWAN) Information Assurance (IA) upgrade development. -Complete statutory and regulatory acquisition documentation in preparation for FY13 LBUCS Transmit Milestone C, including the Capability Production Document (CPD) and Information Support Plan (ISP). -Achieve LBUCS Transmit Milestone C. <p>FY 2014 Plans:</p> <ul style="list-style-type: none"> -Complete LBUCS Transmit Low Rate Initial Production (LRIP). -Complete LBUCS Transmit Developmental Testing (DT)/Integration Testing (IT)/Operational Testing (OT). -Complete LBUCS Receive development. -Complete development of a new VLF Mode which will be incorporated into the LBUCS Receive development effort. -Continue SWAN IA upgrade development. 				
Title: Nuclear Command, Control, Communications Long Term Solution (NC3 LTS)		1.909	0.000	0.000
Articles:		0		
<p>FY 2012 Accomplishments:</p> <ul style="list-style-type: none"> -Completed Navy NC3 Assessment. 				
Title: Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP)		2.879	3.084	3.811
Articles:		0	0	0
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>-Continued mission analysis of Ship Submersible Ballistic Nuclear Submarine (SSBN) Emergency Action Message (EAM) reception for SSBN patrols.</p> <p>-Provided reports on performance, adherence to delivery time requirements and shortfalls.</p> <p>-Continued development of automated data collection and analysis tools to reduce latency time between missions and results availability.</p> <p>FY 2013 Plans:</p> <p>-Continue mission analysis of Ship Submersible Ballistic Nuclear Submarine (SSBN) Emergency Action Message (EAM)reception for Ship Submersible Ballistic Nuclear Submarine (SSBN) patrols.</p> <p>-Provide reports on performance, adherence to delivery time requirements and shortfalls.</p> <p>-Complete development of automated data collection and analysis tools to reduce latency time between missions and results availability.</p> <p>FY 2014 Plans:</p> <p>-Continue mission analysis of Ship Submersible Ballistic Nuclear Submarine (SSBN) Emergency Action Message (EAM) reception of SSBN Patrols.</p> <p>-Provide reports on performance, adherence to delivery time requirements and shortfalls.</p>				
<p>Title: Concept Development/Systems Planning</p> <p align="right">Articles:</p>		0.784 0	0.804 0	0.414 0
<p>FY 2012 Accomplishments:</p> <p>-Integrated Joint/Allied Network Enabled Operation (NEO) with Command, Control, Communications, Computers, and Intelligence (C4I) applications.</p> <p>FY 2013 Plans:</p> <p>-Prepare and submit final NEO report to include results and recommendations.</p> <p>-Commence United States/United Kingdom Very Low Frequency (VLF) Project Arrangement (PA).</p> <p>-Assess United States/United Kingdom performance requirements to determine which concepts to pursue.</p> <p>FY 2014 Plans:</p> <p>-Continue United States/United Kingdom Very Low Frequency (VLF) Project Arrangement (PA).</p> <p>-Determine appropriate United States/United Kingdom performance requirements to determine which concepts to pursue.</p>				
<p>Title: High Voltage Improvement Program</p> <p align="right">Articles:</p>		0.797 0	0.749 0	0.841 0
<p>FY 2012 Accomplishments:</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2012	FY 2013	FY 2014
<ul style="list-style-type: none"> -Completed examination of aging laminated wood used in Very Low Frequency (VLF)/Low Frequency (LF) Helix Houses. -Completed examination of new ferrites to reduce the loss and size of the VLF/LF Helix House enclosure. -Completed examination of partial-discharge for early detection of Helix House issues. -Completed examination of outdoor Helix House effort. -Commenced examination of aging for multi-conductor High-Q inductor cable used in VLF/LF Helix Houses. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> -Continue examination of aging multi-conductor High-Q inductor cable used in VLF/LF Helix Houses. -Commence examination of innovative lighting methods for high voltage Very Low Frequency (VLF)/Low Frequency (LF) towers. <p>FY 2014 Plans:</p> <ul style="list-style-type: none"> -Complete examination of innovative lighting methods for high voltage VLF/LF towers. -Commence examination of methods for reducing risk of fire or damage by detection of partial discharge in Helix House. -Complete examination of aging multi-conductor High-Q inductor cable used in VLF/LF Helix Houses. 			
<p>Title: Broadcast Control Authority</p> <p align="right">Articles:</p>	0.292 0	0.269 0	0.302 0
<p>FY 2012 Accomplishments:</p> <ul style="list-style-type: none"> -Commenced development of Submarine Operating Authority (SUBOPAATH) communications tools including file repository, Operation Schedule (OpSked) Editor, Submarine Notes (SubNotes) Editor, and Web Off The Air Monitor (WebOTAM). -Developed candidate SUBOPAATH options for information assurance integration. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> -Continue development of SUBOPAATH communications tools including file repository, OpSked Editor, SubNotes Editor, and WebOTAM. <p>FY 2014 Plans:</p> <ul style="list-style-type: none"> -Complete development of SUBOPAATH communications tools including file repository, OpSked Editor, SubNotes Editor, and WebOTAM. -Commence development of BCA System Monitor. 			
Accomplishments/Planned Programs Subtotals	13.865	18.187	21.729

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• OPN/3107: <i>Submarine Broadcast</i>	11.243	4.183	7.856		7.856	11.237	18.828	16.422	18.629	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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 which are approaching their operational end of life. A cost plus incentive fee contract was awarded for Transmit subsystem development in 4Q FY09 with three sequential fixed price option Contract Line Item Numbers for production and deployment. The development of LBUCS Receive will commence in FY13.

E. Performance Metrics

LBUCS FY14: Complete LBUCS Transmit initial OT&E.

Concept Development/Systems Planning FY14: Determine appropriate United States/United Kingdom performance requirements to determine which concepts to pursue.

Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP) FY14: Delivery of Submersible Ballistic Nuclear Submarine (SSBN) patrol reports.

High Voltage Improvement (HVIP) Program FY14: Complete examination of innovative lighting methods for high voltage Very Low Frequency (VLF)/Low Frequency (LF) towers.

Broadcast Control Authority (BCA) FY14: Complete development of Submarine Operating Authority (SUBOPAETH) communications tools.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	WR	SSC PAC:San Diego, CA	50.733	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
LBUCS: Systems Engineering	WR	SSC LANT:Charleston, SC	0.475	2.580	Oct 2011	2.610	Oct 2012	3.228	Oct 2013	-		3.228	Continuing	Continuing	Continuing
LBUCS: Primary Hardware Development	C/CPIF	SAIC:San Diego, CA	10.340	1.346	Nov 2011	0.000		0.000		-		0.000	0.000	11.686	
Shore to Ship: Ancillary Hardware	WR	SSC PAC:San Diego, CA	0.147	0.000		0.000		0.000		-		0.000	0.000	0.147	
Shore to Ship: Systems Engineering	WR	SSC PAC:San Diego, CA	0.222	0.000		0.000		0.000		-		0.000	0.000	0.222	
Development Support	WR	SSC PAC:San Diego, CA	7.207	0.000		6.088	Oct 2012	4.195	Oct 2013	-		4.195	Continuing	Continuing	Continuing
Software Development	WR	SSC PAC:San Diego, CA	12.367	0.000		0.466	Oct 2012	4.568	Oct 2013	-		4.568	Continuing	Continuing	Continuing
Subtotal			81.491	3.926		9.164		11.991		0.000		11.991			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Acquisition/Program Development	WR	SSC PAC:San Diego, CA	1.506	0.575	Oct 2011	0.279	Oct 2012	0.000		-		0.000	0.000	2.360	
LBUCS: Logistics Support	C/CPFF	Cambridge International:Cambridge International	1.716	0.248	Jun 2012	0.363	Jun 2013	0.402	Jun 2014	-		0.402	Continuing	Continuing	Continuing
LBUCS: Information Assurance	C/CPFF	Merdan Group:San Diego, CA	0.158	0.217	Oct 2011	0.272	Oct 2012	0.314	Oct 2013	-		0.314	Continuing	Continuing	Continuing
LBUCS: Information Assurance	WR	SSC PAC:San Diego, CA	0.000	0.000		0.254	Oct 2012	0.254	Oct 2013	-		0.254	Continuing	Continuing	Continuing
LBUCS: Technical Data	C/CPFF	ANSOL:San Diego, CA	0.158	0.232	Oct 2011	0.236	Oct 2012	0.236	Oct 2013	-		0.236	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LBUCS: Acquisition/Program Development	C/CPFF	CSA:San Diego, CA	0.728	0.545	Oct 2011	0.740	Oct 2012	0.763	Oct 2013	-		0.763	Continuing	Continuing	Continuing
LBUCS: Systems Engineering	C/CPFF	FSI:San Diego, CA	0.300	0.207	Oct 2011	0.307	Oct 2012	0.412	Oct 2013	-		0.412	Continuing	Continuing	Continuing
LBUCS: Cost Estimating	C/CPFF	Booz Allen Hamilton:San Diego, CA	0.230	0.235	Oct 2011	0.235	Oct 2012	0.241	Oct 2013	-		0.241	Continuing	Continuing	Continuing
Shore to Ship: Software Development	WR	SSC PAC:San Diego, CA	0.229	0.397	Oct 2011	0.204	Oct 2012	0.697	Oct 2013	-		0.697	Continuing	Continuing	Continuing
Shore to Ship: Studies and Design	WR	SSC PAC:San Diego, CA	0.386	0.895	Oct 2011	0.800	Oct 2012	0.646	Oct 2013	-		0.646	Continuing	Continuing	Continuing
Shore to Ship: Broadcast Control Authority	C/CPFF	Predicate Logic:San Diego, CA	0.524	0.405	Oct 2011	0.269	Oct 2012	0.214	Oct 2013	-		0.214	Continuing	Continuing	Continuing
Subtotal			5.935	3.956		3.959		4.179		0.000		4.179			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SCAP/CEP: Strategic OP Systems Performance Evaluation	C/CPFF	APL/JHU:Baltimore, MD	24.010	2.879	May 2012	3.084	May 2013	3.811	May 2014	-		3.811	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	COTF:Norfolk, VA	0.177	0.195	Oct 2011	0.300	Oct 2012	0.300	Oct 2013	-		0.300	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	SSC PAC:San Diego, CA	0.238	0.250	Oct 2011	0.316	Oct 2012	0.789	Oct 2013	-		0.789	Continuing	Continuing	Continuing
Subtotal			24.425	3.324		3.700		4.900		0.000		4.900			

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Fiscal Year	2012				2013				2014				2015				2016				2017				2018							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones <i>Low Band Universal Communication System (LBUCS) Receive</i>															△		△															
Contractual Milestones/Timeline															△																	
Test & Evalutaion															△		△	△														
Equipment Procurement															△																	△
Equipment Installation																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1083				
LBUCS: Production Representative Article (PRA) - Transmit	1	2012	2	2012
LBUCS: Capability Production Document (CPD) - Transmit	1	2012	2	2013
LBUCS: Technology Readiness Review (TRR) - Transmit	1	2012	1	2012
LBUCS: Developmental Test/Operational Assessment (DT/OA) - Transmit	4	2012	2	2013
LBUCS: Production Representative Article (PRA) - Receive	1	2013	4	2014
LBUCS: Milestone-C (MS-C) - Transmit	3	2013	3	2013
LBUCS: Production Design Review (PDR) - Receive	3	2013	3	2013
LBUCS: Critical Design Review (CDR) - Receive	4	2013	4	2013
LBUCS: Low Rate Initial Production (LRIP) - Transmit	4	2013	2	2014
LBUCS: Developmental Test/Technical Evaluation (DT/TE) - Transmit	2	2014	2	2014
LBUCS: Integrated Test (IT) - Transmit	3	2014	3	2014
LBUCS: Operational Test Readiness Review (OTRR) - Transmit	3	2014	3	2014
LBUCS: Operational Test (OT) - Transmit	4	2014	4	2014
LBUCS: Initial Operational Capability (IOC) - Transmit	1	2015	1	2015
LBUCS: Developmental Test/Operational Assessment (DT/OA) - Receive	1	2015	1	2015
LBUCS: Full Rate Production Milestone (FRP) - Transmit	1	2015	1	2015
LBUCS: EDM Program Review - Receive	2	2015	2	2015
LBUCS: Broadcast Keying Site (BKS) Full Rate Production (FRP) - Transmit	2	2015	4	2015
LBUCS: Broadcast Transmit Site (BTS) Full Rate Production (FRP) - Transmit	1	2016	4	2016
LBUCS: Full Rate Production (FRP) - Receive	4	2015	4	2018
LBUCS: Installation Broadcast Keying Site (BKS) - Transmit	1	2016	4	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
LBUCS: Installation - Receive	1	2016	4	2018
LBUCS: Installation Broadcast Transmit Site (BTS) - Transmit	1	2017	4	2017
CEP: Studies and Analysis	1	2012	4	2018
CEP: Analysis Automation	3	2013	3	2013
CEP: Task Order	1	2013	1	2013
LBUCS: Low Rate Initial Production - Receive	2	2015	2	2015
LBUCS: Full Fielding Program Review - Receive	4	2015	4	2015
LBUCS: Developmental Testing- Receive	3	2015	3	2015
LBUCS: Operational Testing- Receive	3	2015	3	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3002: <i>Navy Strategic Comm Project</i>	259.187	10.210	1.021	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	270.418
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The E-6B Block I modification program corrects Airborne National Command Post program Follow-On Operational Test and Evaluation operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupported mission systems. Block I designs, develops, integrates, and tests a Multi-Level Security (MLS) system, Open Systems Architecture (OSA); replaces the intercommunications and Mission Computer Set; modifies the cooling, electrical, and Ultra-High Frequency Command, Control and Communications system; and addresses Internet Protocol Bandwidth Expansion impacts to pre-Block I baseline aircraft. Block I adds operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provides a foundation for evolutionary upgrades. Other modifications (Block IA Engineering Change Proposal (ECP)) include: an additional Auxiliary Power Unit to enhance power and cooling capabilities supporting the additional systems in the MLS system, OSA, a Very Low Frequency Transmitter obsolescence replacement, and a High Power Transmit Set subsystem refurbishment.

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

	FY 2012	FY 2013	FY 2014
Title: Conduct Developmental Test (DT) Governmental Training	0.604	0.250	0.000
Articles:	0	0	
FY 2012 Accomplishments: Continue Block IA ECP DT Governmental Training efforts.			
FY 2013 Plans: Complete Block IA ECP DT Governmental Training efforts.			
Title: Prototype Aircraft Installation	9.108	0.771	0.000
Articles:	0	0	
FY 2012 Accomplishments: Continue Block IA ECP Prototype Aircraft Installation efforts.			
FY 2013 Plans: Complete Block IA ECP Prototype Aircraft Installation efforts.			
Title: Developmental/Operational Testing	0.498	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<i>Articles:</i>	0		
<i>FY 2012 Accomplishments:</i> Begin and complete Block IA ECP operational testing to obtain a successful OPEVAL report.			
Accomplishments/Planned Programs Subtotals	10.210	1.021	0.000

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN 056400: <i>E-6 A/B Series</i>	152.211	158.332	189.312		189.312	214.450	198.952	202.520	206.129	368.857	2,172.462

Remarks

D. Acquisition Strategy
Competitively awarded Cost Plus Award Fee development contract. The current contract was modified on 13 April 2007 to a Cost Plus Incentive Fee contract. A new sole source Firm Fixed Price (FFP) contract was awarded for LRIP in 4th quarter of FY2010 with Full Rate Production being a new sole source follow-on FFP contract.

E. Performance Metrics
Block I Milestone C decision achieved in 3rd quarter FY2010.
FRP Contract Award 1st quarter FY2013.
Block I IOC planned for 2nd quarter FY2014.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development Block I*	C/CPIF	Rockwell Collins:Cedar Rapids, IA	142.880	0.000		0.000		0.000		-		0.000	0.000	142.880	142.880
Award Fees	C/CPAF	Rockwell Collins:Cedar Rapids, IA	3.751	0.000		0.000		0.000		-		0.000	0.000	3.751	3.751
Primary Hardware Development Block IA ECP**	C/CPIF	Rockwell Collins:Cedar Rapids, IA	31.641	9.818	Nov 2011	0.821	Feb 2013	0.000		-		0.000	0.000	42.280	42.280
Ancillary Hardware Development	C/CPIF	Rockwell Collins:Cedar Rapids, IA	4.933	0.000		0.000		0.000		-		0.000	0.000	4.933	4.933
Training Development WST	C/CPIF	Rockwell Collins:Cedar Rapids, IA	1.213	0.000		0.000		0.000		-		0.000	0.000	1.213	1.213
Subtotal			184.418	9.818		0.821		0.000		0.000		0.000	0.000	195.057	195.057

Remarks
 * The Rockwell Collins Primary Hardware Development Block I contract was converted from a Competitively Awarded/Cost plus Award Fee to a Cost Plus Incentive Fee beginning in FY07.
 ** The Rockwell Collins Primary Hardware Development Block IA Engineering Change Proposal (ECP) contract was definitized in July 2010.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Studies & Analyses	Various	Various:Not Specified	4.477	0.000		0.000		0.000		-		0.000	0.000	4.477	
Subtotal			4.477	0.000		0.000		0.000		0.000		0.000	0.000	4.477	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	WR	NAWCAD:Patuxent River, MD	0.668	0.000		0.000		0.000		-		0.000	0.000	0.668	
Operational Test & Evaluation	WR	NAWCAD:Patuxent River, MD	2.148	0.000		0.000		0.000		-		0.000	0.000	2.148	
Other Support	WR	NAVAIR HQ:Patuxent River, MD	3.645	0.000		0.000		0.000		-		0.000	0.000	3.645	
Subtotal			6.461	0.000		0.000		0.000		0.000		0.000	0.000	6.461	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	Various	Various:Not Specified	13.700	0.150	May 2012	0.000		0.000		-		0.000	0.000	13.850	
Governmental Support	Various	Various:Not Specified	37.728	0.000		0.000		0.000		-		0.000	0.000	37.728	
Program Management Support	Various	Various:Not Specified	10.550	0.000		0.000		0.000		-		0.000	0.000	10.550	
Travel	WR	NAVAIR HQ:Patuxent River, MD	1.853	0.242	Nov 2011	0.200	Nov 2012	0.000		-		0.000	0.000	2.295	
Subtotal			63.831	0.392		0.200		0.000		0.000		0.000	0.000	64.423	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	259.187	10.210	1.021	0.000	0.000	0.000	0.000	270.418	

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	39.202	32.959	25.566	13.561	-	13.561	17.165	26.234	25.918	26.359	Continuing	Continuing
3126: <i>Rapid Technology Transition (RTT)</i>	26.377	22.264	12.548	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	61.189
3173: <i>Technology Insertion Program for Savings (TIPS)</i>	5.131	7.714	12.772	13.436	-	13.436	17.037	26.143	25.818	26.255	Continuing	Continuing
3174: <i>Rapid Development and Deployment (RDD)</i>	7.694	2.981	0.246	0.125	-	0.125	0.128	0.091	0.100	0.104	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

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.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>
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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.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	30.005	25.566	22.656	-	22.656
Current President's Budget	32.959	25.566	13.561	-	13.561
Total Adjustments	2.954	0.000	-9.095	-	-9.095
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.149	0.000			
• SBIR/STTR Transfer	-1.195	0.000			
• Program Adjustments	0.000	0.000	-8.972	-	-8.972
• Rate/Misc Adjustments	0.000	0.000	-0.123	-	-0.123

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3126: <i>Rapid Technology Transition (RTT)</i>	26.377	22.264	12.548	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	61.189
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

Funding reductions from FY 2012 to FY 2014 reflect realignment of funding to higher Naval priorities.

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

	FY 2012	FY 2013	FY 2014
Title: RAPID TECHNOLOGY TRANSITION (RTT)	22.264	12.548	0.000
Articles:	0	0	
FY 2012 Accomplishments:			
Completed 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.			
- Calibration and Certification of MAC Sensors for Intelligence Data Collection			
- Secure Communications Controller			
- Tactical Transfer Cross-Domain Solution Device			
- Unit-Level ISR&T for DCGS-N			
- Multistatic Active Coherent (MAC) Operation Interface			
- VVoSIP and Call Management for Afloat Networks			
- High Gain Broadband (Graywing) Shipboard IO Antenna			
- Afloat Tactical Chat			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>		PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
Continued the following RTT projects: <ul style="list-style-type: none"> - 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 Initiated the following new RTT projects to improve naval warfighter capabilities: <ul style="list-style-type: none"> - 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 - 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 				FY 2012	FY 2013	FY 2014
FY 2013 Plans: Continue efforts from FY 2012 unless otherwise noted as completed. Initiate 3-5 new RTT projects to improve naval warfighter capabilities.						
Accomplishments/Planned Programs Subtotals				22.264	12.548	0.000
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.						

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Variable Message Format (VMF) in the E-2 Hawkeye	C/CPFF	Wyle Laboratories, Inc:NAWCAD Patuxent River, MD	2.000	0.000		0.000		0.000		-		0.000	0.000	2.000	
Integrated Laser Designator/Rangefinder for the M1A1 Tank	C/FFP	Night Vision and Electronics Sensors Directorate/N:10221 Burbeck Road, Ft Belvoir, VA 22060	1.850	0.000		0.000		0.000		-		0.000	0.000	1.850	
Secure Communications Controller	Various	Various:Varous	0.624	1.246	Dec 2011	0.000		0.000		-		0.000	0.000	1.870	
VVoSIP and Call Management for Afloat Networks	C/CPFF	XFEDS Inc; SSC LANT; Effecture; and SSC PAC:San Diego, CA; Charleston, SC; and Portsmouth, VA	1.375	0.625	Oct 2011	0.000		0.000		-		0.000	0.000	2.000	
Image Based Navigation for Tomahawk Block IV Cruise Missiles (ImageNav)Text	C/BA	SSCI:Woburn, MA	1.150	0.000		0.850	Dec 2012	0.000		-		0.000	0.000	2.000	
Unit-Level ISR&T for DCGS-N	C/CPFF	NMSO/BAE Systems:San Diego, CA	1.200	0.300	Oct 2011	0.000		0.000		-		0.000	0.000	1.500	
Disruptive Tolerant Networking (DTN)	SS/FFP	Raytheon BBN Technologies:Arlington, VA	1.000	0.000		0.900	Dec 2012	0.000		-		0.000	0.000	1.900	
Tactical Transfer Cross-Domain Solution Device	SS/CR	Penn State Applied Research/NRL:PA/ DC	1.400	0.600	Oct 2011	0.000		0.000		-		0.000	0.000	2.000	
SDV Umbilical System	C/CPFF	OCEANEERING INT'L INC:Houston, Texas	0.860	0.000		0.350	Dec 2012	0.000		-		0.000	0.000	1.210	
Calibration and Certification of MAC	C/CPFF	ENSCO, Inc./ Lockheed Martin/	0.952	0.606	Oct 2011	0.000		0.000		-		0.000	0.000	1.558	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Sensors for Intelligence Data Collection		NAWC/ENSCO, Inc.:NY/VA/MD													
Maritime Radar Processor (MRP)	WR	NAS Patuxent River:Patuxent River, MD	1.201	0.000		0.800	Dec 2012	0.000		-		0.000	0.000	2.001	
High Gain Broadband (Graywing) Shipboard IO Antenna	WR	SSC - Pacific Code 56380:San Diego, CA	1.000	0.900	Oct 2011	0.000		0.000		-		0.000	0.000	1.900	
Graywing and SSEE Mods Broadband Amplifier	WR	SSC-Pacific:San Diego, CA	1.000	0.000		0.000	Dec 2012	0.000		-		0.000	0.000	1.000	
Fire Resistant Nanocomposite Coating	C/CPFF	Oceanit:Honolulu, HI	0.025	0.000		0.250	Dec 2012	0.000		-		0.000	0.000	0.275	
Advanced Special Communications Mode (SCM) Waveform Into Marine Corps Radios (ASWIMR)	MIPR	Various:Various	1.200	0.000		0.700	Dec 2012	0.000		-		0.000	0.000	1.900	
Navy VIPERSAT	SS/IDIQ	Centurum:San Diego, CA	0.910	0.000		1.069	Dec 2012	0.000		-		0.000	0.000	1.979	
Automated Transparency Refurbishment (ATR)	MIPR	Army Research Lab, Aberdeen Proving Ground:Aberdeen, MD	0.000	0.000		0.851	Dec 2012	0.000		-		0.000	0.000	0.851	
Afloat Naval Tactical Chat	Various	Various:Various	0.500	1.200	Nov 2011	0.000		0.000		-		0.000	0.000	1.700	
Naval Superstructure Cracking Due to Aluminum Sensitization	C/BA	Various:NSWC Carderock	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	
Multistatic Active Coherent (MAC) Operation Interface	C/CPFF	ENSCO, Inc.; Lockheed Martin:Endicott, NY; Manassa	0.850	1.150	Oct 2011	0.000		0.000		-		0.000	0.000	2.000	
CNO 4G Demo	Various	Various:Various	0.000	4.280	Mar 2012	0.000		0.000		-		0.000	0.000	4.280	
Future Technology Insertion Opportunities	Various	Various:Various	0.000	7.834	Dec 2011	3.900	Dec 2012	0.000		-		0.000	0.000	11.734	

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>
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Proj 3126	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Project 3126					Oversee Execution of Deals																							
					Begin Selected Projects	FY13 Call for Proposals	FY13 Proposals Recieved																					
							FY13 Initial Evaluation																					
							FY13 Red Team Reviews																					
							FY13 ERG WG - conducts final reviews and ranking	FY13 ERG - makes selection for upcoming FY																				
								FY13 MOAs - drafted, Staffed and approved	Begin Selected FY 13 Projects																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3126				
Project 3126: Oversee Execution of Continuing Projects	1	2013	4	2013
Project 3126: Begin Selected FY13 Projects	1	2013	1	2013
Project 3126: FY14 Call for Proposals	2	2013	2	2013
Project 3126: FY14 Proposals Recieved	3	2013	3	2013
Project 3126: FY14 Initial Evaluation	3	2013	3	2013
Project 3126: FY14 Red Team Reviews	3	2013	3	2013
Project 3126: FY14 ERG WG - conducts final reviews and ranking	3	2013	3	2013
Project 3126: FY14 ERG - makes selection for upcoming FY	4	2013	4	2013
Project 3126: FY14 MOAs - drafted, Staffed and approved	4	2013	4	2013
Project 3126: Begin Selected FY 14 Projects	1	2014	1	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3173: <i>Technology Insertion Program for Savings (TIPS)</i>	5.131	7.714	12.772	13.436	-	13.436	17.037	26.143	25.818	26.255	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 rapidly transition applicable commercial off-the-shelf solutions and late-stage development technologies from any source to meet an immediate need. 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 increase from FY 2012 to FY 2013 reflect emphasis on increasing operations and support cost savings projects.

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

	FY 2012	FY 2013	FY 2014
Title: TECHNOLOGY INSERTION PROGRAM FOR SAVINGS (TIPS)	7.714	12.772	13.436
Articles:	0	0	0
FY 2012 Accomplishments:			
Completed the FY 2011 TIPS projects:			
- Tactical Environment & Role-player Station (TERS)			
- Naval Advanced Amorphous Coating (NAAC) for High Wear Decks			
- H-1 Combining Gearbox Chaffing Repair via Low Pressure Cold Spray			
- ZnBr Flow Battery Energy Storage System			
- Transportation Exploitation Tool (TET)			
Initiated 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			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue all FY 2012 TIPS projects. 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.				
Accomplishments/Planned Programs Subtotals		7.714	12.772	13.436
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.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

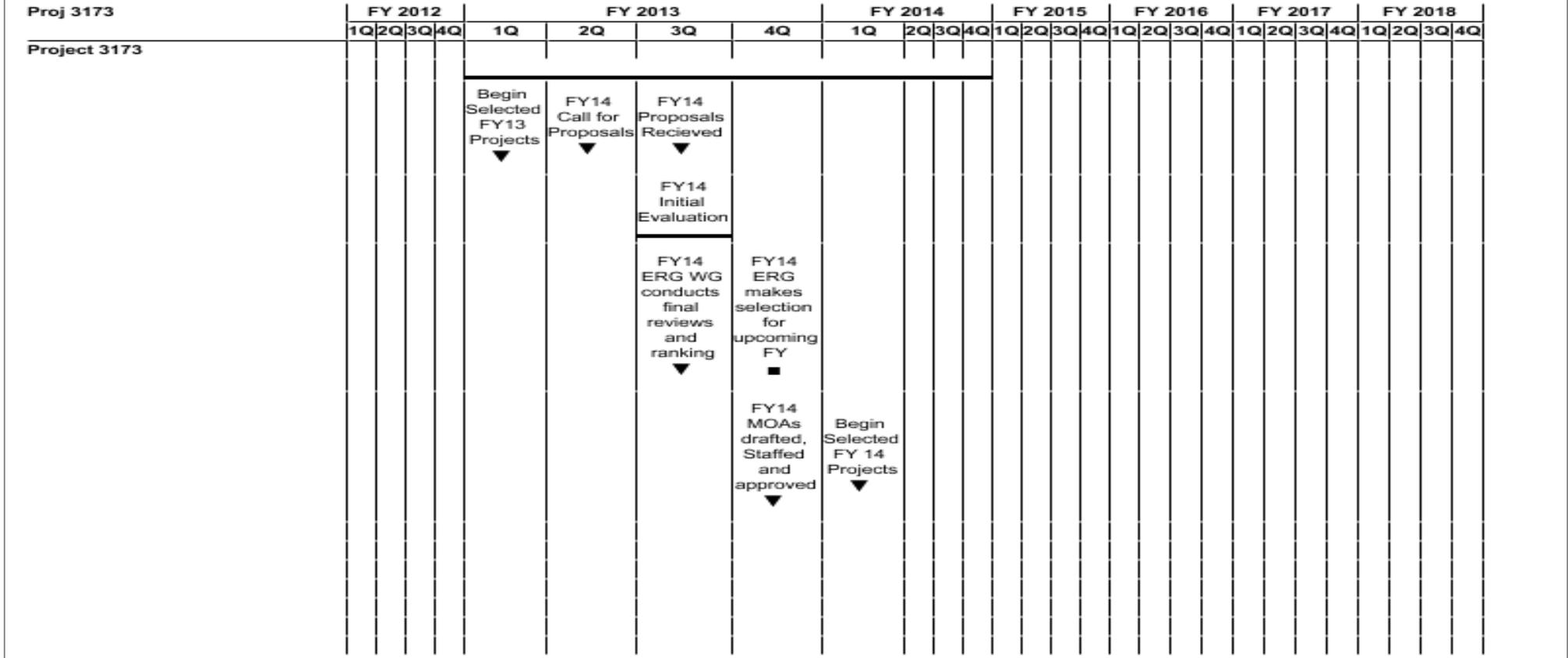
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Composite Patch Technologies for Aluminum Structures	C/BA	Various:Various	0.000	0.000		0.800	Dec 2012	0.900	Dec 2013	-		0.900	0.000	1.700	
Tactical Environment & Role-player Station (TERS)	C/BPA	NAWCTSD:Orlando, FL	0.900	0.602	Oct 2011	0.000		0.000		-		0.000	0.000	1.502	
Global Ammunition Strategic Positioning Model (GASPM)	C/BA	Various:Various	0.000	0.000		0.975	Dec 2012	1.000	Dec 2013	-		1.000	0.000	1.975	
Naval Advanced Amorphous Coating (NAAC) for High Wear Decks	MIPR	EXCET/NRL:NRL	0.500	0.150	Oct 2011	0.000		0.000		-		0.000	0.000	0.650	
Backscatter X-ray for F-18 Depot Level Structural Inspection	C/BA	Various:Various	0.000	0.000		0.850	Dec 2012	0.750	Dec 2013	-		0.750	0.000	1.600	
H-1 Combining Gearbox Chaffing Repair via Low Pressure Cold Spray	Various	Various:Various	1.100	0.600	Oct 2011	0.000		0.000		-		0.000	0.000	1.700	
Revolutionary (Low FOD) Drogue	C/BA	Various:Various	0.000	0.000		1.000	Dec 2012	1.000	Dec 2013	-		1.000	0.000	2.000	
ZnBr Flow Battery Energy Storage System	MIPR	NAVFAC ESC:Port Hueneme	1.356	0.308	Oct 2011	0.000		0.000		-		0.000	0.000	1.664	
Transportation Exploitation Tool (TET)	C/CPFF	Alion Science and Technology:VA	0.800	0.850	Oct 2011	0.000		0.000		-		0.000	0.000	1.650	
Future Technology Insertion Opportunities	Various	Various:Various	0.000	4.854	Dec 2011	8.792	Dec 2012	8.173	Dec 2013	-		8.173	0.000	21.819	
Subtotal			4.656	7.364		12.417		11.823		0.000		11.823	0.000	36.260	

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3173				
Project 3173: Oversee Execution of Projects	1	2013	4	2014
Project 3173: Begin Selected FY 13 Projects	1	2013	1	2013
Project 3173: FY14 Call for Proposals	2	2013	2	2013
Project 3173: FY14 Proposals Recieved	3	2013	3	2013
Project 3173: FY14 Initial Evaluation	3	2013	3	2013
Project 3173: FY14 ERG WG conducts final reviews and ranking	3	2013	3	2013
Project 3173: FY14 ERG makes selection for upcoming FY	4	2013	4	2013
Project 3173: FY14 MOAs drafted, Staffed and approved	4	2013	4	2013
Project 3173: Begin Selected FY 14 Projects	1	2014	1	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3174: <i>Rapid Development and Deployment (RDD)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3174: <i>Rapid Development and Deployment (RDD)</i>	7.694	2.981	0.246	0.125	-	0.125	0.128	0.091	0.100	0.104	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

FY 2012 to FY 2013 funding reduction is due to realignment of funds for higher priority Naval needs.

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

	FY 2012	FY 2013	FY 2014
Title: RAPID DEVELOPMENT AND DEPLOYMENT (RDD)	2.981	0.246	0.125
Articles:	0	0	0
FY 2012 Accomplishments:			
Completed the following efforts:			
- Loud Hailer			
- Ship Disable			
Continued the following efforts:			
- MV-22 Traffic Collision Avoidance System (TCAS)			
Initiated the following effort:			
- V-22 Windscreen Durability Improvements			
FY 2013 Plans:			
Complete the V-22 Windscreen Durability Improvements.			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>		PROJECT 3174: <i>Rapid Development and Deployment (RDD)</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
Initiate shutdown of the RDD program office and integrate functions into ONR Technology Transition Office.				FY 2012
FY 2014 Plans: Complete shutdown of the RDD program office and integrate functions into ONR Technology Transition Office.				FY 2013
				FY 2014
Accomplishments/Planned Programs Subtotals				2.981
				0.246
				0.125
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
<p>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.</p>				
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-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3174: <i>Rapid Development and Deployment (RDD)</i>
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Proj 3174	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q																												
Project 3174																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3174: <i>Rapid Development and Deployment (RDD)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3174				
Project 3174: Complete MV-22 TCAS	2	2013	2	2013
Project 3174: Execute MV-22 Windscreen Durability Improvements	1	2012	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	4,410.310	148.313	188.299	131.118	-	131.118	116.542	105.135	73.568	86.854	Continuing	Continuing
1662: <i>F/A-18 Improvement</i>	3,793.777	97.361	124.223	128.032	-	128.032	113.345	101.963	73.568	86.854	Continuing	Continuing
2065: <i>F/A-18 Radar Upgrade</i>	616.533	50.952	64.076	3.086	-	3.086	3.197	3.172	0.000	0.000	0.000	741.016

MDAP/MAIS Code(s): 549

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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. 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	147.091	188.299	148.861	-	148.861
Current President's Budget	148.313	188.299	131.118	-	131.118
Total Adjustments	1.222	0.000	-17.743	-	-17.743
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.529	0.000			
• SBIR/STTR Transfer	-3.307	0.000			
• Program Adjustments	0.000	0.000	-11.239	-	-11.239
• Rate/Misc Adjustments	0.000	0.000	-6.504	-	-6.504

Change Summary Explanation

Technical:

1662: Not Applicable

2065: Not Applicable

Schedule:

1662: Distributed Targeting System Developmental Test extended one year from 1st quarter FY12 to 1st quarter FY13 for resolution of minor issues discovered in earlier testing. Operational Flight Test slid into 1st quarter FY13. As a result of extended flight test and delays with the Fleet Release of System Configuration Set H8, Initial Operational Capability was delayed from 4th quarter FY12 to 3rd quarter FY13. Low Rate Initial Production 2 was delayed from 2nd quarter FY12 to 1st quarter FY13 due to protracted contract negotiations, there was no impact to the production line or risk of a program breach and the results were a net savings of \$3 million. Full Rate Production contract award was delayed from 1st quarter FY13 to 3rd quarter FY13. Inclusion of FY18 in the FYDP brought in Full Rate Production Lots 6 and 7 and updated quantities.

Infra-Red Search and Track Integrated Baseline Review 1 and Engineering Development Model Fleet Readiness Review (EDM FRR) delayed two quarters as a result of contract settlement issues between the prime contractor and a major subcontractor, EDM FRR scheduled date is 1st quarter FY14, erroneously reported as 4th quarter FY12 in PB13. Four schedule items have been accelerated by two quarters since PB13; Physical Configuration Audit, Integrated Operational Test & Evaluation, the Operational Evaluation Report and the start of Full Rate Production 1. Five items have been added; Full Rate Production Decision Review in 2nd quarter FY16, start of Full Rate Production 2 in 1st quarter FY17, deliveries of Low Rate Initial Production 2 beginning 1st quarter FY17, deliveries of Full Rate Production 1 beginning in 3rd quarter FY17 and deliveries of Full Rate Production 2 beginning in 2nd quarter FY18.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0204136N: *F/A-18 Squadrons*

Multi-Sensor Integration Phase 1 Operational Testing Readiness Review, Operational Evaluation and Fleet Release have all been delayed two quarters as a result of discovered test issues requiring resolution.

Multi-Sensor Integration Phase III System Design and Development start date has been accelerated two quarters into 1st quarter FY13 from 3rd quarter FY13. Integration testing previously reported only the planned integration period, extended to 1st quarter FY16 from 3rd quarter FY15 to account for the planned Integrated Test & Evaluation phase.

Sensor Integration - Single Ship Geolocation (SSG) and Specific Emitter Identification (SEI): SSG/SEI follow-on interoperability efforts require additional software development extending that effort from 2nd quarter FY11 to 4th quarter FY13, related testing will be accomplished in conjunction with Multi-Sensor Integration Phase II.

Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System: Added developmental test period for communications and identification efforts (Multi-functional Information Distribution System - Joint Tactical Radio System, Satellite Communication, Combined Interrogator Transponder MODE 5) from 4th quarter FY12 to 4th quarter FY16.

Small Diameter Bomb II / Joint Miniature Munitions Bomb Rack Unit integration and testing is a new start effort beginning in FY14.

Obsolescence redesign is a new start program beginning in FY14.

2065: Counter Electronic Attack 1 hardware/software development efforts under this program element end in 4th quarter FY13. Obsolescence redesign program added beginning in FY14.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1662: <i>F/A-18 Improvement</i>	3,793.777	97.361	124.223	128.032	-	128.032	113.345	101.963	73.568	86.854	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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. 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 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, funding 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 2012	FY 2013	FY 2014
Title: Distributed Targeting System	5.427	1.916	0.000
Articles:	0	0	
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 (OFF), Mission Computer OFF, and Mission Planning OFF.			
FY 2012 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>		PROJECT 1662: <i>F/A-18 Improvement</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue Integrated Test and Evaluation and begin Initial Operational Test and Evaluation. Complete Operational Test, conduct Physical Configuration Audit and Full Rate Production review. FY 2013 Plans: Complete Initial Operational Test and Evaluation (IOT&E) and award Full Rate Production (FRP) contract.				
Title: Electro-Optical Infra-Red Search and Track (IRST) Phase I Articles:		49.283 0	84.262 0	59.744 0
Description: Technology development and engineering and manufacturing development of an IRST sensor for the F/A-18 E/F. FY 2012 Accomplishments: Continue Engineering and Development Phase and complete Critical Design Review and Design Readiness Review. FY 2013 Plans: Continue 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.				
Title: Sensor Integration - Single Ship Geolocation (SSG) and Specific Emitter Identification (SEI), High Gain Electronic Attack/High Gain Electronic Support Measures, Integrated Defensive Countermeasures Articles:		11.320 0	2.629 0	0.000
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 2012 Accomplishments: Continue software algorithm development to enhance target identification and location - SSG and SEI. FY 2013 Plans: Continue software algorithm development to enhance target identification and location (SSG/SEI) as relates to Wingman Compatibility interoperability resolution.				
Title: Sensor Integration - Air to Air, Air to Ground and Maritime Multi-Sensor Integration Phase II Articles:		15.733 0	3.031 0	10.195 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>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.</p> <p>FY 2012 Accomplishments: Requirements decomposition, functional allocation of subsystem requirements. System functional review and critical design review will be held.</p> <p>FY 2013 Plans: Integration and testing will be conducted.</p> <p>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.</p>				
<p>Title: Sensor Integration - Counter Electronic Attack / Multi-Sensor Integration Phase III</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2013 Plans: Requirements decomposition, functional allocation of subsystem requirements. System Functional Review/Critical Design Review to be held.</p> <p>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</p>		0.000	10.500 0	14.470 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>		PROJECT 1662: <i>F/A-18 Improvement</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Blanking Unit and other software updates affecting the Integrated Defensive Counter Measures suite of electronic warfare hardware. Begin integration and testing efforts.				
<p>Title: Flight Plan Engineering / System Configuration Set Development and Integration</p> <p align="right">Articles:</p> <p>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.</p> <p>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.</p>		0.000	0.000	4.000 0
<p>Title: Test Wing Maintenance Conversion</p> <p align="right">Articles:</p> <p>Description: Funding supports maintenance of aircraft at NAVAIR Test Wing used to support Program Office objectives.</p> <p>FY 2012 Accomplishments: Perform aircraft maintenance on Test Wing Aircraft.</p> <p>FY 2013 Plans: Perform aircraft maintenance on Test Wing Aircraft. Increase in planned flight testing over FY12 requirements.</p> <p>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.</p>		9.042 0	10.483 0	6.500 0
<p>Title: Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System</p> <p align="right">Articles:</p> <p>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</p>		4.556 0	11.402 0	5.223 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>		PROJECT 1662: <i>F/A-18 Improvement</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
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 2012 Accomplishments: Begin studies and analysis to develop functional requirements for Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System. Conduct systems engineering (hardware/software) work required for common communications (Multi-functional Information Distribution System - Joint Tactical Radio System), advanced communications (Satellite Communication) and advanced identification (Combined Interrogator Transponder Mode 5), begin limited developmental test and evaluation.					
FY 2013 Plans: Continue 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.					
Title: Advanced Precision Kill Weapons System II		Articles:	2.000 0	0.000	0.000
Description: Development efforts needed for integration of air launched laser guided rockets on F/A-18 A+/C/D at stations 2, 3, 7, and 8.					
FY 2012 Accomplishments: OCO: Perform and complete developmental testing needed to integrate air launched laser guided rockets on F/A-18 A+/C/D.					
Title: Small Diameter Bomb II Integration		Articles:	0.000	0.000	27.800 0
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, 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					

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
USAF (Air Force is funding LRIPs 1, 2 and 3 with options for Navy procurements). Navy RDT&E funding will be applied to LRIP 4 for a quantity of 90 to support final testing events.			
FY 2014 Plans: 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.			
Title: F/A-18 Obsolescence Redesign	0.000	0.000	0.100
Articles:			0
Description: Develop and test modifications to address obsolescence issues.			
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.			
Accomplishments/Planned Programs Subtotals	97.361	124.223	128.032

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

<u>Line Item</u>	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APN/0145: <i>F/A-18E/F</i>	2,237.500	2,035.131	206.551		206.551	0.000	0.000	0.000	0.000	0.000	41,638.932
• APN/0145C: <i>F/A-18EF AP</i>	63.262	30.296	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,650.192
• APN/0143: <i>EA-18G</i>	989.577	1,027.443	2,001.787		2,001.787	45.583	0.000	0.000	0.000	0.000	10,663.106
• APN/0143C: <i>EA-18G AP</i>	28.119	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	263.668
• APN/05250: <i>F-18 SERIES MOD</i>	454.900	688.549	875.371		875.371	1,197.724	1,294.006	1,148.093	1,608.553	5,343.084	17,543.235
• RDTEN/3063: <i>EA-18G</i>	14.770	13.009	11.138		11.138	19.563	16.438	16.383	14.149	Continuing	Continuing
DEVELOPMENT											

Remarks

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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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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; 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 2016.
- 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 2012. The program is leveraging previous Engineering Change Proposal efforts and is designated for all 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 Auto 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.

E. Performance Metrics

The DTS Program will achieve IOC in 2nd Quarter of FY2013. IRST Program achieved MS B on 17 June 2011, scheduled for MS C in 2nd Quarter of FY2014, and IOC in 4th Quarter of FY2016.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EW Sensor - Primary Development	WR	NAWCWD:China Lake, CA	1.985	2.329	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
SI - Develop Sensor Integration SSG/SEI	Various	Boeing:St. Louis, MO	4.530	0.000		1.944	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
SI - Develop Sensor Integration SSG/SEI	Various	Various:Various	0.000	0.000		0.048	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
SI - Develop Sensor Integration SSG/SEI	WR	NAWCWD:China Lake, CA	0.523	1.038	Mar 2012	0.637	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
IDECM/HGESM - S/W Development	WR	NAWCWD:China Lake, CA	1.912	1.983	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
IDECM/HGESM - S/W Development	Various	Raytheon:Goleta, CA	2.542	0.300	Aug 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
AGCAS/ATAWS (Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System) Systems Engineering	WR	NAWCAD:Pax River, MD	0.000	0.553	Feb 2012	2.500	Dec 2012	2.200	Dec 2013	-		2.200	Continuing	Continuing	Continuing
IRST - Primary Hardware Development Infra-Red Search and Track (IRST) 2	C/CPIF	Boeing:St. Louis, MO	30.172	36.446	Nov 2011	64.594	Nov 2012	27.532	Nov 2013	-		27.532	26.536	185.280	185.280
SDB II Hardware / Test Assets	Various	Various:Various	0.000	0.000		0.000		1.000	Feb 2014	-		1.000	Continuing	Continuing	Continuing
JMM BRU Hardware / Test Assets	Various	Various:Various	0.000	0.000		0.000		5.000	Feb 2014	-		5.000	Continuing	Continuing	Continuing
Prior Year Prod Dev cost no longer funded in FYDP	Various	Various:Various	555.463	0.000		0.000		0.000		-		0.000	0.000	555.463	
Subtotal			597.127	42.649		69.723		35.732		0.000		35.732			

Remarks
While no funding is identified in FY14 the Sensor Integration (SSG/SEI) and IDECM/HGESM lines will remain active to support future, emergent requirements as may be required.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IRST - Software (S/W) Development	WR	NAWCWD:China Lake, CA	0.000	0.416	Dec 2011	4.170	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
IRST - Development Support	WR	NAWCWD:China Lake, CA	5.222	0.375	Dec 2011	0.421	Dec 2012	0.570	Dec 2013	-		0.570	Continuing	Continuing	Continuing
IRST - Development Support	WR	NAWCAD:Pax River, MD	6.037	2.278	Dec 2011	3.472	Dec 2012	2.403	Dec 2013	-		2.403	Continuing	Continuing	Continuing
IRST - Development Support	WR	NAWCAD:Lakehurst, NJ	0.564	0.376	Dec 2011	0.603	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
IRST - Development Support	WR	FRC Southeast:Jacksonville, FL	2.056	0.761	Dec 2011	1.694	Dec 2012	0.950	Dec 2013	-		0.950	Continuing	Continuing	Continuing
IRST - Development Support	WR	FRC Southwest:North Island, CA	0.157	0.058	Dec 2011	0.430	Dec 2012	0.037	Dec 2013	-		0.037	Continuing	Continuing	Continuing
IRST - Development Support	WR	NSMA:Arlington, VA	0.000	8.728	Apr 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DTS - S/W Development System Configuration Set (SCS) Distributed Targeting System (DTS)	Various	Boeing:St. Louis, MO	28.503	0.000		0.216	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
DTS - ILS	WR	Various:Various	0.000	0.154	Dec 2011	0.000		0.000		-		0.000	0.000	0.154	
MSI PH II Development Support	Various	NAWCWD:China Lake, CA	4.310	8.005	Nov 2011	2.231	Dec 2012	5.111	Dec 2013	-		5.111	Continuing	Continuing	Continuing
MSI PH II Development Support	WR	PMA205:Pax River, MD	0.774	0.000		0.638	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
MSI PH II Development Support	TBD	Boeing:St. Louis, MO	0.000	0.000		0.000		0.918	Dec 2013	-		0.918	Continuing	Continuing	Continuing
AGCAS/ATAWS Development Support	WR	NAWCWD:China Lake, CA	0.000	0.761	Apr 2012	0.500	Dec 2012	3.120	Dec 2013	-		3.120	Continuing	Continuing	Continuing
AGCAS/ATAWS Configuration Management	Various	Various:Various	0.000	0.000		0.052	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
MSI PH III Development Support - Sensor	WR	NAWCWD:China Lake, CA	0.000	0.000		6.917	Dec 2012	6.534	Dec 2013	-		6.534	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integration Counter-Digital Radio Frequency Memory															
MSI PH III Development Support - Sensor Integration Counter-Digital Radio Frequency Memory	TBD	Boeing:St. Louis, MO	0.000	0.000		2.645	Dec 2012	7.192	Dec 2013	-		7.192	Continuing	Continuing	Continuing
S/W Development IDECM/HGESM	WR	NAWCWD:China Lake, CA	10.579	0.316	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Development Support - Sensor Integration SSG/SEI	WR	NAWCWD:China Lake, CA	1.638	0.589	Nov 2011	0.000		0.000		-		0.000	0.000	2.227	
SDB II - Development Support	WR	NAWCAD:Pax River, MD	0.000	0.000		0.000		4.000	Dec 2013	-		4.000	Continuing	Continuing	Continuing
SDB II - Development Support	WR	NAWCWD:China Lake, CA	0.000	0.000		0.000		3.000	Dec 2013	-		3.000	Continuing	Continuing	Continuing
SDB II - Software Development Support	WR	NAWCWD:China Lake, CA	0.000	0.000		0.000		6.624	Dec 2013	-		6.624	Continuing	Continuing	Continuing
Obsolescence Redesign	TBD	TBD:TBD	0.000	0.000		0.000		0.100	Jun 2014	-		0.100	Continuing	Continuing	Continuing
Prior Year Support costs no longer funded in FYDP	Various	Various:Various	2,919.391	0.000		0.000		0.000		-		0.000	0.000	2,919.391	
Subtotal			2,979.231	22.817		23.989		40.559		0.000		40.559			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IRST - Developmental Test & Evaluation (DT&E)	WR	NAWCAD:Pax River, MD	3.598	0.000		4.188	Dec 2012	7.200	Dec 2013	-		7.200	Continuing	Continuing	Continuing
IRST - DT&E	WR	NAWCWD:China Lake, CA	0.959	0.000		1.344	Dec 2012	14.100	Dec 2013	-		14.100	Continuing	Continuing	Continuing
IRST - Operational Test & Evaluation (OT&E)	WR	OPTEVFOR:VX-9	0.018	0.105	Dec 2011	0.560	Dec 2012	0.317	Dec 2013	-		0.317	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DTS 2 - DT&E	WR	NAWCWD:China Lake, CA	7.053	1.876	Dec 2011	0.300	Dec 2012	0.000		-		0.000	0.000	9.229	
DTS 2 - DT&E	WR	NAWCAD:Pax River, MD	0.900	1.741	Nov 2011	0.300	Dec 2012	0.000		-		0.000	0.000	2.941	
DTS - OT&E	WR	OPTEVFOR:Norfolk, VA	0.747	0.800	Dec 2011	0.200	Dec 2012	0.000		-		0.000	0.000	1.747	
SI - OT&E - SSG/SEI	WR	Various:Various	1.057	0.300	Apr 2012	0.000		0.000		-		0.000	0.000	1.357	
MSI PH II - DT&E (MSI Phase II-3)	WR	Various:Various	4.567	4.650	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MSI PH II - DT&E (MSI Phase II-4)	WR	Various:Various	0.000	0.339	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MSI PH II OT&E	WR	OPTEVFOR:VX-9	0.000	0.204	Jul 2012	0.000		4.151	Dec 2013	-		4.151	Continuing	Continuing	Continuing
AGCAS/ATAWS DT&E	TBD	Various:Various	0.000	1.500	Apr 2012	1.700	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Advanced Precision Kill Weapon System II - Integration	WR	NAWCAD:Pax River, MD	0.000	2.000	Mar 2012	0.000		0.000		-		0.000	0.000	2.000	
SDB II - DT&E	WR	NAWCAD:Pax River, MD	0.000	0.000		0.000		4.000	Dec 2013	-		4.000	Continuing	Continuing	Continuing
SDB II - DT&E	WR	NAWCWD:China Lake, CA	0.000	0.000		0.000		3.000	Dec 2013	-		3.000	Continuing	Continuing	Continuing
Prior Year T&E costs no longer funded in FYDP	Various	Various:Various	96.763	0.000		0.000		0.000		-		0.000	0.000	96.763	
Subtotal			115.662	13.515		8.592		32.768		0.000		32.768			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Mgmt Support - MISC	Various	NAWCAD:Pax River, MD	5.532	1.893	Dec 2011	2.468	Dec 2012	2.250	Dec 2013	-		2.250	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Seaport CSS - Program Management Support	C/CPFF	Wyle Lab:Pax River, MD	9.354	2.626	Dec 2011	3.620	Nov 2012	3.696	Nov 2013	-		3.696	5.019	24.315	24.315
Travel	Various	NAVAIR:Pax River, MD	3.550	0.539	Oct 2011	0.424	Dec 2012	0.312	Nov 2013	-		0.312	Continuing	Continuing	Continuing
Flight Plan Engineering	Various	NAWCAD:Pax River, MD	4.160	0.800	Dec 2011	2.000	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Flight Plan Engineering	Various	NAWCWD:China Lake, CA	9.340	2.150	Jan 2012	2.150	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Government Engineering Support	Various	Various:Various	0.886	2.522	Dec 2011	0.522	Nov 2012	2.472	Dec 2013	-		2.472	Continuing	Continuing	Continuing
Test Wing Maintenance Conversion	WR	NAWCAD:Pax River, MD	16.662	3.925	Jan 2012	5.367	Jan 2013	3.108	Dec 2013	-		3.108	Continuing	Continuing	Continuing
Test Wing Maintenance Conversion	WR	NAWCWD:China Lake, CA	16.662	3.925	Jan 2012	5.368	Jan 2013	3.035	Dec 2013	-		3.035	Continuing	Continuing	Continuing
Flight Plan / System Configuration Set Development & Integration	WR	NAWCAD:Pax River, MD	0.000	0.000		0.000		2.000	Dec 2013	-		2.000	Continuing	Continuing	Continuing
Flight Plan / System Configuration Set Development & Integration	WR	NAWCWD:China Lake, CA	0.000	0.000		0.000		2.100	Dec 2013	-		2.100	Continuing	Continuing	Continuing
Prior Year Mgmt costs no longer funded in FYDP	Various	Various:Various	35.611	0.000		0.000		0.000		-		0.000	0.000	35.611	
Subtotal			101.757	18.380		21.919		18.973		0.000		18.973			

Remarks
Beginning in FY14 the Flight Plan Engineering efforts at Pax River and China Lake roll up under the Flight Plan / System Configuration Set Development & Integration program.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3,793.777	97.361	124.223	128.032	0.000	128.032			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Distributed Targeting System	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Milestones								IOC ▲																				
System Development																												
Hardware Development																												
Software Development					SW Development																							
Reviews																												
Test and Evaluation																												
Developmental Testing	DT Flight Testing																											
Operational Testing	OT Flight Testing																											
Production Milestone																												
Contract Awards					LRIP-2 ●			FRP ●																				
Deliveries					LRIP-1 (Lot 1 - Qty 30)				LRIP-2 (Lot 2 - Qty 64)																			
													FRP-1 (Lot 3 - Qty 63)		FRP-2 (Lot 4 - Qty 69)		FRP-3 (Lot 5 - Qty 80)		FRP-4 (Lot 6 - Qty 31)		FRP-5 (Lot 7 - Qty 40)							

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Activity	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Milestones																												
System Development																												
Engineering and Manufacturing Development	Engineering and Manufacturing Development																											
Software Development	EDM Delivery Unit 1 ▼ EDM Delivery - EEU ▼ EDM Conversion H10 Fleet Release ▼ IRST Software Build H12 Fleet Release ▼																											
Reviews	IBR 1 ■ CDR ■ TRR 1 ■ EDM FRR ■ PRR ■ FCA ▼ TRR 2 ■ IBR 2 ■ OTRR ■ PCA ▼																											
Test and Evaluation																												
Integration Testing	Integration Testing (IT-B1) Integration Testing (IT-C1)																											
Operational Testing	OA IOT&E OPEVAL Report ▼																											
Production Milestones																												
Deliveries	LRIP1 Start ▼ LRIP2 Start ▼ FRP1 Start ▼ LRIP 1 (Lot 1 - Qty 6) FRP2 Start ▼ LRIP 2 (Lot 2 - Qty 12) FRP 1 (Lot 3 - Qty 15)																											

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Single Ship Geolocation/Specific Emitter Identification, High Gain Electronic Support Measures	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q																								
Acquisition Milestones																												
System Development																												
Reviews																												
Test and Evaluation																												
Deliveries																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Small Diameter Bomb II / Joint Miniature Munitions Bomb Rack Unit	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q																								
Acquisition Milestones																												
System Development																												
Test and Evaluation																												
Production Milestones																												
Deliveries																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Obsolescence Redesign	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018											
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q								
System Development																																				
F/A-18 Weapon System & Ancillary Equipment									Obsolescence Redesign																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Distributed Targeting System</i>				
Acquisition Milestones: Milestones: Initial Operational Capability	3	2013	3	2013
System Development: Software Development: DT/OT Software Error Correction Development	1	2013	4	2013
Test and Evaluation: Developmental Testing: DT Flight Testing	1	2012	1	2013
Test and Evaluation: Operational Testing: OT Flight Testing	2	2012	1	2013
Production Milestone: Contract Awards: LRIP 2 RDTEN	1	2013	1	2013
Production Milestone: Contract Awards: Full Rate Production (FRP)	3	2013	3	2013
Production Milestone: Deliveries: LRIP 1 RDTEN (Lot 1 - Qty 30)	1	2013	4	2013
Production Milestone: Deliveries: LRIP 2 RDTEN (Lot 2 - Qty 64)	1	2014	4	2014
Production Milestone: Deliveries: FRP-1 (Lot 3 - Qty 63)	3	2014	2	2015
Production Milestone: Deliveries: FRP-2 (Lot 4 - Qty 69)	3	2015	2	2016
Production Milestone: Deliveries: FRP-3 (Lot 5 - Qty 80)	3	2016	2	2017
Production Milestone: Deliveries: FRP-4 (Lot 6 - Qty 31)	3	2017	2	2018
Production Milestone: Deliveries: FRP-5 (Lot 7 - Qty 40)	3	2018	4	2018
<i>Infra-Red Search and Track</i>				
Acquisition Milestones: Milestones: Full Rate Production Decision Review (FRP DR)	2	2016	2	2016
Acquisition Milestones: Milestones: Milestone C (MS C)	2	2014	2	2014
Acquisition Milestones: Milestones: Initial Operational Capability (IOC)	4	2016	4	2016
System Development: Engineering and Manufacturing Development: Engineering and Manufacturing Development	1	2012	4	2015
System Development: Engineering and Manufacturing Development: Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Unit 1)	1	2014	1	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
System Development: Engineering and Manufacturing Development: Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Unit 2)	2	2014	2	2014
System Development: Engineering and Manufacturing Development: Eng Dev Model (EDM) IRST Delivery - (Environmental Evaluation Unit-EEU)	1	2014	1	2014
System Development: Engineering and Manufacturing Development: EDM Conversion	4	2014	2	2015
System Development: Software Development: H10 Fleet Release	4	2014	4	2014
System Development: Software Development: H12 Fleet Release	4	2016	4	2016
System Development: Software Development: IRST Software Build	1	2012	2	2015
System Development: Reviews: Integrated Baseline Review (IBR) 1	3	2012	3	2012
System Development: Reviews: Critical Design Review (CDR)	4	2012	4	2012
System Development: Reviews: Fleet Readiness Review Engineering Development Model (EDM FRR)	1	2014	1	2014
System Development: Reviews: Test Readiness Review (TRR) 1	1	2013	1	2013
System Development: Reviews: Test Readiness Review (TRR) 2	2	2014	2	2014
System Development: Reviews: Preproduction Readiness Review (PRR)	1	2014	1	2014
System Development: Reviews: Functional Configuration Audit (FCA)	1	2014	1	2014
System Development: Reviews: Integrated Baseline Review (IBR) 2	1	2015	1	2015
System Development: Reviews: Operational Testing Readiness Review (OTRR)	3	2015	3	2015
System Development: Reviews: Physical Configuration Audit (PCA)	1	2016	1	2016
Test and Evaluation: Integration Testing: Integration Testing (IT-B1)	1	2013	2	2014
Test and Evaluation: Integration Testing: Integration Testing (IT-C1)	2	2014	3	2015
Test and Evaluation: Operational Testing: Operational Assessment (OA)	4	2013	1	2014
Test and Evaluation: Operational Testing: Integrated Operational Test & Evaluation (IOT&E)	3	2015	4	2015
Test and Evaluation: Operational Testing: OPEVAL Report	1	2016	1	2016
Production Milestones: LRIP 1 APN	3	2014	3	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: LRIP 2 APN	1	2015	1	2015
Production Milestones: FRP I Start	2	2016	2	2016
Production Milestones: FRP 2 Start	1	2017	1	2017
Production Milestones: Deliveries: Low Rate Initial Production 1 (Lot 1 - Qty 6)	1	2016	3	2016
Production Milestones: Deliveries: Low Rate Initial Production 2 (Lot 2 - Qty 12)	1	2017	4	2017
Production Milestones: Deliveries: Full Rate Production Lot 1 (Lot 3 - Qty 15)	3	2017	3	2018
Production Milestones: Deliveries: Full Rate Production Lot 2 (Lot 4 - Qty 15)	2	2018	4	2018
Single Ship Geolocation/Specific Emitter Identification, High Gain Electronic Support Measures				
System Development: Software Development	1	2012	4	2013
System Development: Reviews: Operational Testing Readiness Review (OTRR)	1	2012	1	2012
Test and Evaluation: Operational Evaluation (OPEVAL)	1	2012	3	2012
Production Milestones: Deliveries: Fleet Release	4	2012	4	2012
Multi Sensor Integration Phase I				
System Development: Software Development: Software Integration MSI PH I	1	2012	1	2012
System Development: Reviews: Operational Testing Readiness Review (OTRR) MSI	3	2012	3	2012
Test and Evaluation: Operational Evaluation (OPEVAL) MSI	3	2012	1	2013
Production Milestones: Deliveries: Fleet Release MSI Ph I	2	2013	2	2013
Multi Sensor Integration Phase II				
System Development: Design & Development	1	2012	2	2012
Test and Evaluation: Integration Testing MSI	2	2012	2	2013
Test and Evaluation: Operational Testing H10	1	2014	3	2014
Production Milestones: Deliveries: Fleet Release MSI Ph II	4	2014	4	2014
Multi Sensor Integration Phase III				
System Development: Design & Development MSI Ph III/H12	1	2013	2	2014
Test and Evaluation: Integration Testing MSI Ph III/H12	2	2014	1	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test and Evaluation: OT MSI Ph III/H12	1	2016	3	2016
Production Milestones: Fleet Release MSI Ph III/H12	4	2016	4	2016
<i>Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System</i>				
System Development: Hardware Development: Statement of Work Development	1	2012	4	2012
System Development: Software Development: System Performance Specification	1	2012	1	2012
System Development: Software Development: H12 Software Development & Delivery	1	2012	3	2016
System Development: Software Development: H14 Software Development & Delivery	4	2013	4	2016
System Development: Reviews: System Software Review (SSR)	2	2012	2	2012
System Development: Reviews: Critical Design Review (CDR)	1	2013	1	2013
System Development: Reviews: Test Readiness Review (TRR)	4	2015	4	2015
Test and Evaluation: Developmental Testing	1	2016	4	2016
Test and Evaluation: TEMP Development	2	2013	1	2014
Test and Evaluation: Developmental Testing Communications & Identification	4	2012	4	2016
<i>Small Diameter Bomb II / Joint Miniature Munitions Bomb Rack Unit</i>				
Acquisition Milestones: SDB II MS C	2	2014	2	2014
System Development: SDB II Tech Development	2	2014	3	2015
System Development: SDB II System Spec and Design	4	2015	2	2018
System Development: JMM BRU Tech Development	2	2014	3	2015
System Development: JMM BRU System Spec and Design	4	2015	2	2018
System Development: SDB II / JMM BRU Software Development	2	2014	4	2018
Test and Evaluation: SDB II Integration DT&E	3	2014	4	2018
Test and Evaluation: JMM BRU Integration DT&E	3	2014	4	2018
Production Milestones: SDB II LRIP 1 RDTEN (Lot 4 Qty 90)	2	2017	2	2017
Production Milestones: JMM BRU LRIP 1 RDTEN (Lot 1 Qty 40)	2	2018	2	2018
<i>Obsolescence Redesign</i>				

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
System Development: F/A-18 Weapon System & Ancillary Equipment: Obsolescence Redesign Development & Testing	1	2014	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2065: <i>F/A-18 Radar Upgrade</i>	616.533	50.952	64.076	3.086	-	3.086	3.197	3.172	0.000	0.000	0.000	741.016
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
<p>Title: Distributed Targeting - AESA EP Engineering and Manufacturing Development</p> <p style="text-align: right;">Articles:</p>	2.457 0	0.000	0.000
<p>Description: The AESA system provides greater survivability through self-protection and standoff jamming capabilities. This budget continues spiral capability development of AESA by increased efforts to address Phase II Operational Requirements Document requirements.</p> <p>FY 2012 Accomplishments: Continue EMD efforts. Continue hardware developmental and refinement to the inherent EP.</p>			
<p>Title: Distributed Targeting - CEA 1 Software Development, Developmental Testing, Operational Testing, & Integration</p> <p style="text-align: right;">Articles:</p>	48.495 0	64.076 0	2.986 0
<p>Description: Funding being utilized to support software capabilities development, integration and associated testing.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Continue software (SW) development, Development Testing, systems integration efforts, and Active Electronically Scanned Array (AESA) Operational Test and Evaluation (OT&E) inclusive of some Follow On Test and Evaluation (FOT&E) for Hardware (HW) and SW change efforts. Begin AESA Counter-Electronic Attack 1 (CEA 1) efforts.</p> <p><i>FY 2013 Plans:</i> Continue SW development, Development Testing, systems integration efforts, and AESA OT&E inclusive of some FOT&E for HW and SW change efforts. Continue AESA CEA 1 efforts.</p> <p><i>FY 2014 Plans:</i> Continue hardware and software development, integration and testing of instrumentation required to support AESA Radar spiral capability upgrades.</p>			
<p><i>Title:</i> F/A-18 RADAR Obsolescence Redesign</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Develop and test design modifications to address obsolescence issues.</p> <p><i>FY 2014 Plans:</i> Develop and test design modifications to hardware components and software systems in response to F/A-18 RADAR system obsolescence issues.</p>	0.000	0.000	0.100 0
Accomplishments/Planned Programs Subtotals	50.952	64.076	3.086

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/0145: <i>F/A-18E/F</i>	2,237.500	2,035.131	206.551		206.551	0.000	0.000	0.000	0.000	0.000	41,638.932
• APN/0145C: <i>F/A-18E/F AP</i>	63.262	30.296	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,650.192
• APN/0143: <i>EA-18G</i>	994.477	1,027.443	21.812		21.812	7.990	0.000	0.000	0.000	0.000	8,650.438
• APN/1043C: <i>EA-18G AP</i>	28.119	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	263.668
• APN/05250: <i>F-18 Series Mod</i> (OSIP 002-07)	88.251	119.586	185.855		185.855	217.194	285.401	202.307	271.835	215.740	1,967.838
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>

D. Acquisition Strategy

The 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.

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary H/W Development	WR	NSMA:Arlington, VA	4.910	0.100	Feb 2012	0.000		0.000		-		0.000	0.000	5.010	
Systems Engineering	WR	NAWCWD:China Lake, CA	1.095	0.474	Nov 2011	0.000		0.000		-		0.000	0.000	1.569	
Systems Engineering	WR	NAWCAD:Pax River, MD	1.046	0.545	Nov 2011	1.392	Nov 2012	0.000		-		0.000	0.000	2.983	
CEA 1 - Development/ Integration Counter Electronic Attack #1 (CEA 1)	Various	NSMA:Arlington, VA	0.000	40.038	Jun 2012	52.748	Dec 2012	0.000		-		0.000	0.000	92.786	
CEA 1 - Development / Integration	MIPR	AFMC:Washington, DC	0.000	2.500	Apr 2012	0.000		0.000		-		0.000	0.000	2.500	
Prior Year Prod Dev cost no longer funded in FYDP	Various	Various:Various	459.116	0.000		0.000		0.000		-		0.000	0.000	459.116	
Subtotal			466.167	43.657		54.140		0.000		0.000		0.000	0.000	563.964	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development (Instrumentation)	WR	NAWCWD:China Lake, CA	32.991	1.654	Aug 2012	7.284	Dec 2012	2.680	Dec 2013	-		2.680	5.739	50.348	
Integrated Logistics Support	WR	Various:Various	1.511	0.516	Nov 2011	0.000		0.000		-		0.000	0.000	2.027	
Obsolescence Redesign	TBD	TBD:TBD	0.000	0.000		0.000		0.100	Jun 2014	-		0.100	0.000	0.100	
Subtotal			34.502	2.170		7.284		2.780		0.000		2.780	5.739	52.475	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	WR	NAWCWD:China Lake, CA	78.958	1.407	Nov 2011	0.000		0.000		-		0.000	0.000	80.365	
Prior Year T&E cost no longer funded in FYDP	Various	Various:Various	30.443	0.000		0.000		0.000		-		0.000	0.000	30.443	
Subtotal			109.401	1.407		0.000		0.000		0.000		0.000	0.000	110.808	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support (Seaport CSS)	C/CPFF	Wyle:Pax River, MD	4.187	1.869	Nov 2011	0.534	Nov 2012	0.124	Dec 2013	-		0.124	0.255	6.969	6.969
Travel	Various	NAVAIR:Pax River, MD	1.157	0.049	Nov 2011	0.057	Nov 2012	0.023	Oct 2013	-		0.023	0.048	1.334	
Contractor Engineering Support	Various	Various:Various	1.119	0.900	Nov 2011	0.351	Nov 2012	0.159	Nov 2013	-		0.159	0.327	2.856	
Program Management Support	WR	NAWCAD:Pax River, MD	0.000	0.900	Dec 2011	1.710	Nov 2012	0.000		-		0.000	0.000	2.610	
Subtotal			6.463	3.718		2.652		0.306		0.000		0.306	0.630	13.769	

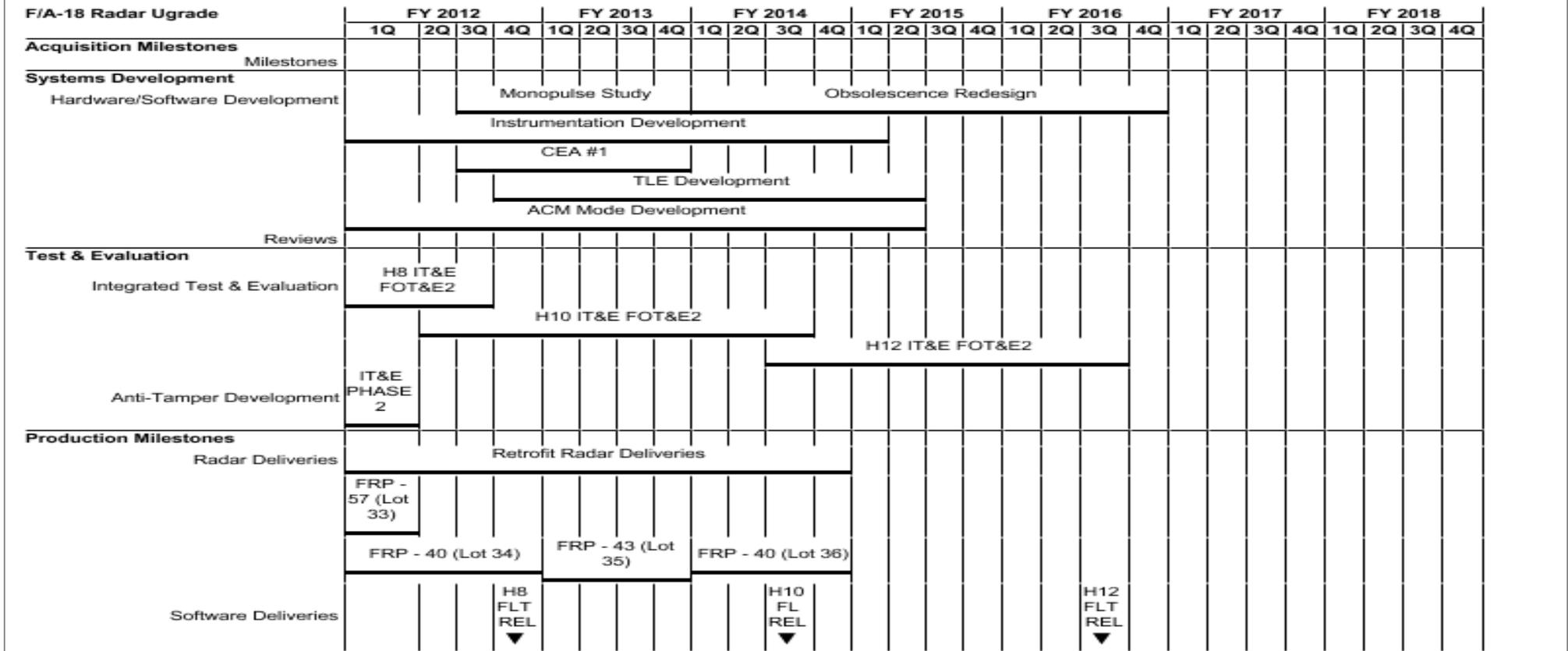
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	616.533	50.952	64.076	3.086	0.000	3.086	6.369	741.016	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F/A-18 Radar Upgrade</i>				
Systems Development: Hardware/Software Development: Obsolescence Redesign Development & Testing	1	2014	4	2016
Systems Development: Hardware/Software Development: Monopulse Study	3	2012	4	2013
Systems Development: Hardware/Software Development: Instrumentation Development	1	2012	1	2015
Systems Development: Hardware/Software Development: CEA #1	3	2012	4	2013
Systems Development: Hardware/Software Development: TLE Development	4	2012	2	2015
Systems Development: Hardware/Software Development: ACM Mode Development	1	2012	2	2015
Test & Evaluation: Integrated Test & Evaluation: H8 IT&E FOT&E2	1	2012	3	2012
Test & Evaluation: Integrated Test & Evaluation: H10 IT&E FOT&E2	2	2012	3	2014
Test & Evaluation: Integrated Test & Evaluation: H12 IT&E FOT&E2	3	2014	3	2016
Test & Evaluation: Anti-Tamper Development: IT&E PHASE 2	1	2012	1	2012
Production Milestones: Radar Deliveries: Retrofit Radar Deliveries	1	2012	4	2014
Production Milestones: Radar Deliveries: FRP Deliveries - 57 (Lot 33)	1	2012	1	2012
Production Milestones: Radar Deliveries: FRP Deliveries - 40 (Lot 34)	1	2012	4	2012
Production Milestones: Radar Deliveries: FRP Deliveries A - 46 (Lot 35)	1	2013	4	2013
Production Milestones: Radar Deliveries: FRP Deliveries B - 40 (Lot 36)	1	2014	4	2014
Production Milestones: Software Deliveries: H8 FLEET RELEASE	4	2012	4	2012
Production Milestones: Software Deliveries: H10 FLEET RELEASE	3	2014	3	2014
Production Milestones: Software Deliveries: H12 FLEET RELEASE	3	2016	3	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	174.037	11.276	8.610	1.971	-	1.971	0.000	0.000	0.000	0.000	0.000	195.894
0463: <i>E2C Improvements</i>	174.037	11.276	8.610	1.971	-	1.971	0.000	0.000	0.000	0.000	0.000	195.894

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	6.687	8.610	3.816	-	3.816
Current President's Budget	11.276	8.610	1.971	-	1.971
Total Adjustments	4.589	0.000	-1.845	-	-1.845
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.589	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-0.008	-	-0.008
• Rate/Misc Adjustments	0.000	0.000	-1.837	-	-1.837

Change Summary Explanation

Technical: The E-2D portion of the Link-16/Cooperative Engagement Capability (CEC) Interoperability funding for FY14 and out was realigned into RDTE(N) PE 0604234N, project 3051 E-2D Advanced Hawkeye.

Schedule: E-2D portion of the Link-16/CEC Interoperability schedule was removed for FY14 and out. Airborne Battlefield Command and Control updated to reflect changes in Exercise events and a name change from Trident Warrior (TW) in 3rd Quater of FY13 to "Sensor Netting Flex 13 (SNFX)."

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0463: <i>E2C Improvements</i>	174.037	11.276	8.610	1.971	-	1.971	0.000	0.000	0.000	0.000	0.000	195.894
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: Airborne Battlefield Command and Control	3.507	1.202	0.000
Articles:	0	0	
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 2012 Accomplishments: Funded development efforts and a Limited Objective Experiment.			
FY 2013 Plans: Continues funding for the development efforts, a Sensor Netting Flex Exercise, and a Limited Objective Experiment.			
Title: Radar Improvements Program	2.827	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p align="right">Articles:</p> <p>Description: Funds development, integration, test, and fielding of new components within the E-2C radar to address obsolete Weapon Replaceable Assemblies (WRA) that are expected to be unsupported in the near term. Such improvements will keep the APS-145 radar viable until 2026, the projected E-2C retirement date. This funding also supports necessary modifications within the APS-145 Radar Test Bench System.</p> <p>FY 2012 Accomplishments: Funded the continuation of ground and flight testing and software deployment.</p>	0		
<p>Title: Link-16/Cooperative Engagement Capability (CEC) Interoperability</p> <p align="right">Articles:</p> <p>Description: New start program in FY12 for design, implementation, test and analysis of Link-16/CEC related interoperability issues.</p> <p>FY 2012 Accomplishments: Funded systems engineering development efforts.</p> <p>FY 2013 Plans: Continues funding of systems engineering development efforts.</p> <p>FY 2014 Plans: Funding provides Technical Evaluation and Certification Testing into the E-2C Aircraft.</p>	4.942 0	7.408 0	1.971 0
Accomplishments/Planned Programs Subtotals	11.276	8.610	1.971

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/0544: <i>E-2 Series Includes (Technology Insertion 5-01, HFIP 002-10, Critical Avionics 012-10, AIS 002-11, Radar Improvements 005-11, CEC Upgrade 010-14, Link 16 MIDS/JTIDS for E-2C 001-17)</i>	29.131	16.322	22.091		22.091	23.359	18.641	20.573	18.774	44.695	1,551.978

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	Various	Various:Various	19.103	0.704	Nov 2011	0.000		0.000		-		0.000	0.000	19.807	
Ancillary Hardware Development	Various	Various:Various	0.300	0.440	Jan 2012	0.000		0.000		-		0.000	0.000	0.740	
Prior Yr Costs No longer funded in FYDP	Various	Various:Various	13.228	0.000		0.000		0.000		-		0.000	0.000	13.228	
Subtotal			32.631	1.144		0.000		0.000		0.000		0.000	0.000	33.775	

Remarks

Totals may not add due to rounding.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support	Various	Various:Various	0.934	0.346	Dec 2011	0.064	Nov 2012	0.000		-		0.000	0.000	1.344	
Software Development3	Various	Various:Pt. Mugu	0.000	1.467	Dec 2011	0.000		0.000		-		0.000	0.000	1.467	
Software Development4	WR	NAWCAD:Pax River, MD	0.000	1.527	Nov 2011	5.931	Nov 2012	1.195	Nov 2013	-		1.195	0.000	8.653	
Engineering & Technical Services (ETS)	Various	Various:Various	10.641	1.224	Dec 2011	0.477	Nov 2012	0.262	Nov 2013	-		0.262	0.000	12.604	
Government Engineering Support2	Various	Various:Various	13.980	0.555	Nov 2011	0.000		0.000		-		0.000	0.000	14.535	
Government Engineering Support3	WR	NAWCAD:Pax River, MD	12.179	0.975	Nov 2011	1.069	Nov 2012	0.000		-		0.000	0.000	14.223	
Integrated Logistics Support	Various	Various:Various	2.252	0.093	Dec 2011	0.060	Dec 2012	0.000		-		0.000	0.000	2.405	
Prior Year Costs No Longer Funded in FYDP	Various	Various:Various	55.941	0.000		0.000		0.000		-		0.000	0.000	55.941	
Subtotal			95.927	6.187		7.601		1.457		0.000		1.457	0.000	111.172	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Totals may not add due to rounding.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental T & E 2	Various	Various:Various	6.274	0.418	Nov 2011	0.389	Nov 2012	0.000		-		0.000	0.000	7.081	
Developmental T & E3	WR	NAWCAD:Pax River, MD	10.263	2.342	Nov 2011	0.150	Nov 2012	0.200	Nov 2013	-		0.200	0.000	12.955	
Developmental T&E ETS 4	Various	Various:Various	1.353	0.313	Nov 2011	0.000		0.000		-		0.000	0.000	1.666	
Prior Year Costs No Longer Funded in FYDP	Various	Various:Various	7.377	0.000		0.000		0.000		-		0.000	0.000	7.377	
Subtotal			25.267	3.073		0.539		0.200		0.000		0.200	0.000	29.079	

Remarks
Totals may not add due to rounding.

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Engineering Support	WR	NAWCAD:Pax River, MD	5.098	0.407	Nov 2011	0.292	Nov 2012	0.200	Nov 2013	-		0.200	0.000	5.997	
Program Management Support1	Various	Various:Various	6.258	0.292	Nov 2011	0.081	Nov 2012	0.046	Nov 2013	-		0.046	0.000	6.677	
Program Management Support-MSS2	C/CPFF	Wyle Labs:Huntsville, AL	2.017	0.060	Dec 2011	0.052	Dec 2012	0.049	Dec 2013	-		0.049	0.000	2.178	2.178
Program Management Support MSS 3	Various	Various:Various	5.662	0.058	Nov 2011	0.000		0.000		-		0.000	0.000	5.720	
Travel	Various	Various:Various	0.758	0.055	Oct 2011	0.045	Oct 2012	0.019	Oct 2013	-		0.019	0.000	0.877	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Costs No Longer Funded in FYDP	Various	Various:Various	0.419	0.000		0.000		0.000		-		0.000	0.000	0.419	
Subtotal			20.212	0.872		0.470		0.314		0.000		0.314	0.000	21.868	

Remarks
Totals may not add due to rounding.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	174.037	11.276	8.610	1.971	0.000	1.971	0.000	195.894	

Remarks
Totals may not add due to rounding.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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E2C Improvements (1)	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Airborne Battlefield Command & Control (C2)																												
Systems Development																												
Hardware Development	ABC2 Development																											
			LOE ▼				SNFX ▼	LOE ▼																				

2014PB - 0204152N - 0463

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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Radar Improvements	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Systems Development																												
Hardware Development																												
Test & Evaluation																												
Technical Evaluation		Fit Test	Deploy ▼																									
Deliveries																												
		APN (23 Kits)				APN (10 Kits)					APN (12 Kits)					APN (11 Kits)												

2014PB - 0204152N - 0463

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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Link 16 Cooperative Engagement Capability (CEC) Interoperability	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Systems Development																																
Software Development	Systems Engineering																															
Development	Development																															
Test & Evaluation																																
Technical Evaluation					Functional Test ▼																											
Perf Eval/Cert Test					Perf Eval/Cert Test																											

2014PB - 0204152N - 0463

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
E2C Improvements (1)				
Systems Development: Hardware Development: Airborne Battlefield C2 - Development	1	2012	1	2014
Systems Development: Hardware Development: Airborne Battlefield C2 - LOE FY12	4	2012	4	2012
Systems Development: Hardware Development: Airborne Battlefield C2 - SNFX FY13	3	2013	3	2013
Systems Development: Hardware Development: Airborne Battlefield C2 - LOE FY13	4	2013	4	2013
Radar Improvements				
Test & Evaluation: Technical Evaluation: Radar Improvement Program - Ground & Flight Test	1	2012	1	2012
Test & Evaluation: Technical Evaluation: Radar Improvement Program - Deploy	2	2012	2	2012
Deliveries: Radar Improvements Production Deliveries: FY12 APN (23 KIts)	2	2012	2	2012
Deliveries: Radar Improvements Production Deliveries: FY13 APN (10 KIts)	2	2013	2	2013
Deliveries: Radar Improvements Production Deliveries: FY14 APN (12 KIts)	2	2014	2	2014
Deliveries: Radar Improvements Production Deliveries: FY15 APN (11 KIts)	2	2015	2	2015
Link 16 Cooperative Engagement Capability (CEC) Interoperability				
Systems Development: Software Development: Link-16/CEC Interoperability - Systems Engineering	1	2012	4	2012
Systems Development: Software Development: Link-16/CEC Interoperability - Development	2	2012	1	2013
Test & Evaluation: Technical Evaluation: Link-16/CEC Interoperability - Functional Evaluation Test	2	2013	2	2013
Test & Evaluation: Technical Evaluation: Link-16/CEC Interoperability - Performance Evaluation/Certification Test	2	2013	1	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	107.879	2.035	15.695	46.155	-	46.155	60.903	31.299	77.159	59.614	Continuing	Continuing
0725: <i>Communication Automation</i>	107.879	2.035	15.695	46.155	-	46.155	60.903	31.299	77.159	59.614	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Project Unit 1083 was realigned from Program Element 0204163N to 0101402N in FY12.

ADNS was realigned from Program Element 0204163N to 0303138N in FY13 and out.

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 Networks (BFTN) (formerly High Frequency Internet Protocol/Sub Network Relay), Joint Aerial Layer Network-Maritime (formerly Maritime Aerial Layer Network (MALN)).

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). 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 SATCOM channels to shore are lost during an Anti-Access Area Denial (A2AD) event.

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 comms, 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 comms, a Common Data Link (CDL) waveform for the HCB cross-link capability, and will leverage enhanced UHF/HF waveforms for coalition connectivity.

FY14 BFTN enhancements (BFTN(e)) funds will be used to continue to develop acquisition and system engineering documentation in support of an RDT&E contract, and completion of demonstration tests, modem and controller engineering change for increased data rates, interface design development and integration for network application.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	1.739	15.695	39.885	-	39.885
Current President's Budget	2.035	15.695	46.155	-	46.155
Total Adjustments	0.296	0.000	6.270	-	6.270
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.339	0.000			
• SBIR/STTR Transfer	-0.043	0.000			
• Program Adjustments	0.000	0.000	-33.609	-	-33.609
• Rate/Misc Adjustments	0.000	0.000	39.879	-	39.879

Change Summary Explanation

Battle Force Tactical Network (BFTN) funding was added for hardware modifications for increased bandwidth and software update to upgrade routability; as well as engineering services to accomplish Quality of Service (QoS) and interaction with Automated Digital Network System (ADNS) and Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M) Local Area Networks (LANs). BFTN baseline system was previously funded in FY11 for Operational Assessment (OA) event.
Implement JALN-M development beginning in FY13.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 0725: <i>Communication Automation</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0725: <i>Communication Automation</i>	107.879	2.035	15.695	46.155	-	46.155	60.903	31.299	77.159	59.614	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Project 0725 Communication Automation Automated Digital Network System (ADNS) funding was realigned from PE 0204163N to CANES PE 0303138N in FY13 and out.

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). Battle Force Tactical Network (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 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 an Anti-Access Area Denial (A2AD) event, adversaries covertly jam or disable communications necessary to Fleet protection and tactical operation. In an effort to bolster Battle Group mission objectives for "information dominance" in a satellite denied environment, Battle Force Tactical Network modem and controller engineering change enhancements [BFTN(e)] will increase High Frequency Internet Protocol (HFIP) data rates from 9.6Kbs to 128 Kbs (per channel) and concurrently increase Ultra High Frequency Internet Protocol (UHF) data rates from 64Kbs to 1.9Mbs. By automating BFTN (e) communications relays and network aware link establishment (NA-ALE) across battle groups and adding Unmanned Aerial Vehicles (UAV), the ranges of BFTN service levels can be extended for theatre of operations sufficient to thwart contested Satellite Communications (SATCOM) connectivity to shore servers. Enhancing BFTN [BFTN(e)] 1.92Mbps data-rates over multiple UHF circuits of 20nm range limit and multiple BFTN's 120Kbps HF circuits (200nm range limit) will support the full volume of secure military data necessary to all tactical operations. A Network Management System customized for RF Networking architectures will automate BFTN (e) Quality of Service (QoS) and Service Level Agreement (SLA) provided to the users. As a result, the enhanced BFTN [BFTN(e)] system, will 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 the Afloat fighting force.

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FY14 BFTN (e) development efforts continue on a modification kit for AN/WSC-3 UHF and AN/URT-23 HF radios. Efforts continue on acquisition and system engineering documentation in support of a development Contract. Demonstrate and document techniques and procedures to use multiple 1.9Mbps UHF and 120Kbps (HF) RF Networks simultaneously with load-balancing and fail-over from SATCOM. This includes Developmental Test efforts, DoD Information Assurance Certification Accreditation Plan (DIACAP) & National Protection Center(NPC) integration in 1 simulated MQ-8 UAV BFTN(e) relay and 3 ships (nodes) with result being a successful completion of development tests.

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 comms, 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 communications, a Common Data Link (CDL) waveform for the HCB cross-link capability, and will leverage enhanced UHF/HF waveforms for coalition connectivity.

FY14 JALN-M development efforts continue acquisition and system engineering documentation in support of a development contract. Conduct analysis, risk reduction activities, and development of the routing, navigation, cross-link, and payload requirements. Development of the XDR payload. Trade studies and risk assessments will be completed 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/LL satellite simulator on an aircraft communicating with a surface terminal.

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

	FY 2012	FY 2013	FY 2014
<p>Title: Automated Digital Network System (ADNS)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: -Completed the INC II Airborne OT test events. Completed the ADNS INC III system integration into the CSRR system. Conducted the DT, OT and Joint Interoperability Test Command (JITC) Certification of ADNS INC III Submarines. Finalized the INC II Airborne OT test report. Developed, integrated and tested the Thin Line solution. Integration of SHF Split IP, MUOS and AMF/JTRS and CDL interfaced into ADNS system support. Tested and integrated the evolving network applications as they are incorporated into the C4I architecture; actions included examining and testing interfaces with Enterprise Network Management System, transition to IPv6, and final phase out of serial links. Continued the evaluation of technology insertion capabilities to the ADNS system to enhance network mobility for aircraft in a Joint-Aerial Layer Network (JALN) environment.</p>	1.834 0	0.000	0.000
<p>Title: Battle Force Tactical Network (BFTN)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments:</p>	0.201 0	2.500 0	6.277 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
Initial Operational Test and Evaluation (IOT&E) preparation and execution.				
FY 2013 Plans: Completion of BFTN IOT&E event and report development as well as any follow-on test events and associated report development. Development of a BFTN (e) modification kit for AN/WSC-3 UHF and AN/URT-23 HF radios. Initiate acquisition and system engineering documentation in support of a BFTN (e) RDT&E contract. Demonstrate and document techniques and procedures to use multiple 1.9Mbps UHF and 128Kbps (HF) RF Networks simultaneously with load-balancing and fail-over from SATCOM. Also includes demonstration and assessment of anti-jamming products to meet A2AD requirements.				
FY 2014 Plans: Development efforts will leverage FY2013 test results toward demonstration test (DT) of BFTN(e) data rates in an at-sea topologic array of four or more platforms/nodes. Late in the year, efforts begin focus toward developmental tests using the BFTN(e) relay ashore with in-flight aerial relay bridge to ships; thus authenticating extending RF Networking datarates/ranges within and across at-sea forces, as well as into ashore BFTN(e) relays and Secret Internet Protocol Router Network (SIPRNET). DT&E of Commercial-Off-The-Shelf (COTS)/Government-Off-The-Shelf (GOTS) wideband transceiver technology to enable BFTN(e) enhancement designs. Continue development of acquisition and system engineering documentation in support of an RDT&E contract, planning and execution of demonstration tests, modem and controller design enhancements for increased data rates and HF/UHF Propagation Aware Automatic Link Establishment (PAALE), interface design development and integration for network application. Commence development of DoD Information Assurance Certification Accreditation Plan (DIACAP) & National Protection Center (NPC) plan. Integration in 1 simulated BFTN(e) Modular Relay and 3 ships (nodes) with result being a successful completion of development tests.				
Title: Joint Aerial Layer Network -Maritime (JALN-M)				
Description:				
FY 2013 Plans: Funds will be used to participate 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. FY13 will accomplish three things: 1) needed modifications to the Advance Extremely High Frequency (AEHF) eXtended Data Rate (XDR) waveform will be identified and developed for use in the airborne XDR mode, 2) AEHF XDR Adaptive Coding (AC) will be developed, and 3) a flight demonstration of the airborne XDR relay functionality will be conducted.				
FY 2014 Plans: Develop acquisition and system engineering documentation in support of a development contract. Conduct analysis, risk reduction activities, and prototype development of the routing, navigation, cross-link, and payload requirements. Develop				
				Articles:
				0.000 13.195 39.878 0 0 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
prototype of the XDR payload. Trade studies and risk assessments will be completed 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/LL satellite simulator on an aircraft communicating with a surface terminal.			
Accomplishments/Planned Programs Subtotals	2.035	15.695	46.155

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPN/3057: <i>Battle Force Tactical Network (BFTN).</i>	6.496	0.285	1.851		1.851	6.047	14.753	20.050	25.574	0.000	95.553
• OPN/3050: <i>Ship Comm Auto</i>	53.613	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	87.305

Remarks

D. Acquisition Strategy

Battle Force Tactical Network (BFTN): 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 enhanced BFTN leverages Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) products while reducing material savings by streamlining logistics, installation, integration and training areas. Where feasible, differing types of advantageous contract vehicles will be used to provide flexibility, decreased 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 develop documentation necessary to conduct a full and open competition to procure Engineering Demonstration Models (EDMs).

E. Performance Metrics

BFTN - Completion of engineering changes [BFTN(e)] in 2014 to increase High Frequency Protocol (HFIP) data rates 9.6Kbs to 128Kbs (per channel) and concurrently increase Ultra High Frequency Internet Protocol (UHF) data rates from 64Kbs to 1.9Mbs in preparation for Demonstration Testing (DT) in FY15.

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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	PO	SSC:PAC/LANT	1.025	0.000		0.000		0.000		-		0.000	0.000	1.025	
Primary Hardware Development	C/CPFF	Northrop Grumman:McLean, Virginia	7.793	0.000		0.000		0.000		-		0.000	0.000	7.793	
Primary Hardware Development	C/CPFF	General Dynamics:Maryland	17.601	0.000		0.000		0.000		-		0.000	0.000	17.601	
Primary Hardware Development	C/CPFF	SRA:San Diego	0.016	0.000		0.000		0.000		-		0.000	0.000	0.016	
Primary Hardware Dev. - MALN Inc 2t	C/FFP	Boeing:Washington State	1.245	0.000		0.000		0.000		-		0.000	0.000	1.245	
Primary Hardware/ Software	C/CPFF	Air Force:Various	2.078	0.000		0.000		0.000		-		0.000	0.000	2.078	
Primary Hardware/ Software MALN Inc 1	WR	SSC:PAC	0.207	0.000		0.000		0.000		-		0.000	0.000	0.207	
Integration and Test - MALN Inc 1	WR	SSC:PAC	0.810	0.000		0.000		0.000		-		0.000	0.000	0.810	
Integration and Test - MALN Inc 2	WR	SSC:PAC	0.521	0.000		0.000		0.000		-		0.000	0.000	0.521	
Integration and Test	C/CPFF	VAR:Various	0.079	0.000		0.000		0.000		-		0.000	0.000	0.079	
Systems Engineering-ADNS	WR	SSC:PAC/LANT	22.114	0.275	Nov 2011	0.000		0.000		-		0.000	0.000	22.389	
Systems Engineering	Various	VAR:Various	5.172	0.000		0.000		0.000		-		0.000	0.000	5.172	
Systems Engineering	MIPR	CECOM (MITRE):New Jersey	0.585	0.000		0.000		0.000		-		0.000	0.000	0.585	
Systems Engineering-ADNS	WR	NUWC:Newport, RI	1.414	0.450	Dec 2011	0.000		0.000		-		0.000	0.000	1.864	
Prime Mission Product	PO	SSC:PAC/LANT	4.353	0.000		0.000		0.000		-		0.000	0.000	4.353	
Integration and Test-ADNS	WR	NUWC:Newport	0.821	0.341	Nov 2011	0.000		0.000		-		0.000	0.000	1.162	
Systems Engineering	C/CPFF	Boeing:Washington State	2.087	0.000		0.000		0.000		-		0.000	0.000	2.087	
Integration and Test-ADNS	WR	SSC:PAC/LANT	0.459	0.000		0.000		0.000		-		0.000	0.000	0.459	

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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering-ADNS	C/CPFF	Solute:San Diego	0.253	0.000		0.000		0.000		-		0.000	0.000	0.253	
System Engineering - MALN Inc 1	WR	SSC:PAC	0.207	0.000		0.000		0.000		-		0.000	0.000	0.207	
System Engineering - MALN Inc 2	WR	SSC:PAC	0.717	0.000		0.000		0.000		-		0.000	0.000	0.717	
System Engineering - MALN Inc 1	SS/FPIF	Linquest:San Diego	0.536	0.000		0.000		0.000		-		0.000	0.000	0.536	
System Engineering - BFTN	WR	SSC:PAC	0.433	0.000		0.000		0.272	Nov 2013	-		0.272	0.000	0.705	
Integration and Test - BFTN	C/FFP	COTF:Norfolk, VA	0.257	0.000		0.000		0.000		-		0.000	0.000	0.257	
Primary Hardware Dev.- JALN-M	WR	Var:Various	0.000	0.000		3.573	Sep 2013	6.517	Nov 2013	-		6.517	0.000	10.090	
Primary Hardware/ Software - JALN-M	C/FFP	MIT/Lincoln Lab:Lexington MA	0.000	0.000		5.233	Jun 2013	24.361	Nov 2013	-		24.361	Continuing	Continuing	Continuing
Primary HW/SW Dev BFTN-e	WR	SSC:PAC	0.000	0.000		0.000		0.374	Dec 2013	-		0.374	0.000	0.374	
Primary Hardware Dev-BFTN-e	C/FFP	SAIC:Sterling, VA	0.000	0.000		0.000		0.315	Jan 2014	-		0.315	0.000	0.315	
System Engineering BFTN-e	WR	SSC:LANT JICF	0.000	0.000		0.000		0.200	Nov 2013	-		0.200	0.000	0.200	
System Engineering BFTN-e	C/CPFF	STF:San Diego	0.000	0.000		0.000		0.290	Nov 2013	-		0.290	0.000	0.290	
System Engineering BFTN-e	SS/CPPIF	Rockwell:Cedar Rapids, IA	0.000	0.000		0.000		0.271	Jan 2014	-		0.271	0.000	0.271	
Primary Hardware BFTN-e	SS/CPPIF	Rockwell:Cedar Rapids, IA	0.000	0.000		0.000		0.100	Jan 2014	-		0.100	0.000	0.100	
System Engineering BFTN-e	WR	NAVAIR:Lexington Park, MD	0.000	0.000		0.000		0.218	Apr 2014	-		0.218	0.000	0.218	

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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Assured C2 Comms Assessment/Analysis - JALN	Various	VAR:Various	0.000	0.000		2.990	Jun 2013	0.000		-		0.000	0.000	2.990	
Security Architecture/ Information Assurance (XDR Pod) - JALN	Various	VAR:Various	0.000	0.000		0.000		0.600	Nov 2013	-		0.600	0.000	0.600	
Primary HW Dev BFTN-e	WR	SSC:PAC NIEF/JCF	0.000	0.000		0.000		0.265	Nov 2013	-		0.265	0.000	0.265	
System Engineering BFTN-e	C/CPFF	BAH:San Diego	0.000	0.000		0.000		0.190	Nov 2013	-		0.190	0.000	0.190	
System Engineering BFTN-e	WR	SSC:LANT	0.000	0.000		0.000		0.290	Nov 2013	-		0.290	0.000	0.290	
Primary HW Analysis BFTN-e	C/CPFF	Var:Various	0.000	0.000		0.000		0.155	Nov 2013	-		0.155	0.000	0.155	
Primary Software Dev BFTN-e	TBD	Var:Various	0.000	0.000		2.030	Jun 2013	1.650	Nov 2013	-		1.650	0.000	3.680	
Subtotal			70.783	1.066		13.826		36.068		0.000		36.068			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support	WR	SSC:PAC/LANT	0.160	0.000		0.000		0.000		-		0.000	0.000	0.160	
Software Development	Various	VAR:Various	7.250	0.000		0.000		0.000		-		0.000	0.000	7.250	
Integrated Logistics Support-ADNS	WR	SSC:PAC/LANT	0.138	0.000		0.000		0.000		-		0.000	0.000	0.138	
Integrated Logistics Support	Various	VAR:Various	1.150	0.000		0.000		0.000		-		0.000	0.000	1.150	
Documentation - JALN	Various	VAR:Various	0.506	0.000		0.191	Jun 2013	0.000		-		0.000	0.000	0.697	
Technical Data	Various	VAR:Various	0.500	0.000		0.000		0.000		-		0.000	0.000	0.500	
Studies and Analysis	WR	SSC:PAC/LANT	0.960	0.000		0.000		0.000		-		0.000	0.000	0.960	

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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Documentation- MALN Inc 1	WR	SSC:PAC	0.200	0.000		0.000		0.000		-		0.000	0.000	0.200	
Studies and Analysis - BFTN-e	WR	SSC:PAC	0.048	0.000		0.000		0.110	Oct 2013	-		0.110	0.000	0.158	
Studies and Analysis BFTN-e	C/CPFF	STF:San Diego	0.000	0.000		0.000		0.100	Nov 2013	-		0.100	0.000	0.100	
Documentation BFTN-e	C/BA	Not Specified:Not Specified	0.000	0.000		0.000		0.215	Jul 2014	-		0.215	0.000	0.215	
Technical Analysis/Mission Assurance - JALN	WR	NAVAIR:NAVAIR	0.000	0.000		0.000		5.500	Nov 2013	-		5.500	0.000	5.500	
Documentation BFTN-e	Various	VAR:Various	0.000	0.000		0.000		0.248	Dec 2013	-		0.248	0.000	0.248	
Subtotal			10.912	0.000		0.191		6.173		0.000		6.173	0.000	17.276	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation-ADNS	WR	SSC:PAC/LANT	6.659	0.000		0.000		0.000		-		0.000	0.000	6.659	
Developmental Test & Evaluation-ADNS	MIPR	JTIC:Fort Huachuca, AZ	0.374	0.075	Nov 2011	0.000		0.000		-		0.000	0.000	0.449	
Operational Test & Evaluation-ADNS	WR	COMOPTEVOR:Norfolk, VA	1.377	0.320	Nov 2011	0.000		0.000		-		0.000	0.000	1.697	
Operational Test & Evaluation	Various	VAR:Various	4.955	0.000		0.000		0.000		-		0.000	0.000	4.955	
Developmental Test & Evaluation-MALN INC I	WR	SSC:PAC	0.148	0.000		0.000		0.000		-		0.000	0.000	0.148	
Developmental Test & Evaluation-MALN INC II	WR	SSC:PAC	0.604	0.000		0.000		0.000		-		0.000	0.000	0.604	
Developmental Test and Evaluation BFTN-e	C/CPFF	Rockwell:Cedar Rapids, IA	0.000	0.000		0.000		0.340	Nov 2013	-		0.340	0.000	0.340	

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test and Evaluation BFTN-e	WR	SSC:PAC/LANT	0.000	0.074	Sep 2012	0.514	Nov 2012	0.207	Nov 2013	-		0.207	0.000	0.795	
Initial Operational Test and Evaluation - BFTN	WR	COMOPTEVOR:Norfolk, VA	0.000	0.078	Sep 2012	0.113	Jun 2013	0.000		-		0.000	0.000	0.191	
Developmental Test and Evaluation BFTN-e	WR	NAVAIR:Lexington Park, MD	0.000	0.000		0.000		0.125	Jun 2014	-		0.125	0.000	0.125	
Developmental Test and Evaluation BFTN-e	C/CPFF	STF:San Diego	0.000	0.000		0.000		0.198	Nov 2013	-		0.198	0.000	0.198	
Developmental Test and Evaluation BFTN-e	C/CPFF	SAIC:Sterling, VA	0.000	0.000		0.000		0.075	Nov 2013	-		0.075	0.000	0.075	
Developmental Test and Evaluation BFTN-e	C/CPFF	VAR:Various	0.000	0.000		0.000		0.208	Dec 2013	-		0.208	0.000	0.208	
Test Management/ Oversight	C/CPFF	SSC:PAC JICF	0.000	0.000		0.015	Nov 2012	0.248	Oct 2013	-		0.248	0.000	0.263	
Test Support BFTN-e	C/CPFF	CSA:San Diego	0.000	0.000		0.000		0.080	Oct 2013	-		0.080	0.000	0.080	
Subtotal			14.117	0.547		0.642		1.481		0.000		1.481	0.000	16.787	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	Various	VAR:Various	0.546	0.000		0.000		0.000		-		0.000	0.000	0.546	
Government Engineering Support	WR	SSC:PAC/LANT	0.817	0.000		0.000		0.000		-		0.000	0.000	0.817	
Program Management Support	C/CPAF	VAR:Various	8.363	0.000		0.000		0.000		-		0.000	0.000	8.363	
Program Management Support- MALN Inc 1and 2	C/FPIF	BAH:San Diego, CA	0.724	0.000		0.000		0.000		-		0.000	0.000	0.724	
Acquisition Workforce MALN Inc 1 and 2	WR	SSC:PAC	1.243	0.000		0.000		0.000		-		0.000	0.000	1.243	

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

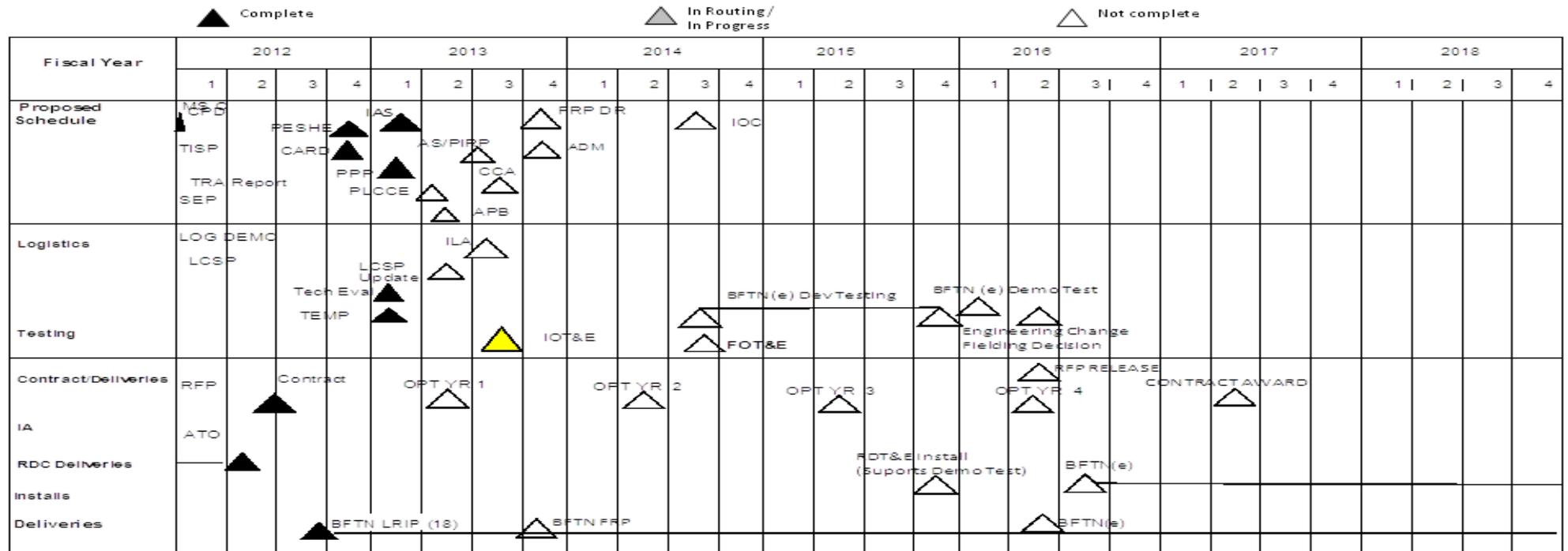
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
 PE 0204163N: *Fleet Tactical Development*

PROJECT
 0725: *Communication Automation*

BFTN Schedule



IOC: 3QFY14
FOC: 3QFY22

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 0725: <i>Communication Automation</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
JALN				
ACT (Pre-Acq DR)	2	2013	2	2013
ADM (Pre-Acq DR)	2	2013	2	2013
Pre-Acq DR	3	2013	3	2013
XDR Development	3	2013	4	2014
XDR Prototype 2	1	2014	3	2015
Prototpye 2	2	2014	2	2014
XDR Demo	3	2014	3	2014
ACT (MS B)	1	2015	1	2015
JALN-M Development	1	2015	4	2015
ADM (MS B)	1	2015	1	2015
Pre-EMD Review	2	2015	2	2015
MS B	3	2015	4	2015
EDM RFP	3	2015	3	2015
Contract Award I	3	2015	4	2015
EMD	1	2016	4	2016
EDM 1 & 2	1	2016	2	2016
JALN-M Integration & Testing	3	2016	4	2017
Post-CDR Assessment	4	2016	4	2016
EDM 3-6	4	2016	4	2016
DT/OA	4	2016	1	2017
Flight T&E/Cert	4	2016	3	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 0725: <i>Communication Automation</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
DT	3	2017	3	2017
ACT (MS C)	3	2017	3	2017
ADM (MS C)	3	2017	3	2017
MS C	4	2017	4	2017
LRIP RFP	4	2017	4	2017
Contract Award II	4	2017	4	2017
LRIP (5)	1	2018	3	2018
IOT&E	2	2018	3	2018
FRP DR	4	2018	4	2018
JITC	4	2018	4	2018
FRP RFP	4	2018	4	2018
Contract Award III	4	2018	4	2018
BFTN				
Technical Evaluation	1	2013	1	2013
IOT&E	3	2013	3	2013
FRP DR	4	2013	4	2013
FOT&E	3	2014	3	2014
BFTN(e) Developmental Testing	3	2014	4	2015
BFTN (e) Demo Test	1	2016	1	2016
BFTN Production Deliveries	3	2012	2	2016
BFTN (e) Production Deliveries	2	2016	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	3.292	4.171	2.374	-	2.374	3.099	2.582	2.398	2.440	Continuing	Continuing
3311: <i>Navigation Systems</i>	0.000	3.292	4.171	2.374	-	2.374	3.099	2.582	2.398	2.440	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 (V_e, V_n, V_v), 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	3.377	4.171	2.963	-	2.963
Current President's Budget	3.292	4.171	2.374	-	2.374
Total Adjustments	-0.085	0.000	-0.589	-	-0.589
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.085	0.000			
• Rate/Misc Adjustments	0.000	0.000	-0.589	-	-0.589

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3311: <i>Navigation Systems</i>	0.000	3.292	4.171	2.374	-	2.374	3.099	2.582	2.398	2.440	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 (V_e, V_n, V_v), 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 2012	FY 2013	FY 2014
Title: Systems Engineering	3.292	4.171	2.374
Articles:	0	0	0
FY 2012 Accomplishments:			
- Assessed current AN/WSN-7 design, performance, and support gaps.			
- Completed draft INS-R sensor, processing hardware/software, and interface specification documents.			
- Generated acquisition documentation.			
- Issued draft Request for Proposal (RFP) for INS-R sensor development.			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<ul style="list-style-type: none"> - Award competitive contract for INS-R sensor development. - Develop INS-R processing hardware/software design. - Develop INS-R Modeling and Simulation capability. <p>FY 2014 Plans:</p> <ul style="list-style-type: none"> - Integrate INS-R sensor with processing hardware/software. 			
Accomplishments/Planned Programs Subtotals	3.292	4.171	2.374

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/0670: <i>Other Navigation</i>	20.582	23.392	39.509		39.509	41.392	40.974	32.298	42.378	0.000	302.147

Remarks

D. Acquisition Strategy
Procurement of the Inertial Navigation System (INS) planned to begin in FY14.

E. Performance Metrics

FY12:

- Completed Design, performance, and support gap analysis.
- Drafted Request for Proposal (RFP) issued for INS-R sensor development.
- Completed INS-R Single Acquisition Management Plan (SAMP).

FY13:

- Initial INS-R processing hardware/software development.
- Initial INS-R Modeling and Simulation capability.
- Complete INS-R CDD.

FY14:

- INS-R sensor integration with processing hardware/software.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering/Design	WR	SPAWAR Atlantic:Little Creek, VA	0.000	0.777	Jul 2012	0.761	Oct 2012	0.448	Oct 2013	-		0.448	Continuing	Continuing	Continuing
Systems Engineering/Design	C/CPFF	WR Systems:Norfolk, VA	0.000	1.019	Feb 2012	0.545	Oct 2012	0.278	Oct 2013	-		0.278	0.000	1.842	
Systems Engineering/Design	C/CPFF	Penn State/ARL:Warminster, PA	0.000	0.891	Feb 2012	0.500	Oct 2012	0.266	Oct 2013	-		0.266	0.000	1.657	
Systems Engineering/Design	WR	NSWC Dahlgren:Dahlgren, VA	0.000	0.154	Feb 2012	0.117	Oct 2012	0.025	Oct 2013	-		0.025	0.000	0.296	
Systems Engineering/Design	C/CPFF	Old Dominion University:Suffolk, VA	0.000	0.250	Feb 2012	0.200	Oct 2012	0.000		-		0.000	0.000	0.450	
Systems Engineering/Design	C/CPFF	Contractor TBD:TBD	0.000	0.000		1.672	Jul 2013	1.000	Jan 2014	-		1.000	0.000	2.672	
Subtotal			0.000	3.091		3.795		2.017		0.000		2.017			

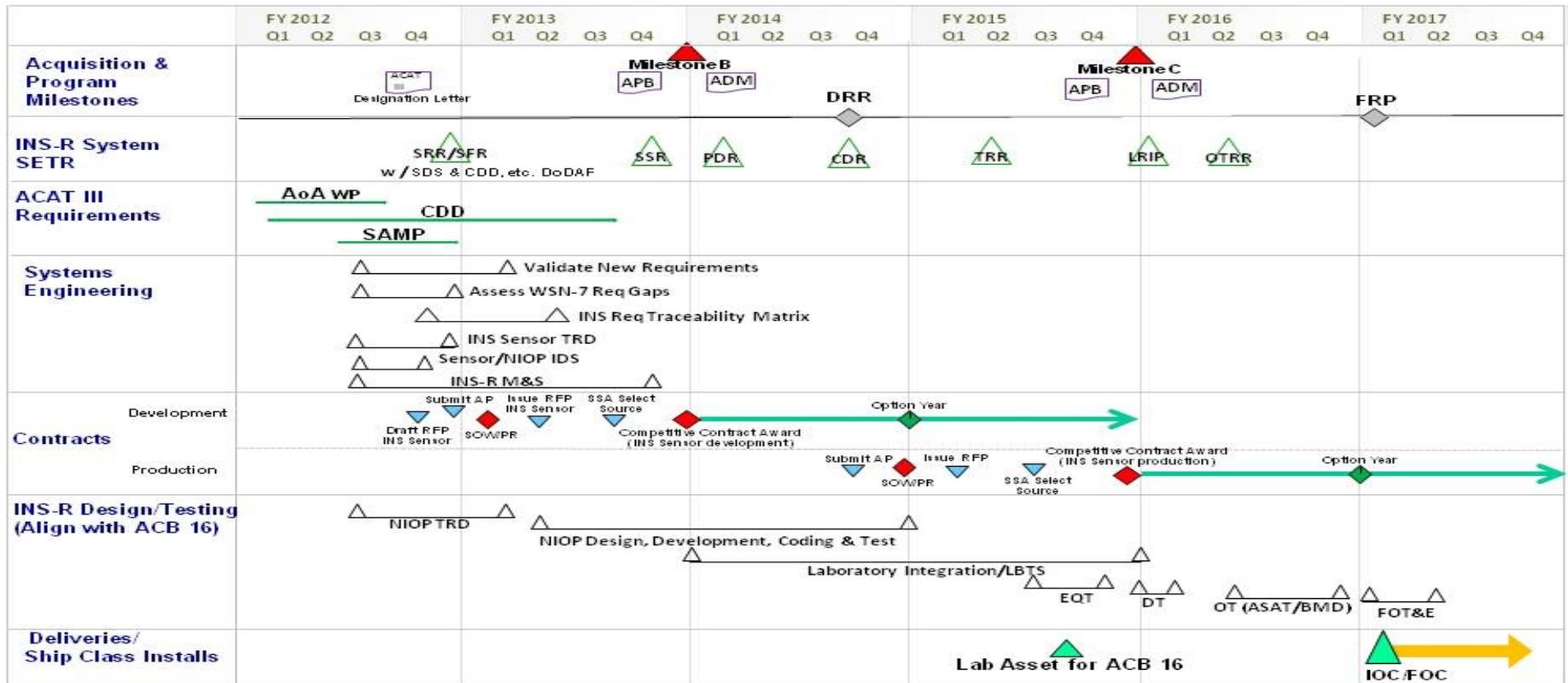
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	C/CPFF	TBD:TBD	0.000	0.201	Feb 2012	0.376	Dec 2012	0.357	Dec 2013	-		0.357	0.000	0.934	
Subtotal			0.000	0.201		0.376		0.357		0.000		0.357	0.000	0.934	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.000	3.292	4.171	2.374	0.000	2.374		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0204228N: Surface Support	PROJECT 3311: Navigation Systems



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3311				
Analysis of Alternatives (AoA) White Paper	1	2012	3	2012
Capability Development Document (CDD)	1	2012	3	2013
Single Acquisition Management Plan (SAMP)	2	2012	4	2012
Designation Letter	3	2012	4	2012
Validate New Requirements	3	2012	1	2013
Assess WSN-7 Req Gaps	3	2012	4	2012
Inertial Navigation System (INS) Requirement Traceability Matrix	4	2012	2	2013
INS Sensor Tech Requirements Document (TRD)	3	2012	4	2012
Navigation Input Output Processor (NIOP) TRD	3	2012	1	2013
Sensor/NIOP Interface Design Specification (IDS)	3	2012	4	2012
INS-Replacement (INS-R) Modeling & Simulation (M&S)	3	2012	4	2013
System Requirement Review (SRR)/System Function Review (SFR)	4	2012	4	2012
Draft Request For Proposal (RFP) INS Sensor	4	2012	4	2012
Submit Acquisition Plan (AP)	4	2012	4	2012
Statement of Work (SOW)/Procurement Request (PR)	1	2013	1	2013
Issue RFP INS Sensor	2	2013	2	2013
NIOP Design, Development, Coding & Test	2	2013	4	2014
Sensor Sub Assembly (SSA) Source Selection	4	2013	4	2013
Milestone B Acquisition Program Baseline (APB)	4	2013	4	2013
Software Specification Review (SSR)	4	2013	4	2013
Competitive Contract Award (INS Sensor Development)	4	2013	4	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Laboratory Integration/Land Based Test Site (LBTS)	1	2014	1	2016
Preliminary Design Review (PDR)	1	2014	1	2014
Milestone B Acquisition Decision Memo (ADM)	1	2014	1	2014
Design Readiness Review (DRR)	4	2014	4	2014
Critical Design Review (CDR)	4	2014	4	2014
Submit AP 2	4	2014	4	2014
Competitive Contract Option Award (INS Sensor Development)	1	2015	1	2015
SOW/PR 2	1	2015	1	2015
Test Readiness Review (TRR)	2	2015	2	2015
SSA Source Selection 2	3	2015	3	2015
Environmental Qualification Test (EQT)	3	2015	4	2015
Milestone C APB	4	2015	4	2015
Lab Asset for Wallops	4	2015	4	2015
Competitive Contract Award (INS Sensor Production)	1	2016	1	2016
Low Rate Initial Production (LRIP)	1	2016	1	2016
Development Test (DT)	1	2016	1	2016
Milestone C ADM	1	2016	1	2016
Operational Test Readiness Review (OTRR)	2	2016	2	2016
Operational Test (OT) At Sea Alignment Testing/Ballistic Missile Defense (ASAT/BMD)	2	2016	4	2016
Competitive Contract Option Award (INS Sensor Production)	1	2017	1	2017
Full Rate Production (FRP)	1	2017	1	2017
Follow on Test & Evaluation (FOT&E)	1	2017	2	2017
Initial Operational Capability (IOC)	1	2017	1	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	3,084.398	8.581	11.265	12.407	-	12.407	16.858	16.091	11.096	5.083	Continuing	Continuing
0545: <i>TOMAHAWK</i>	3,084.398	8.581	11.265	12.407	-	12.407	16.858	16.091	11.096	5.083	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Includes RDT&E funds for development of the Tomahawk encompassing Tomahawk Land-Attack Missile (TLAM) upgrades, Tactical Tomahawk Weapons Controls System, Tomahawk Command and Control System upgrades and other missile system improvements. The Tomahawk Weapons System provides a Tomahawk cruise missile attack capability against fixed and mobile targets. The TLAM can be fitted with either Conventional unitary warhead (TLAM/C), Nuclear warhead (TLAM/N) 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 will significantly increase the total capability of joint 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	8.819	11.265	4.626	-	4.626
Current President's Budget	8.581	11.265	12.407	-	12.407
Total Adjustments	-0.238	0.000	7.781	-	7.781
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.064	0.000			
• SBIR/STTR Transfer	-0.174	0.000			
• Program Adjustments	0.000	0.000	7.791	-	7.791
• Rate/Misc Adjustments	0.000	0.000	-0.010	-	-0.010

Change Summary Explanation

FY14 increase in funding will be used to commence image navigation integration into Block IV weapons system, conduct initial evaluation of image navigation performance and characterization, and develop requirements and design for image navigation.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0545: <i>TOMAHAWK</i>	3,084.398	8.581	11.265	12.407	-	12.407	16.858	16.091	11.096	5.083	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Tomahawk Weapons 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 Positioning System (GPS) receiver, navigation improvements and associated antenna systems. The Tomahawk program also includes development of continuing advances identified as spiral development under the Tomahawk Baseline IV Operational Requirements Document (ORD), to include development of the Joint Multiple Effects Warhead System/Joint Capability Technology Demonstration (JMEWS/JCTD).

Under the umbrella of the Theater Mission Planning Center (TMPC), the Tomahawk Command and Control System (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: Cruise Missile Support Activities (CMSA) (3), Tomahawk Strike Mission Planning Cells (TSMPC) (3), Carrier Strike Groups (CSGs) (16), Firing Units (84), Command & Control Nodes (11), Labs (5), and Training Classrooms (6), for a total of 128 sites. Systems fielded at the CMSAs and TSMPCs provide mission planning and employment support information for conventional TLAM, 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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The Tactical Tomahawk Weapons Control System (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, 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 2012	FY 2013	FY 2014
<p>Title: Tactical Tomahawk All-Up-Round (AUR)</p> <p style="text-align: right;">Articles:</p> <p>Description: Achieve Selective Availability Anti-Spoofing Module (SAASM) Full Operational Capability (FOC), and completion of the cooperatively funded United States Navy/United Kingdom JMEWS/JCTD multi-stage warhead technical demonstration. Include significant research and analysis of the worldwide target set capability gaps to include Hard and Buried Targets (HDBT) and Prompt Global Strike (PGS) 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.</p> <p>FY 2012 Accomplishments: Completed JMEWS/JCTD. Completed AUR platform integration of SAASM. Achieved SAASM program FOC.</p> <p>FY 2013 Plans: Begin acquisition milestone documentation for the JMEWS transition. Requirements, Concept of Operations (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.</p> <p>FY 2014 Plans: Commence image navigation 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, 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.</p>	<p>5.125</p> <p>0</p>	<p>8.797</p> <p>0</p>	<p>4.511</p> <p>0</p>
<p>Title: Tactical Tomahawk Weapons Control System (TTWCS)</p> <p style="text-align: right;">Articles:</p>	<p>0.990</p> <p>0</p>	<p>0.000</p>	<p>0.000</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Description: Continue TTWCS Viability activities and complete SAASM integration of TTWCS V5.4.0 in order to enter Follow on Test and Evaluation (FOT&E) for fleet release.</p> <p>FY 2012 Accomplishments: Completed development of TTWCS viability and entered FOT&E. Prepared for Fleet Release of TTWCS v5.4.0. Continued development work on TTWCS v5.4.1 toward achievement of full TTWCS viability, and launch platform integration on platforms existing and in development.</p>			
<p>Title: Tomahawk Command and Control Systems</p> <p align="right">Articles:</p>	2.466 0	2.468 0	7.896 0
<p>Description: Development and incorporation of new capabilities in Tomahawk Command and Control Systems (TC2S) necessary for the employment of Tactical Tomahawk. Imagery upgrades to TC2S. Continue test & evaluation support for TC2S.</p> <p>FY 2012 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.</p> <p>FY 2013 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.</p> <p>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 image navigation performance and characterization. Develop requirements and design for image navigation.</p>			
Accomplishments/Planned Programs Subtotals	8.581	11.265	12.407

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• WPN/2101: <i>Tomahawk</i>	297.606	308.970	312.456		312.456	322.760	330.217	336.181	342.208	782.188	14,779.859

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/5253: <i>Tomahawk Support Equip</i>	70.261	77.767	71.559		71.559	64.191	64.286	66.257	66.957	771.004	1,537.799
• OPN/9020: <i>Initial and Vendor Direct Spares</i>	0.236	0.171	0.187		0.187	0.174	0.182	0.185	0.189	0.000	6.934

Remarks

D. Acquisition Strategy

In 1998, the Tomahawk Baseline Improvement Program (TBIP) transitioned to the Tactical Tomahawk (Block IV) Program. This program is outlined in the Class Justification and Approval (CJ&A No. AIR-22448) signed by the Under Secretary of the Navy on 29 May 1998. The acquisition strategy was to transition the TBIP to Tactical Tomahawk. The Tactical Tomahawk development program was a cost-sharing contract between the Government and the Contractor to add capability to the missile. A multi-year full-rate production contract was awarded in August 2004 for FY 2004-2008 production. The FY09 through FY11 BLOCK IV Missile procurement strategy utilizes a FY 2009 annualized Firm Fixed Price contract, along with two fixed price option years for FY 2010 and FY 2011. FY 2009 through FY 2011 missile procurements have been exercised. The FY 2012 BLOCK IV Missile procurement utilizes an annualized Firm Fixed Price contract, with fully negotiated Firm Fixed Price option year in FY 2013. This contract will award in June 2012.

Research & Development technology demonstration capabilities (Multiple-Effects Warhead, Anti Surface Warfare) will be potentially introduced after successful qualification and testing. Complete Selective Availability Anti-Spoofing Module/Tactical Tomahawk Weapons Control System integration efforts.

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 AUR include development of candidate warheads 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
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<p>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.</p> <p>All of these research and development efforts contribute to the Navy providing the very best weapon system to the war fighter to accomplish the combat mission.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware	C/CPFF	SSCI:Woburn, MA	0.000	0.000		2.124	Feb 2013	0.000		-		0.000	0.000	2.124	2.124
Systems Engineering - AUR	Reqn	NAVSEA:WNY, DC	30.037	0.275	Mar 2012	0.477	Feb 2013	0.000		-		0.000	0.000	30.789	
Systems Engineering - AUR	SS/CPFF	UARC APL:Laurel, MD	0.000	0.000		0.000		0.313	Feb 2014	-		0.313	0.000	0.313	0.313
Systems Engineering - Image Navigation	WR	NAWC-AD:Pax River, MD	0.000	0.000		0.000		0.029	Feb 2014	-		0.029	0.000	0.029	
Systems Engineering - Image Navigation	WR	NAWC-WD:China Lake, CA	0.000	0.000		0.000		0.030	Feb 2014	-		0.030	0.000	0.030	
Systems Engineering - Image Navigation	SS/CPFF	UARC APL:Laurel, MD	0.000	0.000		0.000		0.057	Feb 2014	-		0.057	0.000	0.057	0.057
Systems Engineering - Image Navigation	SS/CPFF	Raytheon:Tucson, AZ	0.000	0.000		0.000		1.640	Feb 2014	-		1.640	0.000	1.640	1.640
Systems Engineering - Image Navigation	WR	NSWC:Dahlgren, VA	0.000	0.000		0.000		0.094	Feb 2014	-		0.094	0.000	0.094	
Prior Year Prod Dev cost no longer funded in FYDP	Various	Various:Various	2,628.097	0.000		0.000		0.000		-		0.000	0.000	2,628.097	
Subtotal			2,658.134	0.275		2.601		2.163		0.000		2.163	0.000	2,663.173	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Image Navigation - Mission Planning	SS/CPFF	ComGlobal:San Jose, CA	0.000	0.000		0.000		0.386	Feb 2014	-		0.386	Continuing	Continuing	Continuing
Image Navigation - Mission Planning	SS/CPFF	Boeing:St. Louis, MO	0.000	0.000		0.000		2.036	Feb 2014	-		2.036	Continuing	Continuing	Continuing
Image Navigation - Mission Planning	SS/CPFF	BAE Systems:San Diego, CA	0.000	0.000		0.000		0.465	Feb 2014	-		0.465	Continuing	Continuing	Continuing
Image Navigation - Mission Planning	SS/CPFF	SAIC:Arlington, VA	0.000	0.000		0.000		1.693	Feb 2014	-		1.693	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Image Navigation - Mission Planning	SS/CPFF	UARC APL:Laurel, MD	0.000	0.314	Jun 2012	0.000		1.870	Feb 2014	-		1.870	Continuing	Continuing	Continuing
TLAM MP Analysis - Mission Planning	SS/CPFF	UARC APL:Laurel, MD	0.000	0.000		0.000		1.060	Feb 2014	-		1.060	0.000	1.060	1.060
Imagery Format Analysis - Mission Planning	SS/CPFF	Navy Sys Mgt Act:Arlington, VA	0.000	0.000		0.000		1.359	Feb 2014	-		1.359	0.000	1.359	1.359
Development Support	WR	NSWC:Dahlgren, VA	2.100	0.145	Feb 2012	0.127	Feb 2013	0.127	Feb 2014	-		0.127	0.000	2.499	
Development Support - Image Navigation	WR	NAWC:China Lake, CA	0.000	0.000		0.000		0.062	Feb 2014	-		0.062	0.000	0.062	
Development Support - AUR	SS/CPFF	SAIC:San Diego, CA	4.277	0.739	Feb 2012	0.934	Feb 2013	0.000		-		0.000	3.325	9.275	9.275
Development Support - Image Navigation	SS/CPFF	SAIC:Arlington, VA	0.000	0.000		0.000		0.177	Feb 2014	-		0.177	0.000	0.177	0.177
Development Support - AUR	WR	Various:Various	1.776	0.110	Feb 2012	0.000		0.000		-		0.000	0.575	2.461	
Development Support - Image Navigation	WR	NSWC:Indian Head, MD	0.000	0.000		0.000		0.062	Feb 2014	-		0.062	0.000	0.062	
Development Support - AUR	WR	NAWC:China Lake, CA	70.533	4.489	Feb 2012	4.800	Feb 2013	0.655	Feb 2014	-		0.655	0.000	80.477	
Soft Dev-Mission Plan Sys TC2S	Reqn	NAVSEA:WNY, DC	21.345	1.113	Feb 2012	1.106	Feb 2013	0.000		-		0.000	6.720	30.284	30.284
Soft Dev-Mission Plan Sys TC2S	Reqn	Navy Sys Mgt Act:VA	12.129	1.190	Feb 2012	1.367	Feb 2013	0.000		-		0.000	6.223	20.909	20.909
Soft Dev-Mission Plan Sys	WR	NAWC:Pax River, MD	0.352	0.206	Feb 2012	0.330	Feb 2013	0.130	Feb 2014	-		0.130	0.000	1.018	
Prior Year Support cost no longer funded in FYDP	Various	Various:Various	229.939	0.000		0.000		0.000		-		0.000	0.000	229.939	
Subtotal			342.451	8.306		8.664		10.082		0.000		10.082			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Operational Test & Evaluation - Image Navigation	WR	NAWC-WD:China Lake, CA	0.000	0.000		0.000		0.043	Feb 2014	-		0.043	0.000	0.043	
Operational Test and Evaluation - Image Navigation	WR	NSWC:PT Hueneme, CA	0.000	0.000		0.000		0.043	Feb 2014	-		0.043	0.000	0.043	
Operational Test and Evaluation - Image Navigation	WR	NSWC:Dahlgren, VA	0.000	0.000		0.000		0.076	Feb 2014	-		0.076	0.000	0.076	
Prior Year T&E cost no longer funded in FYDP	Various	Various:Various	83.412	0.000		0.000		0.000		-		0.000	0.000	83.412	
Subtotal			83.412	0.000		0.000		0.162		0.000		0.162	0.000	83.574	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Mgmt cost no longer funded in FYDP	Various	Various:Various	0.401	0.000		0.000		0.000		-		0.000	0.000	0.401	
Subtotal			0.401	0.000		0.000		0.000		0.000		0.000	0.000	0.401	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		3,084.398	8.581	11.265	12.407	0.000		12.407	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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Tomahawk Mission Planning Center	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018								
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q					
Acquisition Milestones																																	
Milestones	TTWCS V5.4.0 FOC ▼	TT Msl Inte FOC ▼	TC2S 4.3 FOC ▼													TC2S 5.0 FOC ▼	TTWCS V5.4.1 FOC ▼																
Systems Development																																	
Software Development	INAV								INAV ECP																								
Reviews									INAV PDR ■									INAV CDR ■									INAV OTRR ■	INAV IOC ▲					
Hardware Development																																	
	TT P3I																																
	TT FRP																																
Reviews									TTWCS V5.4.1 TRR ■									TTWCS V5.4.1 IT-CF TRR ■															
Test and Evaluation																																	
Technical Evaluation	TC2S 5.0 DT/OT - III G																																
Operational Evaluation																																	
Production Milestones																																	
Contract Awards																																	
Deliveries																																	

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Tomahawk Mission Planning Center				
Acquisition Milestones: Milestones: TTWCS V5.4.0 Full Operational Capability (FOC)	1	2012	1	2012
Acquisition Milestones: Milestones: Tactical Tomahawk Missile Integration FOC	2	2012	2	2012
Acquisition Milestones: Milestones: TC2S 4.3 FOC	3	2012	3	2012
Acquisition Milestones: Milestones: TC2S 5.0 FOC	2	2015	2	2015
Acquisition Milestones: Milestones: TTWCS V5.4.1 FOC	4	2015	4	2015
Systems Development: Reviews: Image Navigation - IOC	4	2017	4	2017
Systems Development: Software Development: Image Navigation	1	2013	4	2013
Systems Development: Software Development: Image Navigation - ECP	1	2014	4	2017
Systems Development: Reviews: Image Navigation - PDR	1	2014	1	2014
Systems Development: Reviews: Image Navigation - CDR	1	2015	1	2015
Systems Development: Reviews: Image Navigation - OTRR	1	2017	1	2017
Systems Development: Hardware Development: TT Preplanned Product Improvement (P3I)	1	2012	4	2017
Systems Development: Hardware Development: Tactical Tomahawk (TACTOM) Full Rate Production, annualized BLOCK IV missile procurements (FY 2010-FY2020)	1	2012	4	2017
Systems Development: Reviews: TTWCS V5.4.1 TRR	2	2013	2	2013
Systems Development: Reviews: TTWCS V5.4.1 IT-CF TRR	4	2014	4	2014
Test and Evaluation: TC2S 5.0 IT-CF- III G	1	2012	1	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	281.537	29.275	45.922	41.609	-	41.609	31.229	31.230	26.362	26.723	Continuing	Continuing
0344: <i>SUB AUXILIARIES</i>	0.000	0.000	2.998	0.904	-	0.904	0.907	0.907	0.909	0.908	Continuing	Continuing
0766.: <i>IUSS Detect/Classif System</i>	281.537	29.275	42.924	40.705	-	40.705	30.322	30.323	25.453	25.815	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 an acoustic recording device with a clandestine data recovery capability.

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. The IUSS Integrated Common Processor (ICP) will have 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	21.259	45.922	29.221	-	29.221
Current President's Budget	29.275	45.922	41.609	-	41.609
Total Adjustments	8.016	0.000	12.388	-	12.388
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	8.016	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-8.826	-	-8.826
• Rate/Misc Adjustments	0.000	0.000	21.214	-	21.214

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0344: <i>SUB AUXILIARIES</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0344: <i>SUB AUXILIARIES</i>	0.000	0.000	2.998	0.904	-	0.904	0.907	0.907	0.909	0.908	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: SWSS	0.000	2.998	0.904
Articles:		0	0
FY 2013 Plans: FY13 SWSS funding will be 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.			
Accomplishments/Planned Programs Subtotals	0.000	2.998	0.904

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

N/A

Remarks

D. Acquisition Strategy

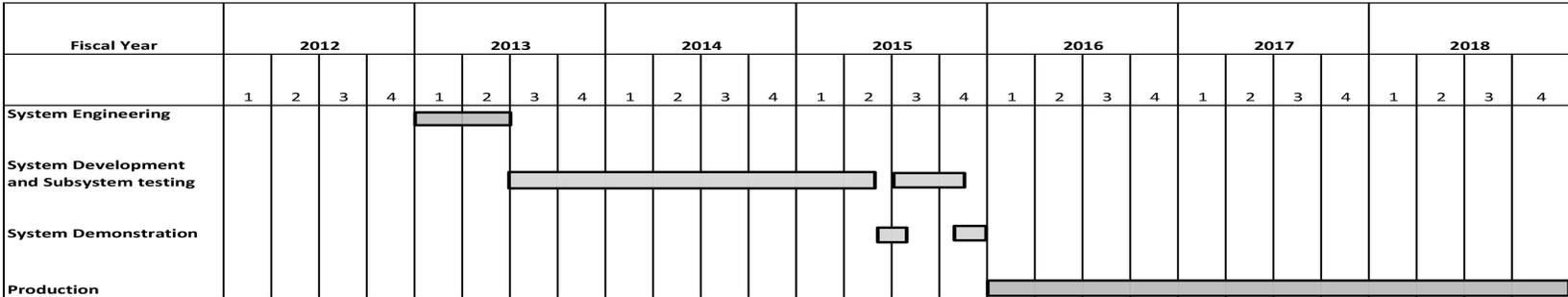
TBD

E. Performance Metrics

Development of the requirements document for SWSS is one of the primary acquisition documents that will be developed starting in FY13. Performance metrics will either be directly stated in that document or will be derived through the system engineering process used to describe the system specifications.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0344: <i>SUB AUXILIARIES</i>



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0344: <i>SUB AUXILIARIES</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0344				
System Engineering	1	2013	2	2013
System Development and Subsystem Testing	3	2013	4	2015
System Demonstration	2	2015	4	2015
Production	1	2016	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>				PROJECT 0766.: <i>IUSS Detect/Classif System</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0766.: <i>IUSS Detect/Classif System</i>	281.537	29.275	42.924	40.705	-	40.705	30.322	30.323	25.453	25.815	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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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.

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

	FY 2012	FY 2013	FY 2014
<p>Title: Compact Low Frequency Active</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Completed DT for CLFA/TL-29A/ICP. Conducted OT of CLFA/TL-29A/ICP. Continued development of product improvements and corrections associated with CLFA DT/OT and LFA FOT&E. Conducted at-sea testing of product improvements.</p> <p>FY 2013 Plans: Continue development of product improvements and corrections associated with CLFA DT/OT and LFA FOT&E. Conduct at-sea testing of product improvements.</p> <p>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.</p>	<p>1.960</p> <p>0</p>	<p>1.750</p> <p>0</p>	<p>1.750</p> <p>0</p>
<p>Title: TB-29A/Twin-Line</p> <p align="right">Articles:</p> <p>FY 2012 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.</p> <p>FY 2013 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.</p> <p>FY 2014 Plans:</p>	<p>1.848</p> <p>0</p>	<p>1.750</p> <p>0</p>	<p>1.750</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>		PROJECT 0766.: <i>IUSS Detect/Classif System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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)		12.136	11.018	10.389
		0	0	0
Articles:				
FY 2012 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 2013 Plans: Continue development of new automation algorithms and techniques for addressing multi-array high beam count requirements. Continue development of Littoral LFA improvements. Continue tech refresh development in coordination with the Submarine Acoustic Rapid COTS Insertion (ARCI) Program Advanced Processing Build (APB) tech refresh. Continue 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 development of Littoral LFA improvements. Continue tech refresh development in coordination with the Submarine Acoustic Rapid COTS Insertion (ARCI) Program Advanced Processing Build (APB) tech refresh. Continue to address processing improvement recommendations and deficiencies associated with CLFA DT/OT and LFA FOT&E.				
Title: Classified Effort		13.331	28.406	26.816
		0	0	0
Articles:				
Description: The FSS portion of 0766 is classified with details available at a higher classification level.				
FY 2012 Accomplishments: The FSS portion of 0766 is classified with details available at a higher classification level.				
FY 2013 Plans: The FSS portion of 0766 is classified with details available at a higher classification level.				
FY 2014 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
The FSS portion of 0766 is classified with details available at a higher classification level.			
Accomplishments/Planned Programs Subtotals	29.275	42.924	40.705

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPN/2237: <i>Surveillance Towed Array Sensor System</i>	25.547	2.774	9.680		9.680	10.004	8.843	3.297	11.137	0.000	173.238

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: CLFA/TL-29A/ICP OT. LFA/TL-29A/ICP FOT&E.
 FY 2014: ICP Tech Refresh
 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN:VA	8.132	7.215	Nov 2011	5.726	Nov 2012	5.441	Nov 2013	-		5.441	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	APL/JHU:MD	0.525	0.525	Nov 2011	0.565	Nov 2012	0.540	Nov 2013	-		0.540	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS:Not Specified	63.568	0.755	Nov 2011	0.790	Nov 2012	0.764	Nov 2013	-		0.764	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/CLFA/LFA	WR	NFESC:CA	0.398	0.447	Nov 2011	0.452	Nov 2012	0.438	Nov 2013	-		0.438	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/CLFA/LFA	WR	SSC PAC:CA	0.227	0.227	Nov 2011	0.226	Nov 2012	0.251	Nov 2013	-		0.251	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/CLFA/LFA	C/CPFF	APL/JHU:MD	0.375	0.375	Nov 2011	0.339	Nov 2012	0.326	Nov 2013	-		0.326	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/CLFA/LFA	Various	VARIOUS:Not Specified	116.529	0.323	Nov 2011	0.339	Nov 2012	0.326	Nov 2013	-		0.326	Continuing	Continuing	Continuing
N74 ASW STUDY	WR	SSC PAC:CA	0.449	0.000	Nov 2011	0.000	Nov 2012	0.000	Nov 2013	-		0.000	Continuing	Continuing	Continuing
N74 ASW STUDY	Various	VARIOUS:Not Specified	7.545	0.000	Nov 2011	0.000	Nov 2012	0.000	Nov 2013	-		0.000	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	C/CPFF	APL/JHU:VA	0.625	0.625	Nov 2011	0.677	Nov 2012	0.652	Nov 2013	-		0.652	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	WR	ADAPTIVE METHODS:VA	0.222	0.271	Nov 2011	0.229	Nov 2012	0.223	Nov 2013	-		0.223	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS:Not Specified	8.100	0.365	Nov 2011	0.337	Nov 2012	0.279	Nov 2013	-		0.279	Continuing	Continuing	Continuing
FSS - Classified	Various	TBD:Not Specified	11.535	13.331	Nov 2011	28.406	Nov 2012	26.816	Nov 2013	-		26.816	Continuing	Continuing	Continuing
Subtotal			218.230	24.459		38.086		36.056		0.000		36.056			

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IUSS COMMON ARCHITECTURE	WR	SSC PAC:CA	1.707	1.511	Nov 2011	1.524	Nov 2012	1.469	Nov 2013	-		1.469	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS:Not Specified	3.580	0.310	Nov 2011	0.314	Nov 2012	0.303	Nov 2013	-		0.303	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	WR	SSC PAC:CA	0.194	0.204	Nov 2011	0.194	Nov 2012	0.186	Nov 2013	-		0.186	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	Various	VARIOUS:Not Specified	7.207	0.090	Nov 2011	0.097	Nov 2012	0.093	Nov 2013	-		0.093	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS:Not Specified	0.283	0.294	Nov 2011	0.290	Nov 2012	0.280	Nov 2013	-		0.280	Continuing	Continuing	Continuing
Subtotal			12.971	2.409		2.419		2.331		0.000		2.331			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN:VA	0.953	0.821	Nov 2011	0.823	Nov 2012	0.791	Nov 2013	-		0.791	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	Not Specified:Not Specified	6.093	0.392	Nov 2011	0.395	Nov 2012	0.380	Nov 2013	-		0.380	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	WR	OPTEVFOR:Not Specified	0.125	0.125	Nov 2011	0.129	Nov 2012	0.124	Nov 2013	-		0.124	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	Various	Not Specified:Not Specified	20.602	0.071	Nov 2011	0.072	Nov 2012	0.070	Nov 2013	-		0.070	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	C/CPFF	APL/JHU:MD	0.189	0.196	Nov 2011	0.194	Nov 2012	0.185	Nov 2013	-		0.185	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	Not Specified:Not Specified	2.568	0.000		0.000		0.000	Nov 2013	-		0.000	Continuing	Continuing	Continuing
Subtotal			30.530	1.605		1.613		1.550		0.000		1.550			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IUSS COMMON ARCHITECTURE	Various	VARIOUS:Not Specified	4.300	0.606	Nov 2011	0.613	Nov 2012	0.584	Nov 2013	-		0.584	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	Various	VARIOUS:Not Specified	15.412	0.098	Nov 2011	0.097	Nov 2012	0.093	Nov 2013	-		0.093	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS:Not Specified	0.094	0.098	Nov 2011	0.096	Nov 2012	0.091	Nov 2013	-		0.091	Continuing	Continuing	Continuing
Subtotal			19.806	0.802		0.806		0.768		0.000		0.768			
Project Cost Totals			281.537	29.275		42.924		40.705		0.000		40.705			

Remarks
 The R3 and the R4 / R4A reflect the UNCLASSIFIED portion of the PE.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>

Fiscal Year	2012				2013				2014				2015				2016				2017				2018							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones Inactive ACAT II Status Eff 7/15/02																																
Test & Evaluation Milestones																																
CLFA / TL-29A / ICP DT	█																															
CLFA / TL-29A / ICP IOT&E				█					█																							
LFA/TL-29A/ICP FOT&E	█																█															
CLFA / TL29A / ICP (T19)			█																													
Production Milestones																																
CLFA Production	█																															
ICP SOFTWARE DEVELOPMENT	█																															
ICP TECH REFRESH		█			█	█	█	█																								

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0766.L24				
CLFA / TL-29A/ ICP DT	1	2012	3	2012
CLFA / TL-29A/ ICP IOT & E	4	2012	2	2014
LFA / TL-29A/ ICP FOT & E	1	2012	2	2016
CLFA / TL29A / ICP (T19)	3	2012	4	2012
CLFA Production	1	2012	3	2012
ICP Software Development	1	2012	4	2018
ICP Tech Refresh	2	2012	2	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	11.452	5.085	8.435	7.240	-	7.240	12.613	7.731	3.230	3.259	Continuing	Continuing
2231: <i>LCU Replacement</i>	11.452	5.085	8.435	6.940	-	6.940	12.013	7.731	3.230	3.259	Continuing	Continuing
2909: <i>Amphibious Lighterage Development</i>	0.000	0.000	0.000	0.300	-	0.300	0.600	0.000	0.000	0.000	0.000	0.900

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Technology Transition: Provides for research efforts on Landing Craft Air Cushion (LCAC) Future Naval Capabilities to transfer technologies to functional uses on current LCACs. Current technology initiatives include the following: sustainability/readiness/performance analysis; LCAC communication improvements; development and qualification of Full Authority Digital Engine Controller (FADEC) for LCAC engines; new torque meter design for ETF40B engines; active shaft balancing system; fuel efficiency initiatives.

Landing Craft Utility Replacement (LCU(R)) Capabilities Based Assessment (CBA) will define mission, identify and evaluate capabilities, identify and assess potential solutions, and evaluate operational risk in order to provide recommendations for validation authority for high speed, high capacity assault craft replacement.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	5.214	8.435	4.621	-	4.621
Current President's Budget	5.085	8.435	7.240	-	7.240
Total Adjustments	-0.129	0.000	2.619	-	2.619
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.129	0.000			
• Program Adjustments	0.000	0.000	4.287	-	4.287
• Rate/Misc Adjustments	0.000	0.000	-1.668	-	-1.668

Change Summary Explanation

Technical: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0204413N: *Amphibious Tactical Supt Units*

Schedule: Added funds to complete LCU(R) RDT&E efforts before new start procurement commences in FY17. Efforts include development of requirements documentation, design development, Integrated Logistics Support planning, Test and Evaluation Master Plan (TEMP) development, and Early Operational Assessment (EOA).

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2231: <i>LCU Replacement</i>	11.452	5.085	8.435	6.940	-	6.940	12.013	7.731	3.230	3.259	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Current technology initiatives include the following: sustainability/readiness/performance analysis; LCAC communications improvements; development and qualification of FADEC for LCAC engines; new torque meter design for ETF40B engines; active shaft balancing system; fuel efficiency initiatives.

LCU(R): CBA will define mission, identify and evaluate capabilities, identify and assess potential solutions, and evaluate operational risk in order to provide recommendations for validation authority for high speed, high capacity assault craft replacement.

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

	FY 2012	FY 2013	FY 2014
Title: LCAC RDT&E,N and LCU Replacement	5.085	8.435	6.940
Articles:	0	0	0
FY 2012 Accomplishments:			
FY12 LCAC: Completed development and achieved qualification of FADEC; conducted sea trials for LCAC fuel efficiency and FADEC; upgraded and performed test and evaluation of active shaft balancing system; redesigned tester for Digital Electronic Sequencing Unit (DESU); finalized torque meter design and performed qualification testing.			
FY12 LCU(R): Updated Feasibility Design Studies (FDS) and began development of requirements documentation, to include the Initial Capabilities Document (ICD).			
FY 2013 Plans:			
FY13 LCAC: Conduct analysis and testing of new commercial non-skid products; research commercial products for low cost skirt fasteners; research commercial wireless radios and corrosion improvements for Halon bottles.			
FY13 LCU(R): Initiate Analysis of Alternatives (AoA); begin Materiel Solution Analysis (MSA); draft Capability Development Document (CDD); conduct Alternative System Review (ASR) and System Requirements Review (SRR).			
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.			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY14 LCU(R): Continue development of CDD; complete MSA and the AoA; initiate preliminary design and contract design; conduct System Functional Review (SFR); begin Test and Evaluation Master Plan (TEMP) development; develop Reliability, Availability, Maintainability-Cost (RAM-C) rationale report; achieve Milestone A.			
Accomplishments/Planned Programs Subtotals	5.085	8.435	6.940

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPN 0970: <i>Amphibious Tactical Support Units</i>	0.000	16.645	14.431		14.431	8.273	6.692	6.806	6.929	5.356	67.760
• SCN 5139: <i>LCAC SLEP</i>	84.076	47.930	80.987		80.987	83.576	85.059	87.267	88.806	0.000	640.277
• SCN 5100: <i>LCU Replacement</i>	0.000	0.000	0.000		0.000	0.000	0.000	18.000	30.300	Continuing	Continuing

Remarks

D. Acquisition Strategy

Technology Transition - RDT&E efforts commenced in FY06. Multiple contracts and Field Activities are involved through FY18 to complete the various projects.

E. Performance Metrics

FY12 LCAC: Complete development and achieve qualification of FADEC; conduct sea trials for LCAC fuel efficiency and FADEC; upgrade and perform test and evaluation of active shaft balancing system; redesign tester for Digital Electronic Sequencing Unit (DESU); finalize torque meter design and perform qualification testing.

FY12 LCU(R): Update Feasibility Design Studies (FDS) and begin development of requirements documentation, to include the Initial Capabilities Document (ICD).

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

FY13 LCU(R): Initiate Analysis of Alternatives (AoA); begin Materiel Solution Analysis (MSA); draft Capability Development Document (CDD); conduct Alternative System Review (ASR) and System Requirements Review (SRR).

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 LCU(R): Continue development of CDD; complete MSA and the AoA; initiate preliminary design and contract design; conduct System Functional Review (SFR); begin Test and Evaluation Master Plan (TEMP) development; develop Reliability, Availability, Maintainability-Cost (RAM-C) rationale report; achieve Milestone A.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Component Development	WR	NSWC CD:Philadelphia, PA	4.570	1.652	Mar 2012	1.253	Mar 2013	0.000		-		0.000	0.000	7.475	
Systems Engineering	WR	NSWC CD:Philadelphia, PA	1.908	0.300	Mar 2012	1.021	Mar 2013	1.342	Feb 2014	-		1.342	7.354	11.925	
LCU Replacement	Various	Various:Various	0.000	0.700	Mar 2012	3.373	Mar 2013	4.000	Mar 2014	-		4.000	10.800	18.873	
Subtotal			6.478	2.652		5.647		5.342		0.000		5.342	18.154	38.273	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support	WR	NSWC PCD:Panama City, FL	2.451	1.345	May 2012	1.694	Apr 2013	1.301	Mar 2014	-		1.301	5.713	12.504	
LCU Replacement	Various	Various:Various	0.000	0.300	May 2012	0.627	Apr 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			2.451	1.645		2.321		1.301		0.000		1.301			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental T & E	WR	Various:Various	0.287	0.000		0.000		0.000		-		0.000	0.000	0.287	
Operational T & E	WR	NSWC PCD:Panama City, FL	0.365	0.216	Mar 2012	0.196	Apr 2013	0.230	Feb 2014	-		0.230	1.032	2.039	
Test Assets	WR	NSWC PCD:Panama City, FL	0.474	0.221	Mar 2012	0.155	Apr 2013	0.000		-		0.000	0.000	0.850	
Subtotal			1.126	0.437		0.351		0.230		0.000		0.230	1.032	3.176	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Support	WR	Various:Various	0.726	0.000		0.000		0.000		-		0.000	0.000	0.726	
Program Management Support	WR	NSWC PCD:Panama City, FL	0.596	0.351	Jun 2012	0.116	Jun 2013	0.067	Feb 2014	-		0.067	1.334	2.464	
Travel	WR	NAVSEA:Not Specified	0.064	0.000		0.000		0.000		-		0.000	0.000	0.064	
DAWDF	MIPR	OSD:Not Specified	0.011	0.000		0.000		0.000		-		0.000	0.000	0.011	
Subtotal			1.397	0.351		0.116		0.067		0.000		0.067	1.334	3.265	
Project Cost Totals			11.452	5.085		8.435		6.940		0.000		6.940			

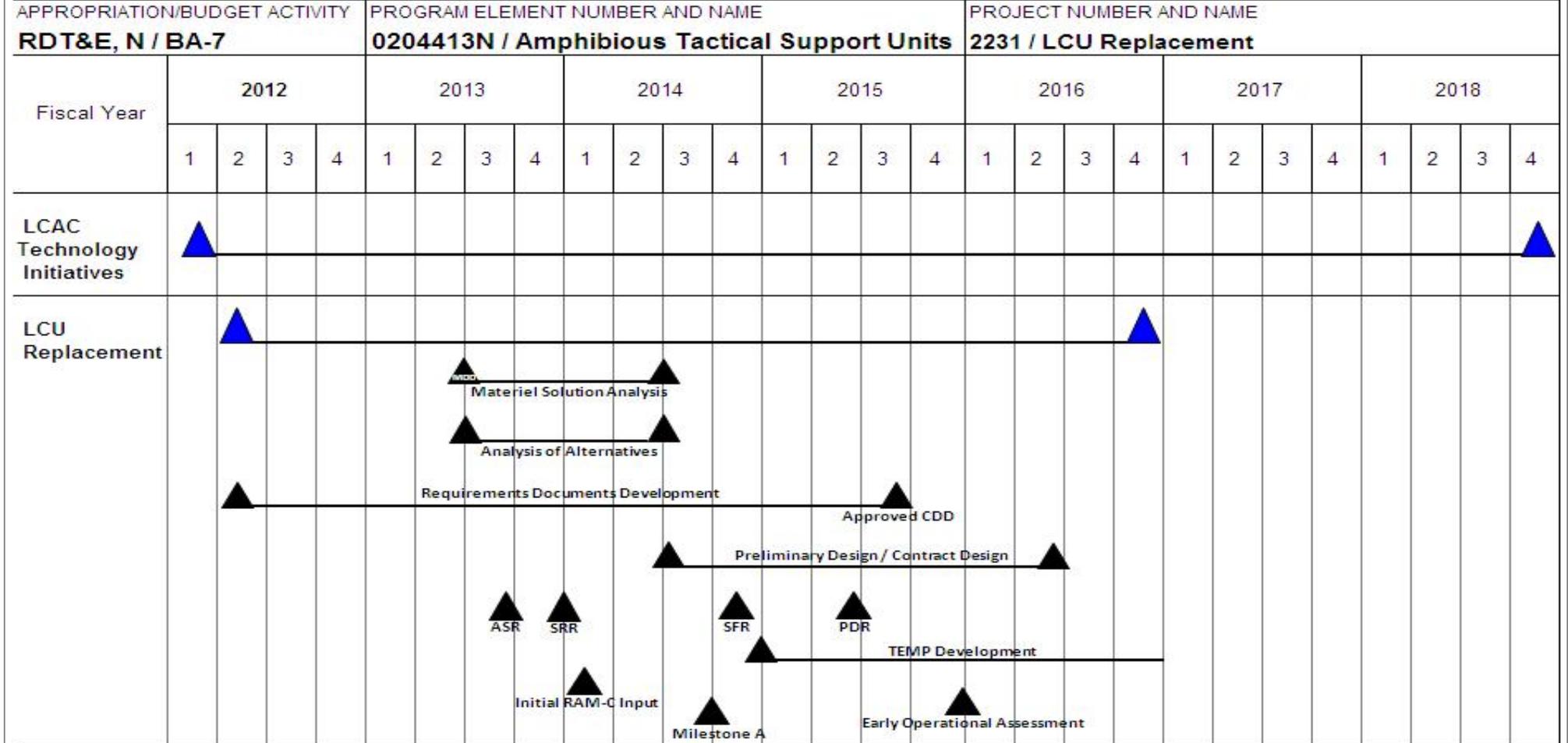
Remarks
 The LCU Replacement line has been added to indicate a new program for the Landing Craft Utility which is projected to reach Milestone A by 2014.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>
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EXHIBIT R4, Schedule Profile



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2231				
LCAC Technology Initiatives	1	2012	4	2018
LCU Replacement	2	2012	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2909: <i>Amphibious Lighterage Development</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2909: <i>Amphibious Lighterage Development</i>	0.000	0.000	0.000	0.300	-	0.300	0.600	0.000	0.000	0.000	0.000	0.900
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 and Underwater Construction Team missions.

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

	FY 2012	FY 2013	FY 2014
Title: New Accomplishment/Planned Program Entry	0.000	0.000	0.300
Articles:			0
FY 2014 Plans: Commence Technology Investigation in FY14, NAVFAC HQ, NAVFAC field activity and other agencies are involved in this effort.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.300

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 FY14, Naval Facilities Engineering Command (NAVFAC)HQ, NAVFAC field activity and other agencies are involved in this effort.

E. Performance Metrics

TBD

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2909: <i>Amphibious Lighterage Development</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Amphibious Vehicle Replacement	WR	Engineering Expeditionary Warfare Center (EXWC):Port Hueneme, CA	0.000	0.000		0.000		0.300	Dec 2013	-		0.300	0.000	0.300	
Subtotal			0.000	0.000		0.000		0.300		0.000		0.300	0.000	0.300	

Remarks
 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.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	0.000	0.300	0.000	0.300	0.000	0.300	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2909: <i>Amphibious Lighterage Development</i>

FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Proj 2909	
Development of acquisition and design requirements for Amphibious Vehicle Replacement	

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2909: <i>Amphibious Lighterage Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2909				
Development of acquisition and design requirements for Amphibious Vehicle Replacement	1	2014	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>(U)Ground/Air Task Oriented Radar (G/ATOR)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	75.088	78.208	-	78.208	77.413	74.653	49.969	19.968	Continuing	Continuing
9C89: <i>Marine Ground-Air Radar</i>	0.000	0.000	75.088	78.208	-	78.208	77.413	74.653	49.969	19.968	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 FY 2010 and Program Element 0206313M Project 9C89 in FY11 and 12. It was moved to Program Element 0204460M in FY13.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	0.000	75.088	78.436	-	78.436
Current President's Budget	0.000	75.088	78.208	-	78.208
Total Adjustments	0.000	0.000	-0.228	-	-0.228
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.228	-	-0.228

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>(U)Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9C89: <i>Marine Ground-Air Radar</i>	0.000	0.000	75.088	78.208	-	78.208	77.413	74.653	49.969	19.968	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 multi-role, ground-based, expeditionary radar that replaces five legacy radar systems for the Marine Air Ground Task Force. It satisfies the Marine Air Command and Control System and the Ground Counter Fire/Counter Battery capabilities. The G/ATOR replaces the AN/TPS-63 and complements the AN/TPS-59 long range radar and will provide mobile, multi-functional, three-dimensional surveillance of air breathing targets, detection of cruise missiles and 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.

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

	FY 2012	FY 2013	FY 2014
<p>Title: G/ATOR Contractor Technical, Development Engineering/EDM</p> <p align="right">Articles:</p>	0.000	49.754 0	55.777 0
<p>FY 2013 Plans: Finish Developmental Test 1B (DT1B), provide support for the conduct of Operational Assessment (OA), provide hardware and software updates in support of government directed changes as a result of DT1B and OA testing, assist in the development of program documentation in support of Milestone C (MS C), continue Anti-Tamper (AT) efforts, and continue to assist the government in development of LRIP configuration in support of Transition to Production.</p> <p>FY 2014 Plans: Continue Anti-Tamper implementation, Transition to Production and Robust Transition to Production, and Producibility Enhancements. Begin development of Ground Weapons Locating Radar (GWLR) and Systems Engineering Program Management (SEPM) for Block II.</p>			
<p>Title: G/ATOR: Test and Evaluation</p> <p align="right">Articles:</p>	0.000	8.436 0	1.990 0
<p>FY 2013 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>(U)Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Provide support for the completion of DT1B, provide support for the conduct of Operational Assessment (OA) and begin preparation for DT1C for Block I. Begin preparation of FOT&E for Block II. FY 2014 Plans: Continue preparation for DT1C, begin IOT&E preparation for Block I. Begin Block II DT preparation, continue preparation for Block II FOT&E.			
Title: Government Technical Support Articles:	0.000	9.902 0	12.081 0
FY 2013 Plans: Government support from the following activities to enable program execution; MITRE, NSWC Dahlgren, NSWC Crane, NSWC PHD, MARCORSYSCOM. FY 2014 Plans: Government support from the following activities to enable program execution; MITRE, NSWC Dahlgren, NSWC Crane, NSWC PHD, MARCORSYSCOM.			
Title: G/ATOR: Engineering, Management, & Logistics Support Articles:	0.000	6.696 0	8.360 0
FY 2013 Plans: Continue engineering, management & logistics program office support. FY 2014 Plans: Continue engineering, management & logistics program office support.			
Title: G/ATOR: Program Office Management & Travel Costs Articles:	0.000	0.300 0	0.000
FY 2013 Plans: Continue travel efforts in support of system development and test.			
Accomplishments/Planned Programs Subtotals	0.000	75.088	78.208

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/465000: <i>GRND/AIR TASK ORIENTED RADAR</i>	4.246	90.348	99.325		99.325	74.830	236.165	237.381	229.000	291.475	1,262.770

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>(U)Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE/0604504N: <i>Air Control MATCALs</i>	0.000	0.000	3.000		3.000	0.000	0.000	0.000	0.000	0.000	3.000
• PMC/700000: <i>Initial Spares</i>	0.000	0.000	7.500		7.500	6.800	18.900	21.200	26.300	0.000	80.700
• RDTE/0206313M: <i>GRND/AIR TASK ORIENTED RADAR</i>	102.455	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	102.455

Remarks

D. Acquisition Strategy

The Ground/Air Task Oriented Radar (G/ATOR) is multi-role, ground-based, expeditionary radar that replaces five legacy radar systems and provides the USMC Air Defense and Air Surveillance (AD/AS), Counterfire/Targeting, and Air Traffic Control capability. The AD/AS development effort was competitively awarded in 2007 and is scheduled for Milestone C in the 4th Qtr of FY13. Development of the Counterfire/Targeting 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. Consequently, a J&A has been submitted reflecting the results of the BCA, and the contract award is scheduled for the first Qtr of FY14. In FY13, a BCA will be performed to determine the optimum strategy for development of the Air Traffic Control mission with a targeted development contract to be awarded in FY15. The \$3M in the Navy's R&D funding in FY14 will support systems engineering activities prior to contract award, including integration studies with ATNAVICS, the Navy provided ATC C2 systems.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>(U)Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
G/ATOR	C/CPIF	NORTHROP GRUMMAN SYSTEMS CORPORATION:LINTHICUM HEIGHTS, MD	0.000	0.000		49.754	Dec 2012	55.777	Dec 2013	-		55.777	0.000	105.531	
Subtotal			0.000	0.000		49.754		55.777		0.000		55.777	0.000	105.531	

Remarks
Award date reflects the actual obligation date for the first incremental award. The Northrop Grumman Product Development contract is incrementally funded throughout the fiscal year.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
G/ATOR	FFRDC	MITRE:BOSTON, MA	0.000	0.000		1.518	Dec 2012	1.804	Dec 2013	-		1.804	0.000	3.322	
G/ATOR	WR	NSWC-DAHLGREN:DAHLGREN, VA	0.000	0.000		6.736	Dec 2012	8.102	Dec 2013	-		8.102	0.000	14.838	
G/ATOR	WR	NSWC-CRANE:CRANE, IN	0.000	0.000		0.307	Dec 2012	0.455	Dec 2013	-		0.455	0.000	0.762	
G/ATOR	C/FP	MCSC:QUANTICO, VA	0.000	0.000		0.225	Dec 2012	0.794	Dec 2013	-		0.794	0.000	1.019	
G/ATOR	C/CPIF	MCOTE:QUANTICO, VA	0.000	0.000		0.512	Dec 2012	0.711	Dec 2013	-		0.711	0.000	1.223	
G/ATOR	WR	NSWC PHD:DAM NECK, VA	0.000	0.000		0.604	Dec 2012	0.215	Dec 2013	-		0.215	0.000	0.819	
Subtotal			0.000	0.000		9.902		12.081		0.000		12.081	0.000	21.983	

Remarks
Award dates reflect the actual obligation date for the first incremental award. Each activity, with the exception of MITRE, is incrementally funded throughout the fiscal year.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>(U)Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
G/ATOR	C/CPIF	NORTHROP GRUMMAN SYSTEMS CORPORATION:LINTHICUM HEIGHTS, MD	0.000	0.000		3.801	Dec 2012	0.000		-		0.000	0.000	3.801	
G/ATOR	C/CPFF	AIMS:ROBINS AFB, GA	0.000	0.000		0.031	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
G/ATOR	WR	NSWC DAHLGREN:DAHLGREN, VA	0.000	0.000		0.125	Dec 2012	0.000	Dec 2013	-		0.000	Continuing	Continuing	Continuing
G/ATOR	WR	MC AIR STATION:YUMA, AZ	0.000	0.000		0.937	Dec 2012	0.000		-		0.000	0.000	0.937	
G/ATOR	MIPR	AMRDEC:REDSTONE ARSENAL, AL	0.000	0.000		0.000		0.501	Dec 2013	-		0.501	0.000	0.501	
G/ATOR	MIPR	JTIC:FT HUACHUCA, AZ	0.000	0.000		0.018	Dec 2012	0.000		-		0.000	0.000	0.018	
G/ATOR	WR	NSWC-FALLBROOK:CRANE, IN	0.000	0.000		0.000		0.540	Dec 2013	-		0.540	0.000	0.540	
G/ATOR	C/CPIF	MCOTEA:QUANTICO, VA	0.000	0.000		3.462	Dec 2012	0.603	Dec 2013	-		0.603	0.000	4.065	
G/ATOR	WR	NSWC CORONA:CORONA, CA	0.000	0.000		0.062	Dec 2012	0.346	Dec 2013	-		0.346	0.000	0.408	
Subtotal			0.000	0.000		8.436		1.990		0.000		1.990			

Remarks
 Award dates reflect the actual obligation date for the first incremental award. Each activity is incrementally funded throughout the fiscal year.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>(U)Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
G/ATOR	C/FP	MCSC:MCSC-QUANTICO, VA	0.000	0.000		6.696	Dec 2012	8.360	May 2014	-		8.360	0.000	15.056	
G/ATOR	Various	MCSC:QUANTICO, VA	0.000	0.000		0.300	Sep 2013	0.000		-		0.000	0.000	0.300	
Subtotal			0.000	0.000		6.996		8.360		0.000		8.360	0.000	15.356	

Remarks
 Award dates reflect the actual obligation date for the first incremental award. Each activity is incrementally funded throughout the fiscal year.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	75.088	78.208	0.000	78.208			

Remarks

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

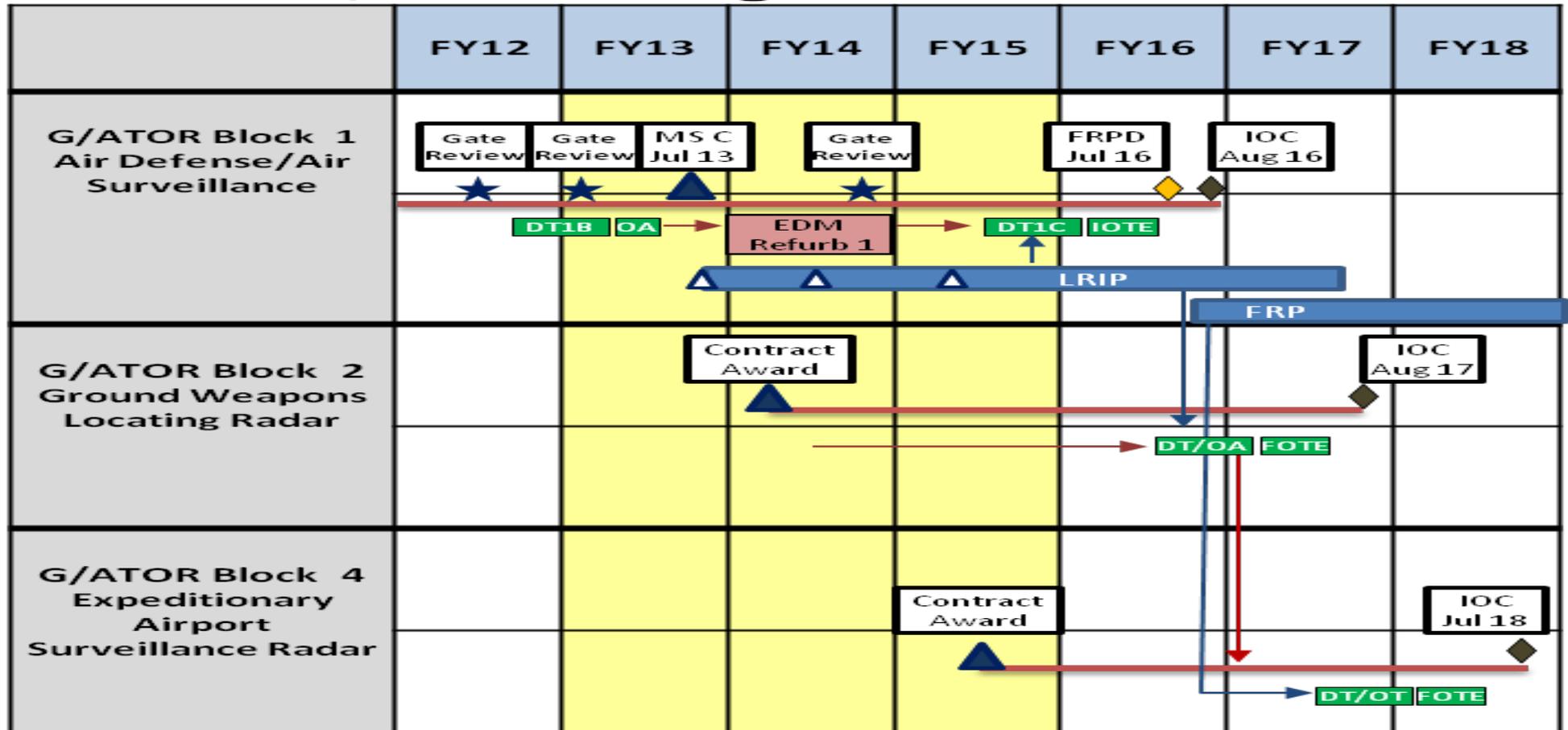
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0204460M: (U)Ground/Air Task Oriented Radar (G/ATOR)

PROJECT
 9C89: Marine Ground-Air Radar

G/ATOR Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>(U)Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C89				
Air Defense/Air Radar AD/SR Capability System Demonstration (DT)(1B)	4	2012	2	2013
Air Defense/Air Radar AD/SR Capability System Demonstration (DT/OT)(1C)	3	2015	1	2016
Air Defense/Air Radar AD/SR Capability Operational Assessment (OA)	2	2013	3	2013
Air Defense/Air Radar AD/SR Capability Low Rate Initial Production (LRIP)	4	2013	3	2017
Air Defense/Air Radar AD/SR Capability Milestone C	4	2013	4	2013
Air Defense/Air Radar AD/SR Capability (IOT&E)	2	2016	2	2016
Air Defense/Air Radar AD/SR Capability (IOC)	4	2016	4	2016
Air Defense/Air Radar AD/SR Capability Full Rate Production Decision	4	2016	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	240.776	38.055	20.229	45.124	-	45.124	45.763	47.929	24.786	20.602	Continuing	Continuing
0604: <i>Training Range & Instr Dev</i>	128.747	6.547	3.482	3.460	-	3.460	3.520	3.566	3.646	3.704	Continuing	Continuing
1427: <i>Surface Tactical Team Trainer (STTT)</i>	36.215	23.376	12.596	11.000	-	11.000	16.799	13.440	12.006	10.577	Continuing	Continuing
2124: <i>Air Warfare Training</i>	25.968	1.821	1.640	1.595	-	1.595	1.620	1.639	1.684	1.712	Continuing	Continuing
3093: <i>TACTS/LATR Replacement</i>	49.846	6.311	2.511	19.532	-	19.532	16.900	21.570	4.958	4.609	Continuing	Continuing
3356: <i>High Fidelity Surface Trainers</i>	0.000	0.000	0.000	9.537	-	9.537	6.924	7.714	2.492	0.000	0.000	26.667

MDAP/MAIS Code(s): 223

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

A. MISSION DESCRIPTION:
 0604 - The Training Range and Instrumentation Development Systems (TRIDS) program provides development of range systems including Large Area Tracking Range (LATR), Test & Training Enabling Architecture (TENA) interoperability and Tactical Training Ranges (TTR) infrastructure improvements.

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 advanced component technology development, transition and risk mitigation for aviation training systems, including mission preview/rehearsal simulation technologies, Live-Virtual Constructive (LVC) and the Aviation Training Technology Integration Facility

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>
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(ATTIF). The 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 (TACTS) and LATR systems. TCTS will provide fleet deployable instrumentation 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. The program incorporates evolutionary development (incremental) towards an encrypted system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation and open architecture.

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.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	42.244	20.229	29.813	-	29.813
Current President's Budget	38.055	20.229	45.124	-	45.124
Total Adjustments	-4.189	0.000	15.311	-	15.311
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-3.132	0.000			
• SBIR/STTR Transfer	-1.057	0.000			
• Program Adjustments	0.000	0.000	13.376	-	13.376
• Rate/Misc Adjustments	0.000	0.000	1.935	-	1.935

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	
<p>2124: R-4/R-4A reflects the following program changes: Human/Instructional Systems Integration-DMRT-Class Debrief APAARS Systems Development ending 2nd Qtr FY2013 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 (SD) syllabus review by the Navy. Sensors and Environment-Comms/EW Systems Development/Production Milestone ending 4th Qtr FY2018 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 (TRACE) began 4th Qtr FY2012 ending 4th Qtr 2014 to reduce trainer costs by developing a common interface solution.</p> <p>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 to occurred: TACTS/LATR Replacement-Acquisition Milestone Encryption MS B from 3th Qtr FY2012 to 3th 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.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0604: <i>Training Range & Instr Dev</i>	128.747	6.547	3.482	3.460	-	3.460	3.520	3.566	3.646	3.704	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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), Low Activity Pre-Processor (LAPP), Radar Acquisition Display Subsystem, Electronic Warfare (EW) server, Link 16 interface, TTR shipboard rotary platform technology improvements and Radiant Mercury (RM) Cross Domain Solution (CDS).

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

	FY 2012	FY 2013	FY 2014
Title: LATR	2.390	2.166	2.051
Articles:	0	0	0
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 FY16. Complete ground system and PIP refresh sub-projects, in conjunction with, semi-annual system block upgrades. Conduct LATR Operational Security (OPSEC) Posture Improvements Sub-Project.			
FY 2012 Accomplishments: Developed and tested LATR ground software version 5.6.0. Continued LATR OPSEC posture improvements sub-project and complete phase II Link-16 interface. Continued LATR EW interface development.			
FY 2013 Plans: Develop and test LATR ground software version 5.7.0. Continue LATR EW interface development. Continue LATR Operational Security Posture Improvements.			
FY 2014 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>		PROJECT 0604: <i>Training Range & Instr Dev</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Develop and test LATR ground software version 5.8.0. Continue to develop LATR ship/rotary tracking solution set. Complete LATR OPSEC posture improvements.				
<p>Title: TENA</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2012 Accomplishments: Developed Graphical User Interface (GUI) for TTR TENA Monitoring Tool as requested by Fleet users. Developed and tested TTR TENA 7.0 product upgrades to be compatible with evolving TENA SDA Middleware. Developed interfaces with evolving Joint TENA training events.</p> <p>FY 2013 Plans: Develop 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.</p> <p>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.</p>		0.800 0	0.800 0	0.800 0
<p>Title: TTR</p> <p align="right">Articles:</p> <p>Description: Develop and test upgrades to the JDS, Low Activity Pre-Processor (LAPP), Radar Acquisition Display Subsystem (RADS), and EW server. Develop and test upgrades to the Link-16 Interface, JDS, LAPP, RADS, and EW server. Develop and test TTR shipboard and rotary platform tracking solution set.</p> <p>FY 2012 Accomplishments: Developed and tested 2012.1 & 2012.2 upgrades to the JDS, LAPP, RADS, and EW server. Completed Phase I of sub-project to develop and test TTR shipboard and rotary platform tracking solution set.</p> <p>FY 2013 Plans:</p>		3.357 0	0.516 0	0.609 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Develop and test 2013.1 & 2013.2 upgrades to the JDS, LAPP, RADS, and EW server. Continue TTR ship/rotary platform tracking set development.			
<i>FY 2014 Plans:</i> Develop and test 2014.1 & 2014.2 upgrades to the JDS, LAPP, RADS, and EW server. Complete TTR ship/rotary platform tracking set.			
Accomplishments/Planned Programs Subtotals	6.547	3.482	3.460

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	WR	NAWC-AD:PAX RIVER, MD	5.780	0.771	Nov 2011	0.704	Nov 2012	0.899	Nov 2013	-		0.899	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWC-WD:CHINA LAKE, CA	5.095	0.215	Nov 2011	0.670	Nov 2012	0.670	Nov 2013	-		0.670	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	TYBRIN CORP:RIDGECREST, CA	7.979	3.375	Nov 2011	1.480	Nov 2012	1.480	Nov 2013	-		1.480	0.000	14.314	14.314
Systems Engineering	C/CPFF	L-3 CORP:RIDGECREST, CA	0.000	0.100	Nov 2011	0.400	Nov 2012	0.300	Nov 2013	-		0.300	0.000	0.800	0.800
Systems Engineering	WR	NSWC:CORONA, CA	1.360	1.286	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWC-WD:PT MUGU	0.000	0.250	Jan 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering	WR	CDSA:DAM NECK	0.000	0.200	Jun 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering	WR	NRL:WASHINGTON, DC	0.000	0.100	Nov 2011	0.100	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Prod Dev No Longer Funded in the Budget or Out Years (Systems Engineering)	Various	Various:Various	90.145	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			110.359	6.297		3.354		3.349		0.000		3.349			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Support No Longer Funded in the Budget or Out Years (Software Development)	Various	Various:Various	10.576	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			10.576	0.000		0.000		0.000		0.000		0.000			

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Training Range & Instr Dev - Large Area Tracking Range																																
Acquisition Milestones																																
System Development	LATR - 5.6 UPGRADE				LATR - 5.7 UPGRADE				LATR - 5.8 UPGRADE				LATR - 5.9 UPGRADE				LATR - 6.0 UPGRADE				LATR - 6.1 UPGRADE				LATR - 6.2 UPGRADE							
	LATR - LINK-16 INTERFACE (PHASE I & II)																															
	LATR - OPSEC POSTURE IMPROVEMENTS																															
	LATR - EW INTERFACE								LATR - SHIP ROTARY PLATFORM TRACKING SET																							
Test & Evaluation																																
Production Milestones																																
Deliveries	LATR - LINK-16 INTERFACE (PHASE I & II) ▼				LATR - 5.6 ▼				LATR - 5.7 ▼				LATR - 5.8 ▼				LATR - 5.9 ▼				LATR - 6.0 ▼				LATR - 6.1 ▼				LATR - 6.2 ▼			
					LATR - EW INTERFACE ▼								LATR - OPSEC POSTURE IMPROVE ▼				LATR - SHIP ROTARY PLATFORM TRACKING SET ▼															

2014PB - 0204571N - 0604

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Training Range & Instr Dev - Test & Training Enabling Architecture	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Acquisition Milestones																																
System Development																																
	TENA - 7.0				TENA - 8.0				TENA - 9.0				TENA - 10.0				TENA - 11.0				TENA - 12.0				TENA - 13.0							
Test & Evaluation																																
Production Milestones																																
Deliveries				TENA - 7.0 ▼				TENA - 8.0 ▼				TENA - 9.0 ▼				TENA - 10.0 ▼				TENA - 11.0 ▼				TENA - 12.0 ▼				TENA - 13.0 ▼				

2014PB - 0204571N - 0604

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Training Range & Instr Dev - Tactical Training Ranges	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
System Development																												
	TTR - 2012.1 + 2012.2 UPGRADE				TTR - 2013.1 + 2013.2 UPGRADE				TTR - 2014.1 + 2014.2 UPGRADE				TTR - 2015.1 + 2015.2 UPGRADE				TTR - 2016.1 + 2016.2 UPGRADE				TTR - 2017.1 + 2017.2 UPGRADE				TTR - 2018.1 + 2018.2 UPGRADE			
	TTR SHIPBOARD/ROTARY PLATFORM TRACKING SET																											
Test & Evaluation																												
Production Milestones																												
Deliveries				TTR - 2012.1 + 2012.2 ▼				TTR - 2013.1 + 2013.2 ▼				TTR - 2014.1 + 2014.2 ▼				TTR - 2015.1 + 2015.2 ▼				TTR - 2016.1 + 2016.2 ▼				TTR - 2017.1 + 2017.2 ▼				TTR - 2018.1 + 2018.2 ▼
												TTR SHIP/ROTARY PLATFORM TRACKING SET ▼																

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Training Range & Instr Dev - Large Area Tracking Range				
System Development: LATR - 5.6 UPGRADE	1	2012	4	2012
System Development: LATR - 5.7 UPGRADE	1	2013	4	2013
System Development: LATR - 5.8 UPGRADE	1	2014	4	2014
System Development: LATR - 5.9 UPGRADE	1	2015	4	2015
System Development: LATR - 6.0 UPGRADE	1	2016	4	2016
System Development: LATR - 6.1 UPGRADE	1	2017	4	2017
System Development: LATR - 6.2 UPGRADE	1	2018	4	2018
System Development: LATR - LINK-16 INTERFACE (PHASE I & II)	1	2012	2	2012
System Development: LATR - OPSEC POSTURE IMPROVEMENTS	1	2012	4	2014
System Development: LATR - SHIP ROTARY PLATFORM TRACKING SET	3	2013	4	2015
System Development: LATR - EW INTERFACE	1	2012	4	2012
Production Milestones: Deliveries: LATR - 5.6 UPGRADE	4	2012	4	2012
Production Milestones: Deliveries: LATR - 5.7 UPGRADE	4	2013	4	2013
Production Milestones: Deliveries: LATR - 5.8 UPGRADE	4	2014	4	2014
Production Milestones: Deliveries: LATR - 5.9 UPGRADE	4	2015	4	2015
Production Milestones: Deliveries: LATR - 6.0 UPGRADE	4	2016	4	2016
Production Milestones: Deliveries: LATR - 6.1 UPGRADE	4	2017	4	2017
Production Milestones: Deliveries: LATR - 6.2 UPGRADE	4	2018	4	2018
Production Milestones: Deliveries: LATR - LINK-16 INTERFACE (PHASE I & II)	2	2012	2	2012
Production Milestones: Deliveries: LATR - OPSEC POSTURE IMPROVEMENTS	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: Deliveries: LATR - SHIP ROTARY PLATFORM TRACKING SET	4	2015	4	2015
Production Milestones: Deliveries: LATR - EW INTERFACE	4	2012	4	2012
Training Range & Instr Dev - Test & Training Enabling Architecture				
System Development: TENA - 7.0	1	2012	4	2012
System Development: TENA - 8.0	1	2013	4	2013
System Development: TENA - 9.0	1	2014	4	2014
System Development: TENA - 10.0	1	2015	4	2015
System Development: TENA - 11.0	1	2016	4	2016
System Development: TENA - 12.0	1	2017	4	2017
System Development: TENA - 13.0	1	2018	4	2018
Production Milestones: Deliveries: TENA - 7.0	4	2012	4	2012
Production Milestones: Deliveries: TENA - 8.0	4	2013	4	2013
Production Milestones: Deliveries: TENA - 9.0	4	2014	4	2014
Production Milestones: Deliveries: TENA - 10.0	4	2015	4	2015
Production Milestones: Deliveries: TENA - 11.0	4	2016	4	2016
Production Milestones: Deliveries: TENA - 12.0	4	2017	4	2017
Production Milestones: Deliveries: TENA - 13.0	4	2018	4	2018
Training Range & Instr Dev - Tactical Training Ranges				
System Development: TTR - 2012.1 + 2012.2 UPGRADE	1	2012	4	2012
System Development: TTR - 2013.1 + 2013.2 UPGRADE	1	2013	4	2013
System Development: TTR - 2014.1 + 2014.2 UPGRADE	1	2014	4	2014
System Development: TTR - 2015.1 + 2015.2 UPGRADE	1	2015	4	2015
System Development: TTR - 2016.1 + 2016.2 UPGRADE	1	2016	4	2016
System Development: TTR - 2017.1 + 2017.2 UPGRADE	1	2017	4	2017
System Development: TTR - 2018.1 + 2018.2 UPGRADE	1	2018	4	2018

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
System Development: TTR SHIPBOARD/ROTARY PLATFORM TRACKING SET	1	2012	4	2014
Production Milestones: Deliveries: TTR - 2012.1 + 2012.2 UPGRADE	4	2012	4	2012
Production Milestones: Deliveries: TTR - 2013.1 + 2013.2 UPGRADE	4	2013	4	2013
Production Milestones: Deliveries: TTR - 2014.1 + 2014.2 UPGRADE	4	2014	4	2014
Production Milestones: Deliveries: TTR - 2015.1 + 2015.2 UPGRADE	4	2015	4	2015
Production Milestones: Deliveries: TTR - 2016.1 + 2016.2 UPGRADE	4	2016	4	2016
Production Milestones: Deliveries: TTR - 2017.1 + 2017.2 UPGRADE	4	2017	4	2017
Production Milestones: Deliveries: TTR - 2018.1 + 2018.2 UPGRADE	4	2018	4	2018
Production Milestones: Deliveries: TTR SHIPBOARD/ROTARY PLATFORM TRACKING SET	4	2014	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1427: <i>Surface Tactical Team Trainer (STTT)</i>	36.215	23.376	12.596	11.000	-	11.000	16.799	13.440	12.006	10.577	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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. 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 2012	FY 2013	FY 2014
Title: Surface Tactical Team Trainer (STTT)	23.376	12.596	11.000
Articles:	0	0	0
FY 2012 Accomplishments:			
Completed development and started testing & certification of BFTT 3.5.1. Started development of BFTT Build 5.0 (CVN 78 & Aegis 9B with back fit to various ships)to provide Dual Band Radar interface, Corporative Engagement Capability Training Adjunct replacement along with AN/SPY-1 & AEGIS Combat Training System (ACTS) improvements allows Engage On Remote Training capability supporting NIFC-CA requirements, allows HLA path from NCTE to SQQ-89 for ASW training and SLQ-32 for Electronic Warfare (EW) training, database and modeling improvements along with IA improvements & supportability investments.			
FY 2013 Plans:			
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:			
Certify and field BFTT Build 5.0. Start development of Build 6.0. Begin AEGIS Intergrated Training: Develop Hawklink 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			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
simulation/stimulation interfaces to the common data link and provide simulated EW, ASW and Radar contacts, as seen from a simulated ASW Air Asset. Develop interface and user documentation 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.			
Begin Ship Self Defense System (SSDS) Intergrated Training: Develop a common service to generate synthetic to Combat System Track correlation. Publish validation failures, association messages and operational status. Develop modifications to enhance user situational awareness of training and operational system status. Develop an Air Asset training simulation/ stimulation capability that provides simulated remote EW, ASW and Radar contacts. Develop training interface into UPX-24. Process simulated modes 1, 2, 3, 4, 5, C&S. Includes documentation, testing, safety and Information Assurance compliance and Combat System Certification. Includes documentation, HMI changes, testing, safety and Information Assurance compliance and Combat System Certification.			
Accomplishments/Planned Programs Subtotals	23.376	12.596	11.000

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPN 276200: <i>(Surface BFTT/ TSTC portion only)</i>	24.142	36.639	35.916		35.916	41.313	37.090	38.947	38.079	0.000	296.409

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>
NSWC Dahlgren: Number of Test events completed. Training system interface problem resolutions documented. Safety Reviews in direct support of Element Certification.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Hardware Development	WR	NSWC Dam Neck: Dam Neck	11.926	1.110	Feb 2012	2.264	Feb 2013	1.600	Dec 2013	-		1.600	Continuing	Continuing	Continuing
Systems Engineering	WR	SEA02/NSWC Dam Neck/NSWC Dahlgren/NAVSEA 02:NAVSEA/ Dam Neck/NSWC Dahlgren	7.377	4.594	Feb 2012	2.329	Feb 2013	1.300	Dec 2013	-		1.300	0.000	15.600	
Subtotal			19.303	5.704		4.593		2.900		0.000		2.900			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	WR	NSWC Dam Neck/ NAVSEA 02:WR/ REQN	9.794	13.553	Feb 2012	5.025	Mar 2013	5.100	Dec 2013	-		5.100	0.000	33.472	
Subtotal			9.794	13.553		5.025		5.100		0.000		5.100	0.000	33.472	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	WR	NSWC PHD/NSWC Dam Neck/NAVSEA 02:WR/REQN	3.162	2.697	Feb 2012	1.495	Feb 2013	1.650	Dec 2013	-		1.650	0.000	9.004	
Subtotal			3.162	2.697		1.495		1.650		0.000		1.650	0.000	9.004	

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>
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Proj 1427	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
3.5.1 TRR ▲			3.5.1 CPR ACB 12 ▲		3.5.1 Cert LSD ▲	3.5.1 Initial Install CG59 ▲	3.5.1 Cert ACB 12 ▲																					
5.0 PDR/CDR 1A/SRR/SFR 1B ▲	5.0 PDR 1B ▲																											
	5.0 SRR/SFR 2 ▲	5.0 CDR 1B ▲																										
		5.0 PDR 2 ▲		5.0 CDR 2 ▲				5.0 TRR 1 ▲		6.0 SRR/SFR ▲	6.0 SFR ▲	5.0 CPR CVN 78 ▲				5.0 Cert 1 CVN 78 ▲	5.0 Initial Install CG54 ▲											
												6.0 PDR ▲				6.0 CDR ▲							6.0 TRR ▲	6.0 Cert SSDS ▲				
																								6.0 Cert AEGIS ▲				

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1427				
BFTT 3.5.1 TRR	1	2012	1	2012
BFTT 3.5.1 CPR ACB 12	3	2012	3	2012
BFTT 3.5.1 Certification LSD	1	2013	1	2013
BFTT 3.5.1 Intial Install CG59	2	2013	2	2013
BFTT 3.5.1 Certification ACB12	4	2013	4	2013
BFTT 5.0 PDR/CDR 1A/SRR/SFR 1B	1	2012	1	2012
BFTT 5.0 PDR 1B	2	2012	2	2012
BFTT 5.0 SRR/SFR 2	2	2012	2	2012
BFTT 5.0 CDR 1B	3	2012	3	2012
BFTT 5.0 PDR 2	3	2012	3	2012
BFTT 5.0 CDR 2	1	2013	1	2013
BFTT 5.0 TRR 1	4	2013	4	2013
BFTT 5.0 CPR CVN 78	1	2015	1	2015
BFTT 5.0 Certification 1 CVN 78	2	2016	2	2016
BFTT 5.0 Certification Intial Install CG54	4	2016	4	2016
BFTT 6.0 SRR	2	2014	2	2014
BFTT 6.0 SFR	3	2014	3	2014
BFTT 6.0 PDR	1	2015	1	2015
BFTT 6.0 CDR	1	2016	1	2016
BFTT 6.0 TRR	2	2017	2	2017
BFTT 6.0 Certification for SSDS	3	2017	3	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
BFTT 6.0 Certification for AEGIS	1	2018	1	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2124: <i>Air Warfare Training</i>	25.968	1.821	1.640	1.595	-	1.595	1.620	1.639	1.684	1.712	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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), F/A-18C-F Requirements Procurement Plan (RPP), 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 Assembly (HLA) compliant, high fidelity Distributed Mission Training (DMT) and mission rehearsal capabilities ashore and afloat. Technologies to be developed and integrated include: intelligent semi-automated forces 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), 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, 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 Common Architecture (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% following 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 2012	FY 2013	FY 2014
Title: HUMAN/INSTRUCTIONAL SYSTEMS INTEGRATION	0.702	0.515	0.516
Articles:	0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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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 common instructor interface effectiveness and provide for multi-SAF exercise utilization. Analyze, develop, and integrate common architecture components for F/A-18C-F, MH-60R/S, 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 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 2012 Accomplishments:
 Provided modular Mission Training System (MTS) designs for P8-A, ROBD-SD, E-2C and Common Simulation Products (CSP) IPT's to lower NASMP/Platform simulator upgrade life-cycle costs. Completed common instructor debrief interface for improved effectiveness and provide for multi-SAF exercise utilization. Initiated first phase of Post-Mission Assessment for Tactical Training (PMATT). Continued to analyze, develop, and integrate common architecture components for FA-18C-F, MH-60R/S, UAS, E-2C/D & USMC mission areas, intelligent instructor operator components, TACAIR/MMA/ROBD-SD common graphic user interface initiatives, common L-V-C capable threat system formats and Next Generation Threat System (NGTS) connectivity, Joint SAF compatability, performance measurement, and after action review/ debrief and assessment technologies, thereby maximizing return on investment for MTS-related investments.

FY 2013 Plans:
 Provide for ongoing modular MTS designs to lower Navy Aviation Simulation Master Plan (NASMP) upgrade and simulator upgrade life-cycle II costs, integrate Voice-Capable Semi-Automated-Forces (SAF) component technologies, improve P-8A and Unmanned Aerial System (UAS) common instructor interface effectiveness, PMATT phase 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, 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:

	FY 2012	FY 2013	FY 2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2012
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 station, debrief visualization, and Live Virtual Constructive (LVC) technology transition.			FY 2013
Title: SENSORS AND ENVIRONMENT			FY 2014
Articles:			0.494
			0
			0.450
			0
Description: Develop common and platform unique sensor visual, and environmental simulation (atmospherics on 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 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 Initiative (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) 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.			0.400
FY 2012 Accomplishments: Continued to integrate common and platform-specific sensors/ Government Off The Shelf (GOTS) implementations. Performed risk reduction, advanced displays Test & Evaluation (T&E), integration and production of Inter-service Common Sensor Model (ICSM) for Navy DMT and legacy devices. Demonstrated ICSM, SERE GOTS capability for cost-effective environmental effects database modeling materialization, F/A-18 training device integration/demonstration, and develop associated NPSI common specifications/processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs (Unmanned Aerial Systems (UAS) series) in accordance with platform and NASMP priorities. Developed texture storage, weather and sensor-environmental effects, environment NPSI common material reference processes/standards, and automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects and very high-resolution sensor visualization for simulator, or tablet-based applications.			0
FY 2013 Plans: Continue to integrate common and platform unique real-time sensor simulation with GOTS implementations. Perform risk reduction, advanced displays T&E, integration and production of ICSM for UAS, Navy DMT and legacy devices. Demonstrate SERE GOTS capability for cost-effective environmental effects database materialization, and develop associated NPSI specifications and processes for implementation on DMT, deployed mission readiness trainers, legacy, and new visual system			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>upgrade programs in accordance with NASMP priorities. Develop 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.</p> <p>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 technology development for Common Control Station (CCS), and other platform UAS specific applications.</p>				
<p>Title: SYSTEM ENGINEERING & INTEGRATION</p> <p>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, TACAIR, and maritime/Anit-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 Constructive (LVC) Government Off The Shelf (GOTS)/ Commercial Off The Shelf (COTS) technologies, and alternatives for network centric warfare compliance connectivity 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.</p> <p>FY 2012 Accomplishments: Integrated and provided TRL component assessments for F/A-18, GT and Tactical Aircraft (TACAIR) Maritime platforms to improve fidelity, and training effectiveness. Tested deployable readiness and mission preview/rehersal system technologies into fleet training devices. Provided GOTS component TRL assessment for General Training, intelligent synthetic forces, tactical debrief Graphical User Interface (GUIs), performance measurement and tactical scenario-control technologies. Provided early stage LVC technology test and assessment configurations in partnership with Office of Naval Research (ONR) Enabling Capability (EC) developments for both LVC and Unmanned Aerial Systems (UAS) training technology prototype efforts.</p> <p>FY 2014 Plans:</p>		<p>0.300</p> <p>Articles: 0</p>	<p>0.000</p>	<p>0.250</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>		PROJECT 2124: <i>Air Warfare Training</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue to provide training system component-level technology assessments for: (1) TRL maturation, TRL assessment, (2) platform applicability (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.				
Title: LIVE VIRTUAL CONSTRUCTIVE (LVC) AND VISUALS				
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 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).				
FY 2012 Accomplishments: Supported technology (platform and common) development for LVC, visualization, and integrated UAS distributed training capabilities. Supported NASMP and USMC/Navy LVC efforts to include both platform unique, or multi-platform common technology applications for T&R achievement or mission preview.				
FY 2013 Plans: 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.				
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.				
Articles:		0.325	0.675	0.429
		0	0	0
Accomplishments/Planned Programs Subtotals		1.821	1.640	1.595

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/0705: <i>COMMON GROUND EQUIPMENT - TRAINING</i>	152.186	162.371	181.768		181.768	230.904	167.798	206.111	209.560	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) and 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, 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.

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	WR	NAWC-TSD:ORLANDO, FL	15.689	0.357	Nov 2011	0.364	Nov 2012	0.523	Nov 2013	-		0.523	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWC-AD:PAX RIVER, MD	1.136	0.008	Nov 2011	0.200	Nov 2012	0.250	Nov 2013	-		0.250	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	APTIMA:ORLANDO, FL	0.250	0.288	Feb 2012	0.594	Mar 2013	0.104	Mar 2014	-		0.104	0.000	1.236	1.236
Systems Engineering	C/CPFF	RSC INC.:ORLANDO, FL	0.000	0.174	Mar 2012	0.300	Mar 2013	0.300	Mar 2014	-		0.300	0.000	0.774	0.774
Systems Engineering	FFRDC	SANDIA, NATIONAL LAB:ALBUQUERQUE, NM	0.000	0.050	Feb 2012	0.000		0.100	Mar 2014	-		0.100	0.000	0.150	0.150
Systems Engineering	C/CPFF	ENGILITY INC.:ORLANDO, FL	0.000	0.200	Nov 2012	0.000		0.000		-		0.000	0.000	0.200	
Systems Engineering	WR	NPS:MONTEREY, CA	0.300	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			17.375	1.077		1.458		1.277		0.000		1.277			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Support No Longer Funded in the Budget or Out Years (Support Equipment Development)	Various	Various:Various	1.753	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			1.753	0.000		0.000		0.000		0.000		0.000			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (Sys Eng & Test)	WR	NAWC AD:PAX RIVER, MD	5.868	0.300	Nov 2011	0.000		0.200	Nov 2013	-		0.200	Continuing	Continuing	Continuing
Subtotal			5.868	0.300		0.000		0.200		0.000		0.200			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C/CPFF	METI CORP:PAX RIVER, MD	0.491	0.216	Dec 2011	0.167	Nov 2012	0.103	Dec 2013	-		0.103	0.000	0.977	0.977
Program Management Support	C/CPFF	L-3 CORP:RIDGECREST, CA	0.000	0.209	Jun 2012	0.000		0.000		-		0.000	0.000	0.209	0.209
Program Management Support	WR	NAWC AD:PAX RIVER, MD	0.000	0.003	Jul 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Travel	PO	NAVAIR:PAX RIVER, MD	0.481	0.016	Dec 2011	0.015	Nov 2012	0.015	Dec 2013	-		0.015	Continuing	Continuing	Continuing
Subtotal			0.972	0.444		0.182		0.118		0.000		0.118			

Remarks
PO used for travel orders.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		25.968	1.821	1.640	1.595	0.000	1.595		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Human/Instructional Systems Integration																												
Acquisition Milestones																												
Systems Development	Common MTS/TACSAF Technology Development																											
	DMRT/Class Debrief & APAARS																											
	Hypoxia/Spatial Disorientation Technology (Fixed/Rotary)																											
	TRACE																											
Test & Evaluation																												
Production Milestones																												
				FIXED WING HYPOXIA, 1ST ARTICLE ▼			DMRT-CLASS DEBRIEF & APAARS ▼			TACT AIR MTS ▼			P-3C MTS ▼			ROTARY WING HYPOXIA/SPATIAL DISORIENTATION ▼												
																P-8A MTS ▼												

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Live Virtual Constructive (LVC) and Visuals																																
Acquistion Milestones																																
Systems Development																																
	Live												Virtual/Visuals												Constructive				Integrated LVC			
Test & Evaluation																																
Production Milestones																																
	NASMP/TACTAIR UPGRADE ▼				TACTICAL PTT DEMO ▼				SYMBOLIGY SET ▼				MOBILITY PTT ▼				LVC DATALINK ▼				VIRTUAL/CONSTRUCTIVE MISSION REHERSAL ▼				LVC PERSISTANT CAPABILITY DEMO ▼							
	TACSAF DEMO 1 ▼								CNATRA PTT ▼								TACSAF DEMO 2 ▼								TACSAF MISSION REHERSAL ▼							

2014PB - 0204571N - 2124

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Human/Instructional Systems Integration</i>				
Systems Development: Common MTS/TACSAF Technology Development	1	2012	4	2018
Systems Development: DMRT/Class Debrief & APAARS	1	2012	2	2013
Systems Development: Hypoxia/Spatial Disorientation Technology (Fixed/Rotary)	1	2012	4	2015
Systems Development: Training Common Architecture (TRACE)	4	2012	4	2014
Production Milestones: DMRT-CLASS DEBRIEF & APAARS, 1ST ARTICLE	2	2013	2	2013
Production Milestones: FIXED WING HYPOXIA, 1ST ARTICLE	4	2012	4	2012
Production Milestones: ROTARY WING HYPOXIA/SPATIAL DISORIENTATION (SD)	4	2015	4	2015
Production Milestones: TACT AIR MTS	4	2013	4	2013
Production Milestones: P-3C MTS/PMATT	4	2014	4	2014
Production Milestones: P-8A MTS/PMATT	4	2015	4	2015
Production Milestones: UAS MTS	4	2016	4	2016
Production Milestones: LVC MTS	4	2017	4	2017
Production Milestones: UAS/2 MTS	4	2018	4	2018
<i>Sensors and Environment</i>				
Systems Development: Common/Platform Sensors AND ENVIRONMENT MODELS	1	2012	4	2018
Systems Development: Weather	1	2012	4	2013
Systems Development: COMMS/EW	1	2013	4	2018
Production Milestones: SERE	1	2012	1	2012
Production Milestones: REAL-TIME ATMOSPHERICS	4	2013	4	2013
Production Milestones: IDS4	4	2013	4	2013
Production Milestones: UAS/LVC	4	2016	4	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: FUSED SENSORS UAS	4	2017	4	2017
Production Milestones: COMMS/EW	4	2018	4	2018
Systems Engineering and Integration				
Systems Development: TACAIR HYPOXIA	1	2012	4	2012
Systems Development: EDRT/APAARS	1	2012	4	2012
Systems Development: UAS COMMON MTS COMPONENTS	1	2014	4	2014
Production Milestones: F/A-18 ROBD-SD	4	2012	4	2012
Production Milestones: DMRT/EDRT	4	2012	4	2012
Production Milestones: UAS COMMON MTS COMPONENTS	4	2014	4	2014
Live Virtual Constructive (LVC) and Visuals				
Systems Development: Live	1	2012	4	2016
Systems Development: Virtual/Visuals	1	2012	4	2017
Systems Development: Constructive	1	2012	4	2017
Systems Development: Integrated LVC	1	2014	4	2018
Production Milestones: SYMBOLIGY SET	4	2014	4	2014
Production Milestones: LVC DATALINK	4	2016	4	2016
Production Milestones: TACTICAL PTT DEMO	4	2013	4	2013
Production Milestones: NASMP/TACTAIR UPGRADE	4	2012	4	2012
Production Milestones: MOBILITY PTT	4	2015	4	2015
Production Milestones: CNATRA PTT	4	2015	4	2015
Production Milestones: VIRTUAL/CONSTRUCTIVE MISSION REHERSAL	4	2017	4	2017
Production Milestones: TACSAF DEMO 1	4	2014	4	2014
Production Milestones: TACSAF DEMO 2	4	2016	4	2016
Production Milestones: TACSAF MISSION REHERSAL	4	2017	4	2017
Production Milestones: LVC PERSISTANT CAPABILITY DEMO	4	2018	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3093: <i>TACTS/LATR Replacement</i>	49.846	6.311	2.511	19.532	-	19.532	16.900	21.570	4.958	4.609	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 weapons system stimulation, open architecture and an encrypted/long range secure data link.

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

	FY 2012	FY 2013	FY 2014
Title: TACTS/LATR REPLACEMENT	6.311	2.511	19.532
Articles:	0	0	0
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 Architecture (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 2012 Accomplishments: Completed acquisition activities for encryption development contract. Conducted Material Development Decision, Technical Readiness Assessment and developed cost estimates.			
FY 2013 Plans: Prepare Request for Proposal, Milestone B Review and conduct Pre-Engineering Manufacturing Development Model phase activities.			
FY 2014 Plans: Milestone B approval. Begin encryption integration activities into TCTS and conduct integration Systems Requirements Review (SRR).			
Accomplishments/Planned Programs Subtotals	6.311	2.511	19.532

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>			<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• OPN/4204: <i>Weapons Range Support Equipment (WRSE)/TCTS</i>	4.556	4.681	4.269		4.269	4.383	4.494	4.610	4.698	Continuing	Continuing
• APN/0725: <i>Other Production Charges/Tactical Combat Training System (TCTS)</i>	10.124	3.399	5.268		5.268	5.815	3.640	20.797	21.573	Continuing	Continuing

Remarks

D. Acquisition Strategy

Tactical Combat Training System (TCTS) will employ an evolutionary incremental acquisition strategy from base systems and provide for the development of the system to meet the full Operational Requirements Document requirements. TCTS increment one is a cooperative program with the United States Air Force (USAF) P5 Combat Training System program.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Prod Dev No Longer Funded in the Budget or Out Years (Hardware Development)	Various	Various:Various	10.901	0.000		0.000		0.000		-		0.000	0.000	10.901	10.901
Subtotal			10.901	0.000		0.000		0.000		0.000		0.000	0.000	10.901	10.901

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	TBD	TBD:TBD	0.000	0.000		0.000		15.224	Apr 2014	-		15.224	0.000	15.224	
Systems Integration	C/CPFF	TYBRIN:CHINA LAKE, CA	0.000	1.222	Aug 2012	0.000		0.000		-		0.000	0.000	1.222	1.222
Systems Integration	WR	NSWC-DL:DAHLGREN, VA	0.000	0.089	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Support No Longer Funded in the Budget or Out Years (Software Development)	Various	Various:Various	23.857	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			23.857	1.311		0.000		15.224		0.000		15.224			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Operational Test & Evaluation	WR	OPER T&E:NORFOLK, VA	0.043	0.000		0.030	Nov 2012	0.020	Nov 2013	-		0.020	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NAWC-AD:PAX RIVER, MD	0.300	0.251	Nov 2011	0.220	Nov 2012	0.660	Nov 2013	-		0.660	Continuing	Continuing	Continuing
Prior Year T&E No Longer Funded in the Budget or	Various	Various:Various	3.382	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Out Years (Developmental Test & Evaluation)															
Subtotal			3.725	0.251		0.250		0.680		0.000		0.680			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	C/CPFF	TYBRIN:CHINA LAKE, CA	2.675	1.603	Nov 2011	0.795	Nov 2012	0.680	Nov 2013	-		0.680	0.000	5.753	5.753
Government Engineering Support	WR	NAWC-WD:CHINA LAKE, CA	0.150	0.284	Nov 2011	0.548	Nov 2012	0.310	Nov 2013	-		0.310	Continuing	Continuing	Continuing
Government Engineering Support	WR	NAWC-AD:PAX RIVER, MD	1.502	2.837	Nov 2011	0.875	Nov 2012	2.615	Nov 2013	-		2.615	Continuing	Continuing	Continuing
Travel	PO	NAVAIR:PAX RIVER, MD	0.028	0.025	Nov 2011	0.043	Nov 2012	0.023	Nov 2013	-		0.023	Continuing	Continuing	Continuing
Prior Year Mgmt No Longer Funded in the Budget or Out Years (Contractor Engineering Support)	Various	Various:Various	7.008	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			11.363	4.749		2.261		3.628		0.000		3.628			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		49.846	6.311	2.511	19.532	0.000		19.532	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>
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TACTS/LATR Replacement	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Systems Development																												
	Increment 2 Encrypted Datalink Capability																											
Test & Evaluation																												
Production Milestones																												
	Increment 1 NDI - Transportable (GS, AS)																											
NDI - Transportable (GS, AS)																												

2014PB - 0204571N - 3093

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>TACTS/LATR Replacement</i>				
Acquisition Milestones: Encryption MS B	3	2014	3	2014
Acquisition Milestones: Encryption MS C	3	2017	3	2017
Systems Development: Increment 2 Encrypted Datalink Capability	1	2012	4	2018
Production Milestones: Increment 1 - NDI - Transportable (GS, AS)	1	2012	4	2012
Production Milestones: Increment 2 Encrypted Datalink Capability	3	2017	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3356: <i>High Fidelity Surface Trainers</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3356: <i>High Fidelity Surface Trainers</i>	0.000	0.000	0.000	9.537	-	9.537	6.924	7.714	2.492	0.000	0.000	26.667
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Integrated Air and Missile Defense (IAMD) trainer to enable advanced warfare training (AWT) Phase II objectives to be accomplished ashore. This line also provides funds for development of a High Fidelity Anti-Submarine Warfare (ASW) synthetic trainer 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.

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

	FY 2012	FY 2013	FY 2014
Title: IAMD Shore Tactical Trainer <div style="text-align: right;">Articles:</div>	0.000	0.000	7.570 0
FY 2014 Plans: Develop a high fidelity AEGIS IAMD Shore Based Trainer (SBT), research and define 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 Responses (PPRs) against advanced threats in a realistic environment.			
Title: ASW Shore Tactical Trainer <div style="text-align: right;">Articles:</div>	0.000	0.000	1.967 0
FY 2014 Plans: Develop a high fidelity ASW SBT, research and define interface messages for use with the Submarine Multimission Team Trainer (SMMTT)/Surface Anti-Submarine Warfare Synthetic Trainer (SAST) HLA interface specification and research and define hardware that maximizes the benefits of COTS equipment and reuse of tactical software components.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	9.537

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3356: <i>High Fidelity Surface Trainers</i>
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C. Other Program Funding Summary (\$ in Millions)

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 1.7 and 1.8

E. Performance Metrics

NSWC Dahlgren: Approved IAMD SBT Engineering Development Model (EDM). Successful engineering development model 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.

NSWC Carderock: Approved ASW SBT EDM. 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.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3356: <i>High Fidelity Surface Trainers</i>
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Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
	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
Software Development - IAMD Shore Tactical Trainer									▲			San Diego				Yoko				Pearl Harbor				Norfolk				
Software Development - ASW Shore Tactical Trainer									▲			EDM				Norfolk	San Diego	Mayport	Pearl Harbor	Yoko				Everett				

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3356: <i>High Fidelity Surface Trainers</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3356				
Software Development - IAMD Shore Tactical Trainer	1	2014	4	2017
Software Development - ASW Shore Tactical Trainer	1	2014	2	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	12.367	1.447	1.756	2.703	-	2.703	2.761	2.813	2.867	2.916	Continuing	Continuing
3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>	12.367	1.447	1.756	2.703	-	2.703	2.761	2.813	2.867	2.916	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	1.447	1.756	1.792	-	1.792
Current President's Budget	1.447	1.756	2.703	-	2.703
Total Adjustments	0.000	0.000	0.911	-	0.911
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	0.920	-	0.920
• Rate/Misc Adjustments	0.000	0.000	-0.009	-	-0.009

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>	12.367	1.447	1.756	2.703	-	2.703	2.761	2.813	2.867	2.916	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 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)-21 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.

FY14 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. FY14 funding increase will support development of improved system baselines for 18 DDG Flight 1 platforms, these ships have no permanent system and depend on Carry On systems for cryptologic operations.

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

	FY 2012	FY 2013	FY 2014
Title: Advanced Cryptological Sys Eng (CCOP)	1.447	1.756	2.703
Articles:	0	0	0
FY 2012 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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 2013 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 continue to develop upgrades to existing systems and subsystems according to Fleet requirements. FY 2014 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. Additional funds will aid in the development of new SOI algorithms in support of cryptologic systems.			
Accomplishments/Planned Programs Subtotals	1.447	1.756	2.703

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN / 3501: <i>Cryptologic Communications Equipment</i>	10.173	10.112	10.716		10.716	10.871	11.066	11.282	11.474	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 241 CCOP systems in inventory.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	Various	Various:Various	6.109	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Software Development	C/CPFF	Classified Contract:Classified Contract	1.069	0.517	Feb 2012	0.674	Dec 2012	1.032	Dec 2013	-		1.032	Continuing	Continuing	Continuing
Software Development	WR	SSC PAC:San Diego, CA	0.650	0.340	Jan 2012	0.407	Nov 2012	0.659	Nov 2013	-		0.659	Continuing	Continuing	Continuing
Software Development	WR	SSC LANT:Charleston, SC	0.345	0.180	Jan 2012	0.223	Nov 2012	0.375	Nov 2013	-		0.375	Continuing	Continuing	Continuing
Subtotal			8.173	1.037		1.304		2.066		0.000		2.066			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	Various	Various:Various	1.915	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	Classified Contract:Classified Contract	0.427	0.230	Feb 2012	0.260	Dec 2012	0.402	Dec 2013	-		0.402	Continuing	Continuing	Continuing
Subtotal			2.342	0.230		0.260		0.402		0.000		0.402			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	Various	Various:Various	0.333	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NPGS:Monterey, CA	0.054	0.050	Feb 2012	0.055	Apr 2013	0.055	Nov 2013	-		0.055	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	OPTEVFOR:Norfolk, VA	0.012	0.030	Feb 2012	0.037	Apr 2013	0.060	Dec 2013	-		0.060	Continuing	Continuing	Continuing

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0204574N: *Cryptologic Direct Support*

PROJECT

3091: *Advanced Cryptological Sys Eng (CCOP)*

Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
	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
Prototype Phase	[Redacted]				[]				[]				[]				[]				[]				[]			
System Development	▲ SDR				△ SDR																							
Software Delivery			▲				△				△				△				△				△				△	
T&E Milestones	OA		OA				OA																					
Operational Assessment		▲					△				△				△				△				△				△	

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3091				
Prototype Phase - 2012	1	2012	4	2012
Prototype Phase - 2013	1	2013	4	2013
Prototype Phase - 2014	1	2014	4	2014
Prototype Phase - 2015	1	2015	4	2015
Prototype Phase - 2016	1	2016	4	2016
Prototype Phase - 2017	1	2017	4	2017
Prototype Phase - 2018	1	2018	4	2018
System Design Review (SDR) - 2012	2	2012	2	2012
System Design Review (SDR) - 2013	2	2013	2	2013
System Design Review (SDR) - 2014	2	2014	2	2014
System Design Review (SDR) - 2015	2	2015	2	2015
System Design Review (SDR) - 2016	2	2016	2	2016
System Design Review (SDR) - 2017	2	2017	2	2017
System Design Review (SDR) - 2018	2	2018	2	2018
Software Delivery - 2012	3	2012	4	2012
Software Delivery - 2013	3	2013	4	2013
Software Delivery - 2014	3	2014	4	2014
Software Delivery - 2015	3	2015	4	2015
Software Delivery - 2016	3	2016	4	2016
Software Delivery - 2017	3	2017	4	2017
Software Delivery - 2018	3	2018	4	2018

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Operational Assessment (OA) - 2012	3	2012	3	2012
Operational Assessment (OA) - 2013	4	2013	4	2013
Operational Assessment (OA) - 2014	4	2014	4	2014
Operational Assessment (OA) - 2015	4	2015	4	2015
Operational Assessment (OA) - 2016	4	2016	4	2016
Operational Assessment (OA) - 2017	4	2017	4	2017
Operational Assessment (OA) - 2018	4	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	199.562	17.686	19.843	19.563	-	19.563	31.320	39.710	42.336	46.545	Continuing	Continuing
2263: <i>Information Warfare System</i>	199.562	17.686	19.843	19.563	-	19.563	31.320	39.710	42.336	46.545	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	18.142	19.843	14.397	-	14.397
Current President's Budget	17.686	19.843	19.563	-	19.563
Total Adjustments	-0.456	0.000	5.166	-	5.166
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.456	0.000			
• Program Adjustments	0.000	0.000	0.689	-	0.689
• Rate/Misc Adjustments	0.000	0.000	4.477	-	4.477

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2263: <i>Information Warfare System</i>	199.562	17.686	19.843	19.563	-	19.563	31.320	39.710	42.336	46.545	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Office of the Chief of Naval Operations N2/N6 sponsored 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 2012	FY 2013	FY 2014
Title: Electronic Warfare / Information Operations (IO) Countermeasure Capability Research & Development	4.631	4.523	4.086
Articles:	0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>		PROJECT 2263: <i>Information Warfare System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>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.</p> <p>FY 2012 Accomplishments:</p> <ul style="list-style-type: none"> * Continued Modeling and Simulation Lab (Applied/projected level of effort) * Continued IW/IO EA and cyber capability development (Details held at higher classification level) * Continued Waveform Weapon Development <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> * Continue Modeling and Simulation Lab (Applied/projected level of effort) * Continue Information Warfare/Information Operations (IW/IO) EA capability development (Details held at higher classification level) <p>FY 2014 Plans:</p> <ul style="list-style-type: none"> * 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. 				
<p>Title: Electronic Warfare Readiness/MCS-21 Systems Development</p> <p align="right">Articles:</p>		3.546 0	4.992 0	0.637 0
<p>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).</p> <p>FY 2012 Accomplishments:</p> <ul style="list-style-type: none"> * Continued IW/IO EA capability development & integration (Details held at higher classification level) <p>FY 2013 Plans:</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>		PROJECT 2263: <i>Information Warfare System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
*Continue 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). * 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		6.386	6.588	5.696
		Articles: 0	0	0
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 2012 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 2013 Plans: * Continue Technical and intelligence related studies and contractor engineering, technical and management capabilities. * Continue 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).				
Title: Electronic Warfare/Computer Network Operations		3.123	3.740	9.144
		Articles: 0	0	0
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)				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i></p> <ul style="list-style-type: none"> * 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) <p><i>FY 2013 Plans:</i></p> <ul style="list-style-type: none"> * Continue Research and Development at the Integrated Testing Facility * Continue Computer Network Attack Capabilities Development (Details held at higher classification level) * Continue Demonstration of Advanced Computer Network Operations Concept (Details held at higher classification level) <p><i>FY 2014 Plans:</i></p> <ul style="list-style-type: none"> *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	17.686	19.843	19.563

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	
• RDTEN/0604270N/1742: <i>Electronic Warfare Technical Development</i>	1.739	1.702	1.352		1.352	1.652	1.642	1.665	1.596	Continuing	Continuing

Remarks

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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
<p>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.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	Various	Classified-1:Classified	20.728	1.000	Oct 2011	1.400	Oct 2012	4.783	Oct 2013	-		4.783	Continuing	Continuing	Continuing
System Engineering	SS/CPFF	Applied Research Laboratory:University Park, PA	1.070	0.365	Jan 2012	0.500	Nov 2012	0.500	Nov 2013	-		0.500	0.000	2.435	
Ancillary Hardware Development	Various	Classified-2:Classified	12.375	0.000		0.000		0.000		-		0.000	0.000	12.375	
Systems Engineering	SS/CPFF	ARGON:Fairfax, VA	3.865	0.000		0.000		0.000		-		0.000	0.000	3.865	
Systems Engineering	WR	NRL:Washington, DC	3.395	0.392	Oct 2011	0.392	Oct 2012	0.850	Oct 2013	-		0.850	0.000	5.029	
Subtotal			41.433	1.757		2.292		6.133		0.000		6.133			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support	SS/CPFF	ARGON-1:Fairfax, VA	11.428	1.346	Dec 2011	1.450	Oct 2012	0.250	Oct 2013	-		0.250	0.000	14.474	
Software Development	SS/CPFF	L3 Communications:New York, NY	64.682	0.550	Dec 2011	0.550	Dec 2012	0.333	Dec 2013	-		0.333	0.000	66.115	
Development Support	WR	SSC PAC:San Diego, VA	0.000	0.000		0.000		0.368	Oct 2013	-		0.368	0.000	0.368	
Software Development	SS/CPFF	ARGON-2:Fairfax, VA	0.000	0.000		0.000		0.834	Nov 2013	-		0.834	0.000	0.834	
Development Support	WR	NRL-1:Washington, DC	1.060	0.550	Nov 2011	0.550	Nov 2012	0.620	Nov 2013	-		0.620	0.000	2.780	
Development Support	Various	Classified-1:Classified	9.892	0.607	Nov 2011	0.611	Nov 2012	3.033	Nov 2013	-		3.033	0.000	14.143	
Studies & Analysis	WR	NRL-2:Washington, DC	0.000	0.000		0.000		1.654	Oct 2013	-		1.654	0.000	1.654	
Software Development	SS/CPFF	ARL:University Park, PA	3.100	0.400	Nov 2011	0.400	Nov 2012	0.250	Nov 2013	-		0.250	0.000	4.150	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	SS/CPFF	ARGON-3:Fairfax, VA	14.958	1.833	Nov 2011	3.051	Nov 2012	0.000		-		0.000	0.000	19.842	
Software Development	WR	NRL-3:Washington, DC	1.945	0.000		0.000		0.000		-		0.000	0.000	1.945	
Software Development	Various	Classified-2:Classified	21.265	4.153	Oct 2011	3.321	Oct 2012	4.209	Oct 2013	-		4.209	0.000	32.948	
Research, Studies and Vulnerability	WR	NRL-4:Washington, DC	13.214	1.654	Oct 2011	1.546	Oct 2012	0.000		-		0.000	0.000	16.414	
Development Support	WR	SSC PAC:San Diego, CA	2.441	1.111	Oct 2011	2.147	Oct 2012	0.000		-		0.000	0.000	5.699	
Development Support	C/BA	NSWC:Philadelphia, PA	1.829	1.400	Oct 2011	1.400	Oct 2012	0.000		-		0.000	0.000	4.629	
Subtotal			145.814	13.604		15.026		11.551		0.000		11.551	0.000	185.995	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	WR	NAWC:China Lake, CA	5.402	0.100	Dec 2011	0.100	Dec 2012	0.440	Oct 2013	-		0.440	0.000	6.042	
Subtotal			5.402	0.100		0.100		0.440		0.000		0.440	0.000	6.042	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Engineering and Program Management	Various	Classified-1:Classified	5.121	1.000	Nov 2011	1.000	Nov 2012	0.000		-		0.000	0.000	7.121	
Acquisition Workforce Fund 2009	Various	Various:Various	0.117	0.000		0.000		0.000		-		0.000	0.000	0.117	
Program Management Support	Various	Classified-2:Classified	0.000	0.000		0.000		0.530	Nov 2013	-		0.530	0.000	0.530	

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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Information Warfare System	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Development Work																												
Waveforms			▲ FIOC Del.			▲ FIOC Del.					▲				▲				▲					▲				▲
Unique Access																												
TESTING																												
Prototypes	▲						▲					▲			▲				▲					▲				
MCS-21 Integration																												
DELIVERIES																												
IO Capabilities	Modeling and Simulation Lab											▲				▲				▲				▲				▲
CNO Capabilities																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Information Warfare System				
Development Work: Waveforms: 1-Waveforms	3	2012	3	2012
Development Work: Waveforms: 2-Waveforms	2	2013	2	2013
Development Work: Waveforms: 3-Waveforms	4	2014	4	2014
Development Work: Waveforms: 4-Waveforms	4	2015	4	2015
Development Work: Waveforms: 5-Waveforms	4	2016	4	2016
Development Work: Waveforms: 6-Waveforms	4	2017	4	2017
Development Work: Waveforms: 7-Waveforms	4	2018	4	2018
Development Work: Unique Access: 1-Unique Access	1	2014	4	2014
Development Work: Unique Access: 2-Unique Access	3	2015	2	2016
Development Work: Unique Access: 3-Unique Access	1	2017	4	2017
Development Work: Unique Access: 4-Unique Access	2	2018	3	2018
TESTING: Prototypes: 1-Prototypes	1	2012	1	2012
TESTING: Prototypes: 2-Prototypes	3	2013	3	2013
TESTING: Prototypes: 3-Prototypes	3	2014	3	2014
TESTING: Prototypes: 4-Prototypes	2	2015	2	2015
TESTING: Prototypes: 5-Prototypes	4	2015	4	2015
TESTING: Prototypes: 6-Prototypes	4	2016	4	2016
TESTING: Prototypes: 7-Prototypes	4	2017	4	2017
TESTING: MCS-21 Integration: 1-MCS-21 Integration	2	2014	3	2014
TESTING: MCS-21 Integration: 2-MCS-21 Integration	2	2015	3	2015
TESTING: MCS-21 Integration: 3-MCS-21 Integration	2	2016	3	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TESTING: MCS-21 Integration: 4-MCS-21 Integration	2	2017	3	2017
TESTING: MCS-21 Integration: 5-MCS-21 Integration	2	2018	3	2018
DELIVERIES: IO Capabilities: 1-IO Capabilities	1	2012	4	2013
DELIVERIES: IO Capabilities: 2-IO Capabilities	4	2014	4	2014
DELIVERIES: IO Capabilities: 3-IO Capabilities	4	2015	4	2015
DELIVERIES: IO Capabilities: 4-IO Capabilities	4	2016	4	2016
DELIVERIES: IO Capabilities: 5-IO Capabilities	4	2017	4	2017
DELIVERIES: IO Capabilities: 6-IO Capabilities	4	2018	4	2018
DELIVERIES: CNO Capabilities: 1-CNO Capabilities	4	2012	4	2012
DELIVERIES: CNO Capabilities: 2-CNO Capabilities	4	2013	4	2013
DELIVERIES: CNO Capabilities: 3-CNO Capabilities	4	2014	4	2014
DELIVERIES: CNO Capabilities: 4-CNO Capabilities	4	2015	4	2015
DELIVERIES: CNO Capabilities: 5-CNO Capabilities	4	2016	4	2016
DELIVERIES: CNO Capabilities: 6-CNO Capabilities	4	2017	4	2017
DELIVERIES: CNO Capabilities: 7-CNO Capabilities	4	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	722.919	11.748	11.477	13.586	-	13.586	8.108	7.390	6.525	6.610	Continuing	Continuing
1780: <i>HARM Improvement</i>	43.683	1.375	1.382	1.339	-	1.339	1.359	1.419	1.468	1.485	Continuing	Continuing
2185: <i>AARGM</i>	650.369	6.504	6.995	12.247	-	12.247	6.749	5.971	5.057	5.125	Continuing	Continuing
3056: <i>Advanced Precision Kill Weapons System</i>	0.000	2.969	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.969
3212: <i>MEDUSA JCTD</i>	28.867	0.900	3.100	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	32.867

MDAP/MAIS Code(s): 368

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 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 JCTD and 3412 - Hellfire-R Integration.

A. Mission Description and Budget Item Justification
 Research, Development, Test and Evaluation funding for the Joint Service Pre-Planned Product Improvement 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. This excludes civilian and military manpower and their related costs and military construction costs which will be included in appropriate management and support elements.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	11.147	11.477	16.551	-	16.551
Current President's Budget	11.748	11.477	13.586	-	13.586
Total Adjustments	0.601	0.000	-2.965	-	-2.965
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.820	0.000			
• SBIR/STTR Transfer	-0.219	0.000			
• Rate/Misc Adjustments	0.000	0.000	-2.965	-	-2.965

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1780: <i>HARM Improvement</i>	43.683	1.375	1.382	1.339	-	1.339	1.359	1.419	1.468	1.485	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 (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 2012	FY 2013	FY 2014
Title: HARM Foreign Military Assessment (FMA)	1.375	1.382	1.339
Articles:	0	0	0
FY 2012 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 2013 Plans:			
Continue 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 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 parametrics related to HARM 5A			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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. Includes funding for threat assessment, operational updates and integration efforts.			
Accomplishments/Planned Programs Subtotals	1.375	1.382	1.339

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	WR	NAWC-WD:China Lake, CA	0.215	1.183	Nov 2011	1.187	Nov 2012	1.334	Nov 2013	-		1.334	Continuing	Continuing	Continuing
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various:Various	24.732	0.000		0.000		0.000		-		0.000	0.000	24.732	
Subtotal			24.947	1.183		1.187		1.334		0.000		1.334			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Operational Test & Eval	WR	NAWC-WD:China Lake, CA	18.335	0.192	Nov 2011	0.189	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			18.335	0.192		0.189		0.000		0.000		0.000			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	WR	Various:Various	0.401	0.000	Nov 2011	0.006	Nov 2012	0.005	Jan 2014	-		0.005	Continuing	Continuing	Continuing
Subtotal			0.401	0.000		0.006		0.005		0.000		0.005			

Remarks
Contract Type for Travel is TO

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		43.683	1.375	1.382	1.339	0.000	1.339		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>
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HARM IMPROVEMENT	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q																								
Acquisition Milestones																												
Radar System Evaluation																												
	FMA																											
Systems Development																												
Test & Evaluation																												
Production Milestones																												
Deliveries																												

2014PB - 0205601N - 1780

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
HARM IMPROVEMENT				
Acquisition Milestones: Radar System Evaluation: Radar System Evaluation - Foreign Military Assessment	1	2012	4	2018
Test & Evaluation: Lazer Guided Zuni (LGZ)	2	2012	2	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2185: <i>AARGM</i>	650.369	6.504	6.995	12.247	-	12.247	6.749	5.971	5.057	5.125	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 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 AGM-88 missile. 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. 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 (1,871 All-Up-Rounds (AURs)/Captive Air Training Missiles (CATMs) and 8 spares). Milestone C was achieved 4Q FY 2008, followed by a combined FY08/FY09 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 began 1Q FY 2013. Full Rate Production (FRP) decision was received 20 Aug 2012 with FRP contract award on 10 Sep 2012, and deliveries beginning in Dec 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 CPD requirements. Block 1 will improve counter measure identification, and will complete development of Target of Opportunity, MMW, IBS-R capabilities, Navigation, and WIA messages.

Follow on Test and Evaluation (FOT&E/OT-D) in conjunction with Block 1 Upgrade will complete tactics development and support promulgation of Operational Tactics Guide (OTG). FOT&E will test Block 1 upgrade changes; complete development and integration testing of Phase III equipment (integral IBS-R and IBS-R antenna);

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>		PROJECT 2185: <i>AARGM</i>
complete development and integration testing of any future capability requirements, and continue tactics development. Additionally, FOT&E may include AGM-88E extension to objective aircraft.				
In FY 2012-FY 2018, 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 2012	FY 2013	FY 2014
Title: Threat Data Library		2.797	0.000	1.383
Articles:		0		0
FY 2012 Accomplishments: Continued to update Electronic Intelligence files and Millimeter Wave signatures to identify track and engage new and/or improved threat radars. Continued test and assessment of threat systems. Continued to update AARGM Threat Data Library.				
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.				
Title: AARGM Derivative Program (ADP)		3.707	3.091	1.000
Articles:		0	0	0
FY 2012 Accomplishments: Continued to develop the capability to carry-out Destruction of Enemy Defenses (DEAD) missions and to attack non-traditional and Overseas Contingency Operations (OCO) targets. Also developed new propulsion systems and data links to support warfighter needs against advancing threat systems as part of Block 1 Upgrade. Continued updates to targets.				
FY 2013 Plans: Continue to develop the capability to carry-out DEAD missions and to attack non-traditional and OCO targets. As part of Block 1 Upgrade, continue to develop new propulsion systems and data links to support warfighter needs against advancing threat systems. Continue 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.				
Title: Follow-on Test and Evaluation (FOT&E)		0.000	0.200	9.864
Articles:			0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2013 Plans: Begin 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.			
Title: Capabilities Procurement Document (CPD) Requirements FY 2013 Plans: Block 1 Upgrade includes development of Key Performance Parameter (KPP-3) and Integrated Broadcast Service-Receiver requirements in accordance with the CPD.	0.000	3.704 0	0.000
Articles:			
Accomplishments/Planned Programs Subtotals	6.504	6.995	12.247

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• WPN 2327: <i>HARM Mods</i>	76.561	86.721	111.902		111.902	126.154	157.852	160.620	189.696	283.185	1,355.780

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 Aug 2012 with FRP contract award on 10 Sep 2012 and deliveries beginning in Dec 2014. Block 1 IOC anticipated for 4Q FY 2015.

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	WR	NSMA:Arlington, VA	0.768	0.705	Nov 2011	0.000		0.000		-		0.000	7.161	8.634	
Systems Engineering	WR	NAWC-WD:China Lake, CA	60.599	4.090	Nov 2011	4.010	Nov 2012	5.295	Nov 2013	-		5.295	14.612	88.606	
Systems Engineering	WR	NAWC-AD:Patuxent River, MD	0.000	0.000	Mar 2012	0.000		0.000		-		0.000	0.000	0.000	
Software Development	WR	SPAWAR:San Diego, CA	0.000	0.263	Apr 2012	0.000		0.000		-		0.000	0.000	0.263	
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various:Various	527.894	0.000		0.000		0.000		-		0.000	0.000	527.894	
Subtotal			589.261	5.058		4.010		5.295		0.000		5.295	21.773	625.397	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Studies and Analyses	Various	Various:Various	0.711	0.000		0.000		0.000		-		0.000	0.100	0.811	
Prior year Support cost no longer funded in the FYDP	Various	Various:Various	6.436	0.000		0.000		0.000		-		0.000	0.000	6.436	
Subtotal			7.147	0.000		0.000		0.000		0.000		0.000	0.100	7.247	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Test & Evaluation	WR	NAWC-WD:China Lake, CA	22.040	0.395	Nov 2011	1.623	Nov 2012	1.657	Nov 2013	-		1.657	1.286	27.001	
Operational Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA	9.797	0.182	Nov 2011	0.773	Nov 2012	4.734	Nov 2013	-		4.734	2.213	17.699	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Test & Evaluation	MIPR	NSA:Ft. Meade, MD	0.000	0.240	Apr 2012	0.000		0.000		-		0.000	0.000	0.240	
Ship Shock Testing	WR	NSWC:Carderock, MD	0.000	0.010	Apr 2012	0.000		0.000		-		0.000	0.000	0.010	
Development Test & Evaluation	MIPR	DITCO:Ft. Huachuca, AZ	0.000	0.034	Nov 2011	0.000		0.000		-		0.000	0.000	0.034	
Development Test & Evaluation	SS/IDIQ	ATK:Woodland Hills, CA	0.000	0.505	Feb 2012	0.000		0.000		-		0.000	0.000	0.505	0.505
Prior year T&E cost no longer funded in the FYDP	Various	Various:Various	7.185	0.000		0.000		0.000		-		0.000	0.000	7.185	
Subtotal			39.022	1.366		2.396		6.391		0.000		6.391	3.499	52.674	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	Various	Various:Various	3.076	0.015	Feb 2012	0.147	Feb 2013	0.115	Feb 2014	-		0.115	0.200	3.553	
Travel	WR	NAVAIR HQ:Patuxent River, MD	1.613	0.044	Nov 2011	0.017	Nov 2012	0.014	Jan 2014	-		0.014	Continuing	Continuing	Continuing
Government Engineering Support	WR	NAWC AD:Patuxent River, MD	0.000	0.021	Dec 2011	0.425	Nov 2012	0.432	Nov 2013	-		0.432	Continuing	Continuing	Continuing
Prior year Mgmt cost no longer funded in the FYDP	Various	Various:Various	10.250	0.000		0.000		0.000		-		0.000	0.000	10.250	
Subtotal			14.939	0.080		0.589		0.561		0.000		0.561			

Remarks
Contract Type for Travel is TO

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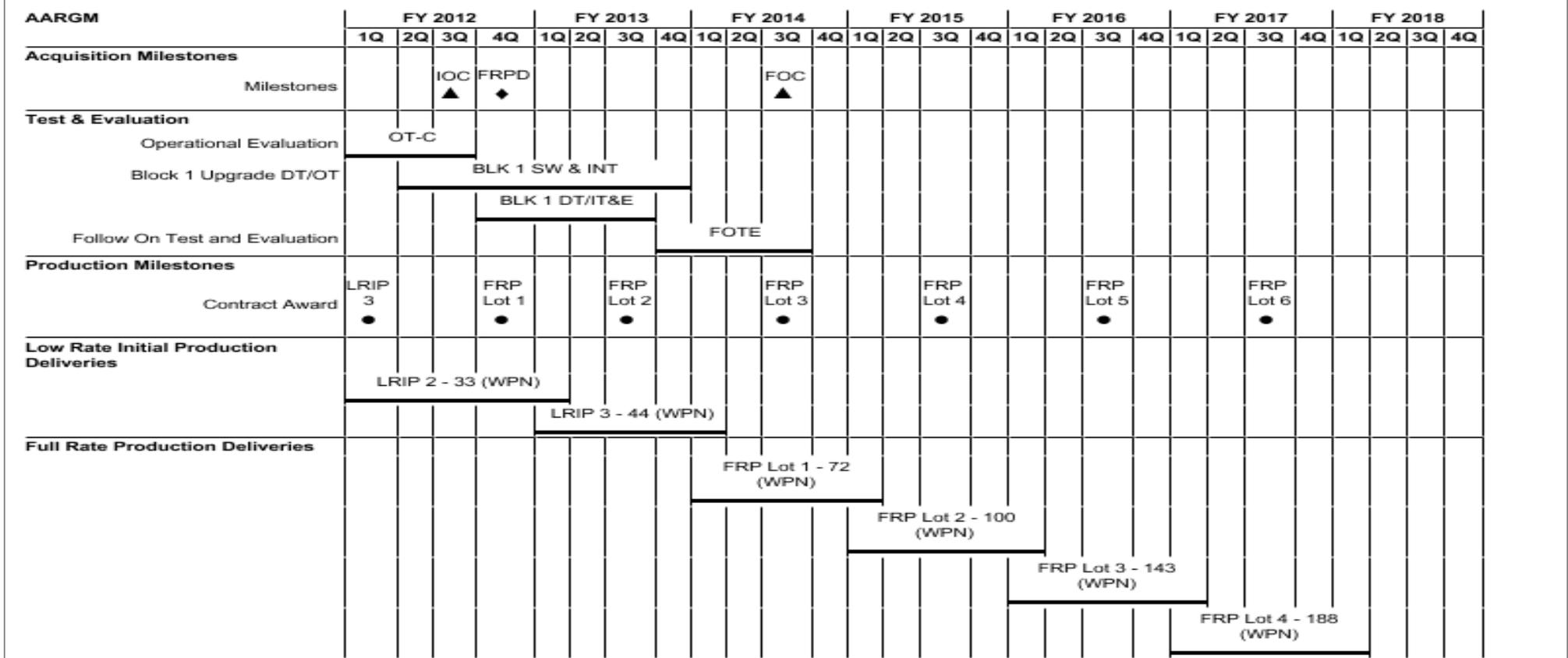
Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>			PROJECT 2185: <i>AARGM</i>				
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	650.369	6.504	6.995	12.247	0.000	12.247				

Remarks
 Note: RDTE funding for MDAP 368 is \$648.6 and includes funding in FY11 and prior. FY12 RDTE funding through FYDP for AARGM (PU 2185) is not considered MDAP and will not agree with SAR nor DAES submissions.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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2014OSD - 0205601N - 2185

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AARGM				
Acquisition Milestones: Milestones: Initial Operational Capability	3	2012	3	2012
Acquisition Milestones: Milestones: Full Rate Production Decision	4	2012	4	2012
Acquisition Milestones: Milestones: Full Operational Capability	3	2014	3	2014
Test & Evaluation: Operational Evaluation: Operational Evaluation Restart	1	2012	3	2012
Test & Evaluation: Block 1 Upgrade DT/OT: Block 1 Software Development and Integration	2	2012	4	2013
Test & Evaluation: Block 1 Upgrade DT/OT: Block 1 Upgrade Development Test/ Integrated Test and Evaluation	4	2012	3	2013
Test & Evaluation: Follow On Test and Evaluation: Follow On Test and Evaluation	4	2013	3	2014
Production Milestones: Contract Award: Low Rate Initial Production 3	1	2012	1	2012
Production Milestones: Contract Award: Full Rate Production Lot 1	4	2012	4	2012
Production Milestones: Contract Award: Full Rate Production Lot 2	3	2013	3	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
Low Rate Initial Production Deliveries: Low-Rate Initial Production 2 Delivery (WPN)	1	2012	1	2013
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)	1	2014	1	2015
Full Rate Production Deliveries: Full Rate Production Deliveries - Lot 2 (WPN)	1	2015	1	2016
Full Rate Production Deliveries: Full Rate Production Deliveries - Lot 3 (WPN)	1	2016	1	2017
Full Rate Production Deliveries: Full Rate Production Deliveries - Lot 4 (WPN)	1	2017	1	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3056: <i>Advanced Precision Kill Weapons System</i>	0.000	2.969	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.969
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Beginning in FY 2014, a new Program Element (PE) was established (BA 7 - 060555N) 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 060555N.

A. Mission Description and Budget Item Justification

Advanced Precision Kill Weapons System (APKWS) II was an Army System Development & Demonstration (SD&D) program to develop a low cost Semi Active Laser precision guidance section for existing 2.75-inch unguided rockets. APKWS II will provide an inexpensive, small, lightweight precision-kill weapon that is effective against soft and lightly armored targets, and which enhances crew survivability with increased standoff range. APKWS II offers precision, maximum stored kills per aircraft sortie, minimum collateral damage potential, and increased effectiveness over legacy unguided rockets. The guidance package can be assembled with existing unguided rocket components (warhead and rocket motors) and can be fired from 2.75-inch Rocket Launcher. SD&D program was completed 3Q FY 2010, and Milestone C was approved in 3Q FY 2010. The Low Rate Initial Production (LRIP) 1 contract was awarded to BAE Systems in 4Q FY 2010. The LRIP II contract option was awarded to BAE Systems in 2Q FY 2011.

The Fixed Wing Joint Capability Technology Demonstration (JCTD) is a joint USN and USAF effort sponsored by OSD and U.S. Central Command which will modify the APKWS II from the Program of Record (POR) and conduct a demonstration on USMC AV-8B and USAF A-10 aircraft. Effort is funded with OSD funds in FY 2010 and will be funded from this program element in FY 2012.

Initial operational capability was declared in March 2012 in Afghanistan supporting Operation Enduring Freedom.

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

Title: APKWS SD&D		FY 2012	FY 2013	FY 2014
	Articles:	2.969 0	0.000	0.000
FY 2012 Accomplishments: APKWS POR - Full-Rate Production decision and contract.				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
APKWS JCTD - Technology demonstration and Military Utility Assessment.			
Accomplishments/Planned Programs Subtotals	2.969	0.000	0.000

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PANMC/015100: <i>Airborne Rockets (APKWS portion only)</i>	29.273	42.844	32.722		32.722	47.940	58.405	36.335	37.106	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Navy assumed the APKWS II program from the Army. The previously competed SD&D Army contract to prime contractor was transferred to the Navy for continued management. The program was through Milestone B and meeting cost schedule and technical performance requirements. The Navy funded the remainder of the program to complete SD&D. The LRIP I contract was awarded to BAE Systems in 4Q FY 2010. The LRIP II contract was awarded to BAE Systems in 2Q FY 2011.

E. Performance Metrics

APKWS II Milestone C approved in April 2010.
 APKWS II LRIP I awarded in July 2010.
 APKWS II LRIP II awarded in January 2011.
 APKWS II Fixed Wing Joint Capability Technology Demonstration Military Utility Assessment is scheduled for FY 2012.
 APKWS FRP Approved May 2012

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JCTD	C/CPIF	BAE:New Hampshire	0.000	1.000	Apr 2012	0.000		0.000		-		0.000	0.000	1.000	1.000
Systems Engineering	WR	NAWC-AD:Patuxent River, MD	0.000	0.325	Oct 2011	0.000		0.000		-		0.000	0.000	0.325	
Systems Engineering	WR	NAWC-WD:China Lake, CA	0.000	1.215	Nov 2011	0.000		0.000		-		0.000	0.000	1.215	
Subtotal			0.000	2.540		0.000		0.000		0.000		0.000	0.000	2.540	

Remarks
Joint Capability Technology Demonstration

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
HWIL Lab Testing	WR	Not Specified:Huntsville, AL	0.000	0.075	Jul 2012	0.000		0.000		-		0.000	0.000	0.075	
Maritime Demonstration Testing	WR	NAWC-WD:Point Mugu, CA	0.000	0.117	Dec 2011	0.000		0.000		-		0.000	0.000	0.117	
Subtotal			0.000	0.192		0.000		0.000		0.000		0.000	0.000	0.192	

Remarks
HWIL - Hardware in the Loop

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	WR	NAWC-AD:Patuxent River	0.000	0.104	Jun 2012	0.000		0.000		-		0.000	0.000	0.104	
Program Support	C/FP	Tecolote:Patuxent River	0.000	0.117	Jan 2012	0.000		0.000		-		0.000	0.000	0.117	0.117

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	WR	Various:Various	0.000	0.016	Nov 2011	0.000		0.000		-		0.000	0.000	0.016	
Subtotal			0.000	0.237		0.000		0.000		0.000		0.000	0.000	0.237	

Remarks
Contract Type for travel is TO

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.969	0.000	0.000	0.000	0.000	0.000	2.969	

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3212: <i>MEDUSA JCTD</i>	28.867	0.900	3.100	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	32.867
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

Note
 Beginning in FY 2014, a new Program Element (PE) was established (BA 7 - 060555N) 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 060555N.

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 APKWS 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 2012	FY 2013	FY 2014
Title: MEDUSA JCTD <div style="text-align: right;">Articles:</div>	0.900 0	0.000	0.000
FY 2012 Accomplishments: Funding was provided for required documentation of hardware, software, and tools suitable for starting up new/future efforts: updated Platform to Launcher and Launcher to Weapon Initial Capabilities Document and implemented critical upgrades to Modeling and Simulation tools developed during the JCTD.			
Title: Digital Rocket Launcher <div style="text-align: right;">Articles:</div>	0.000	3.100 0	0.000
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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.			
Accomplishments/Planned Programs Subtotals	0.900	3.100	0.000

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

N/A

Remarks

D. Acquisition Strategy

The MEDUSA Joint Capability Technology Demonstration was performed in FY09-FY11. The 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.

E. Performance Metrics

Integration and Demonstration is scheduled to continue until 2Q FY12. Performance Spec and Capability Development Document will be completed in 4Q FY12.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	WR	NAWC-WD:China Lake, CA	7.878	0.900	Jun 2012	0.000		0.000		-		0.000	0.000	8.778	
Product Development (DRL)	C/CPFF	Lockheed Martin:Owego, NY	2.000	0.000		0.514	Jan 2013	0.000		-		0.000	0.000	2.514	2.514
Systems Engineering (DRL)	WR	NAWC-AD:Patuxent River, MD	0.781	0.000		0.255	Nov 2012	0.000		-		0.000	0.000	1.036	
Systems Engineering (DRL)	Various	NSWC:Indian Head, MD	2.673	0.000		0.400	Dec 2012	0.000		-		0.000	0.000	3.073	
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various:Various	10.383	0.000		0.000		0.000		-		0.000	0.000	10.383	
Subtotal			23.715	0.900		1.169		0.000		0.000		0.000	0.000	25.784	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation (DRL)	WR	NSWC:Indian Head, MD	0.000	0.000		0.400	Feb 2013	0.000		-		0.000	0.000	0.400	
Test & Evaluation (DRL)	WR	NAWC-WD:China Lake, CA	0.000	0.000		0.750	Jan 2013	0.000		-		0.000	0.000	0.750	
Test & Evaluation (DRL)	WR	NAWC-AD:Patuxent River, MD	0.000	0.000		0.400	Dec 2012	0.000		-		0.000	0.000	0.400	
Prior year T&E costs no longer funded in the FYDP	Various	Various:Various	4.464	0.000		0.000		0.000		-		0.000	0.000	4.464	
Subtotal			4.464	0.000		1.550		0.000		0.000		0.000	0.000	6.014	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Engineering Support	WR	NAWC-AD:Patuxent River, MD	0.000	0.000		0.350	Dec 2012	0.000		-		0.000	0.000	0.350	
Travel	WR	NAVAIR:Patuxent River, MD	0.021	0.000		0.031	Dec 2012	0.000		-		0.000	0.000	0.052	
Prior year Mgmt costs no longer funded in the FYDP	Various	Various:Various	0.667	0.000		0.000		0.000		-		0.000	0.000	0.667	
Subtotal			0.688	0.000		0.381		0.000		0.000		0.000	0.000	1.069	

Remarks
 Contract Type for Travel is TO.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.867	0.900	3.100	0.000	0.000	0.000	0.000	32.867	

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

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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Digital Rocket Launcher (DRL) & MEDUSA JCTD	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Milestones																												
System Development & Demonstration																												
Capability Development Document and Performance Spec				CDD & Perf Spec (MEDUSA) ▼																								
DRL Design	DRL Design																											
Technical Readiness Review (DRL)				TRR ■																								
Interim Flight Clearance (DRL)			IFC ▼																									
Test & Evaluations Milestones																												
Integration & Demonstration	Int & Demo (MEDUSA)																											
Regression Test	RGT (MEDUSA) ▼																											
Captive Carry Test		CC (MEDUSA) ▼																										
A/C Software Development and Software Test (DRL)				A/C Test																								
Vibration Testing (DRL)				Test ▼																								
1st Ground Launch Test (DRL)		Ground Test ▼																										

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Digital Rocket Launcher (DRL) & MEDUSA JCTD				
System Development & Demonstration: Capability Development Document and Performance Spec: Capability Development Document (and Performance Spec MEDUSA-JCTD)	4	2012	4	2012
System Development & Demonstration: DRL Design: DRL Design	1	2012	2	2012
System Development & Demonstration: Technical Readiness Review (DRL): Technical Readiness Review (DRL)	4	2012	4	2012
System Development & Demonstration: Interim Flight Clearance (DRL): interim flight clearance (DRL)	3	2012	3	2012
Test & Evaluations Milestones: Integration & Demonstration: Integration & Demonstration (MEDUSA-JCTD)	1	2012	2	2012
Test & Evaluations Milestones: Regression Test: Regression Test (MEDUSA JCTD)	1	2012	1	2012
Test & Evaluations Milestones: Captive Carry Test: Captive Carry Tests (MEDUSA JCTD)	2	2012	2	2012
Test & Evaluations Milestones: A/C Software Development and Software Test (DRL): A/C Software Development and Software Test (DRL)	3	2012	3	2012
Test & Evaluations Milestones: Vibration Testing (DRL): Vibration Testing (DRL)	3	2012	3	2012
Test & Evaluations Milestones: 1st Ground Launch Test (DRL): 1st Ground Launch Test (DRL)	2	2012	2	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	526.025	62.367	118.818	197.538	-	197.538	147.272	120.670	72.504	48.664	Continuing	Continuing
2126: <i>ATDLS Integration</i>	525.425	50.666	81.912	64.536	-	64.536	68.825	59.299	42.066	38.032	Continuing	Continuing
3020: <i>MIDS/JTRS</i>	0.000	0.000	0.000	119.929	-	119.929	78.447	61.371	30.438	10.632	Continuing	Continuing
3341: <i>Network Tactical Common Data Link</i>	0.000	0.000	14.907	8.104	-	8.104	0.000	0.000	0.000	0.000	0.000	23.011
4022: <i>Other Tactical Data Link Engineering</i>	0.600	11.701	21.999	4.969	-	4.969	0.000	0.000	0.000	0.000	0.000	39.269

MDAP/MAIS Code(s): 554

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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) (formerly Air Defense System Integrator (ADSI)); 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), and exchange command and control information (voice, data, imagery, and Full Motion Video) 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.

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 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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>
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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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	69.189	118.818	87.893	-	87.893
Current President's Budget	62.367	118.818	197.538	-	197.538
Total Adjustments	-6.822	0.000	109.645	-	109.645
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-5.092	0.000			
• SBIR/STTR Transfer	-1.730	0.000			
• Program Adjustments	0.000	0.000	-7.841	-	-7.841
• Rate/Misc Adjustments	0.000	0.000	117.486	-	117.486

Change Summary Explanation

Schedule:

ATDLS Integration:

Link 16 Network Increment II Dynamic Network Management (DNM) (2126): The following milestones/events have slipped 2 quarters due to the difficulty in obtaining Developmental Test (DT) and Operational Test (OT) assets: Joint Tactical Information Distribution System (JTIDS) DNM Developmental Test Readiness Review from FY2012Q4 to FY2013Q2; Multifunctional Information Distribution System (MIDS) on Ships (MOS) DNM Developmental Test Readiness Review from FY2012Q4 to FY2013Q2; MOS DNM Operational Test Readiness Review FY2012Q4 to FY2013Q3; MOS DNM Developmental Test from FY2013Q1 to FY2013Q3; and MOS DNM Operational Test from FY2013Q2 to FY2013Q4. The following milestones/events have slipped 1 quarter due to the difficulty in obtaining DT/OT assets: JTIDS DNM Operational Test Readiness Review (OTRR) from FY2013Q1 to FY2013Q2 and JTIDS DNM Developmental Test from FY2013Q1 to FY2013Q2. DNM Full Operational Capability (FOC) has slipped 4 quarters from FY2014Q4 to FY2015Q4 due to slip in MOS DT and OT with resultant need to wait for CNO scheduled availability for installation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>
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Link 16 Network Increment II Cryptographic Modernization (CM)/Frequency Remapping (FR) (2126): The following milestones/events have slipped 3 quarters due to delay in MIDS LVT Block Update 2 Schedule: MOS CM/FR Development (Ship) System Requirements Review (SRR)/Preliminary Design Review (PDR) from FY2013Q4 to FY2014Q3; and MOS CM/FR Development (Ship) Critical Design Review (CDR) from FY2014Q1 to FY2014Q4. New events added to reflect split between JTIDS CM/FR DT/OT and MOS CM/FR DT/OT due to MIDS LVT Block Update 2 schedule change: MOS CM/FR DTRR FY2016Q4; MOS CM/FR OTRR FY2017Q1; MOS CM/FR DT FY2017Q1; and MOS CM/FR OT FY2017Q2. The following milestones/events have slipped 1 quarter due to contract strategy revision specifying use of Multifunction Information Distribution System - Joint Tactical Radio System (MIDS-JTRS) Link 16 Terminal for integration: MOS Modernization (MOS Mod) System Functional Review (SFR) from FY2013Q3 to FY2013Q4; MOS Mod Test Readiness Review (TRR) from FY2014Q2 to FY2014Q3; MOS Mod Production Readiness Review (PRR) from FY2015Q1 to FY2015Q2; MOS Mod DTRR from FY2015Q2 to FY2015Q3; MOS Mod OTRR from FY2015Q3 to FY2015Q4; MOS Mod DT from FY2015Q3 to FY2015Q4; MOS Mod OT from FY2015Q4 to FY2016Q1; and MOS Mod Fielding Decision Review (FDR) from FY2016Q2 to FY2016Q3. The following milestones/events have slipped 2 quarter due to remaining aligned with C2P Tech Refresh: JTIDS/MOS CM/FR Shipboard Integration SRR from FY2013Q2 to FY2013Q4; JTIDS/MOS CM/FR Shipboard Integration PDR from FY2013Q4 to FY2014Q2; and JTIDS/MOS CM/FR Shipboard Integration CDR from FY2014Q2 to FY2014Q4.

Command and Control Processor (C2P) (2126): C2P Technology Refresh milestones/events: Added Inc 3 IPR (FY 2018Q3). The following events slipped: Tech Refresh contract award delays caused SRR, PDR and CDR to slip 2 quarters: SRR (FY 2013Q2 to FY 2013Q4), PDR (FY 2013Q4 to FY 2014Q2), and CDR (FY 2014Q2 to FY 2014Q4). Link-22 milestones have slipped 2 quarters due to contract award delays: SRR (FY 2014Q1 to FY 2014Q3), PDR (FY 2014Q3 to FY 2015Q1), Milestone B (FY 2014Q4 to FY 2015Q2), CDR (FY 2015Q1 to FY 2015Q3).

Link Monitoring and Management Tool (LMMT) Increment I (formerly Air Defense System Integrator (ADSI)) (2126) provides Tactical Data Links (TDL) Situational Awareness (SA). LMMT Increment II accelerates engineering efforts in FY 2014 leading to Initial Operational Capability (IOC) in FY 2016. LMMT Increment II provides TDL monitoring and management capabilities not included in Increment I.

In accordance with the Acquisition Decision Memorandum dated 11 July 2012, the Joint Tactical Radio Systems Program of Records (JTRS PORs) transitioned to a Military Department-managed program. MIDS transitioned to the Navy under PE 0205604N beginning in FY14, but was formerly in PE 0604280N. Thus PU 3020 is new to PE 0205604N in this submission.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2126: <i>ATDLS Integration</i>	525.425	50.666	81.912	64.536	-	64.536	68.825	59.299	42.066	38.032	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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) (formerly Air Defense System Integrator (ADSI)).

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 Increment I (formerly ADSI) will upgrade commercial off-the-shelf hardware and modernize software operating systems. LMMT Increment II 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 DNM capability and the implementation of Link 16 Network DNM on Navy ships, shore sites and airborne Link 16 terminals. DNM will provide automatic reconfiguration of Link 16 networks that respond instantly to emergent war fighter requirements. DNM consists of new terminal protocols that include Time Slot Reallocation and Combined Network Participation Groups. The DNM capabilities will be incorporated into Next Generation Command and Control Processor (NGC2P). Increment II also funds the following activities: (1) development and implementation of 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; (2) Developmental Tests / Operational Tests (DT/OT) of Navy platform modifications; (3) implementation of new Link 16 information / data into the shipboard C2P to support Link 16 Network new and improved capabilities; and (4) provide product improvement for continued production capability (MOS Modernization) and extensibility to new Tactical Data Link capabilities of shipboard Link 16 Terminals.

FY 2014 Justification: Funding will provide for JTIDS CM/FR detailed design leading to Test Readiness Review (TRR) and testing of five Engineering and Manufacturing Development units to be used for National Security Agency (NSA) Cryptographic Certification and acceptance testing in FY 2014. 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 initiated through the E-2C Program Office (PMA-231) for the CM/FR capability. Funding will also provide for MOS CM/FR for requirements analysis of MIDS Block Update 2 documentation resulting in design work to support Preliminary Design Review (PDR) and Critical Design Review (CDR). JTIDS and

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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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 MOS Modernization (MOS Mod) design and development leading to a Test Readiness Review (TRR).

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 2014 Justification: Accomplish C2P TR PDR and CDR. Accomplish Inc 3 Link-22 Software Readiness Review (SRR), and continue efforts leading to Milestone B and CDR in FY 15.

Link Monitoring and Management Tool (LMMT) (formerly Air Defense System Integrator (ADSI)) 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, processing 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.

FY 2014 Justification: Funding will provide for detailed system design efforts including System Requirements Review and Preliminary Design Review (PDR) leading to a Critical Design Review (CDR) in FY 2014 and Operational Testing (OT) in FY 2015. Funding will also provide for software development and development of acquisition, interoperability, test, and logistics products to support testing and system fielding in FY 2016.

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

	FY 2012	FY 2013	FY 2014
<p>Title: Link 16 Network Increment II (Formerly ATDLS Integration) - Dynamic Network Management (DNM)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Prepared for JTIDS DNM DT/FOT&E, MOS DNM DT/OT. Conducted JTIDS and MOS Developmental Test Readiness Review (DTRR). Continued Link 16 Network integrated logistics support.</p> <p>FY 2013 Plans:</p>	<p>3.560</p> <p>0</p>	<p>1.500</p> <p>0</p>	<p>0.000</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>		PROJECT 2126: <i>ATDLS Integration</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Conduct JTIDS and MOS DTRR and Operational Test Readiness Review (OTRR). Conduct JTIDS DNM DT and FOT&E leading up to DNM Milestone C. Conduct MOS DNM DT and MOS DNM DT/OT. Achieve DNM Milestone C and DNM Initial Operational Capability (IOC). Correct critical DNM test deficiencies. Continue Link 16 Network integrated logistics support.				
Title: Link 16 Network Increment II (Formerly ATDLS Integration) - Cryptographic Modernization (CM) / Frequency Remapping (FR) Articles:		33.950 0	39.597 5	28.600 0
FY 2012 Accomplishments: Conducted JTIDS Preliminary Design Review (PDR) and detailed design of the JTIDS CM/FR. Continued Link 16 Network integrated logistics support and JTIDS airborne integration study.				
FY 2013 Plans: Conduct JTIDS CM/FR Critical Design Review (CDR) and initiate development of JTIDS CM/FR Engineering Manufacturing Development (EMD) units. Initiate development of MOS Modernization (MOS Mod) requirement analysis and design for continued product availability. Initiate JTIDS/MOS CM/FR shipboard integration. Continue Link 16 Network integrated logistics support.				
FY 2014 Plans: Conduct JTIDS CM/FR Test Readiness Review (TRR) and initiate contractor qualification and certification testing of JTIDS CM/FR on Engineering Manufacturing Development (EMD) unit. Conduct MOS CM/FR System Requirements Review SRR/PDR and CDR. Complete design and conduct MOS Mod Test Readiness Review (TRR). Continue JTIDS/MOS CM/FR shipboard integration effort with C2P and begin JTIDS CM/FR air integration effort with E-2C Program Office (PMA 231). Provide Link 16 Network integration logistics support.				
Title: Command and Control Processor (C2P) Articles:		13.156 0	37.615 0	30.336 0
FY 2012 Accomplishments: C2P Interoperability initial software build and developmental testing commenced the support of field testing during Trident Warrior in FY 2012. C2P Technology Refresh (TR) commenced development of Technology Refresh architecture requirements, integration with modernized data link cryptographic devices and software / hardware technology prototyping in support of FY 2013 design reviews.				
FY 2013 Plans: Support C2P Interoperability combat system certification. C2P TR funding will provide for requirements, design, initial development, and integration of C2P Technology Refresh baseline product improvements in support of SRR, leading to				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Preliminary Design Review (PDR) and Critical Design Review (CDR), which will occur in FY 2014. Link-22 efforts commence in FY 2013 to support 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.			
Title: Link Monitoring and Management Tool (LMMT) (formerly Air Defense System Integrator (ADSI)) FY 2013 Plans: LMMT Increment I (formerly ADSI) is a new start. Provide for the development of requirements, interoperability, test, and logistics products to support Developmental Test Readiness Review (DTRR) and Developmental Testing of commercial off-the-shelf hardware and upgraded software in FY 2013. FY 2014 Plans: Conduct LMMT Increment I FDR and LMMT Increment II Capability Drop 1 (CD 1) System Requirements Review (SRR) and combined Preliminary Design Review/ Critical Design Review (PDR/CDR). Commence LMMT Increment II software development.	0.000	1.000 0	3.400 0
Articles:			
Title: Joint Aerial Layer Network (JALN) FY 2013 Plans: Joint Aerial Layer Network (JALN) 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.	0.000	2.200 0	2.200 0
Articles:			
Accomplishments/Planned Programs Subtotals	50.666	81.912	64.536

C. Other Program Funding Summary (\$ in Millions)									Cost To		
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Complete</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>						
• OPN/2614: <i>ATDLS</i>	1.026	0.000	3.836		3.836	12.179	25.987	44.185	48.152	Continuing	Continuing
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>

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. The MOS CM/FR contract will be awarded in FY14. Will award a MOS Mod product improvement contract for continued capability in FY13. Link 16 Terminal CM/FR shipboard integration will be accomplished through the C2P contract. Will competitively award a contract for C2P Tech Refresh and Link-22 development in FY 2013. The Link Monitoring and Management Tool (LMMT) Increment II capability will replace LMMT Increment I. LMMT Increment II will leverage existing Government off the Shelf (GOTS) software and Commercial off the Shelf (COTS) hardware. Increment II 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 Increment I and Increment II.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATDLS Product Development and Integration	Various	Various:Various	363.158	0.000		0.000		0.000		-		0.000	0.000	363.158	363.158
Link 16 Network Development (JTIDS)	C/CPIF	DLS (BAE/Rockwell):Wayne, NJ	26.388	16.012	Feb 2012	7.384	Mar 2013	5.200	Mar 2014	-		5.200	Continuing	Continuing	Continuing
Link 16 Network Development (MOS)	C/FFP	DLS (BAE/Rockwell):Wayne, NJ	0.000	0.034	Feb 2012	3.034	Dec 2012	4.400	Dec 2013	-		4.400	Continuing	Continuing	Continuing
Link 16 Network Development (MIDS LVT/MIDS J)	WR	MIDS IPO:MIDS IPO	0.000	1.944	Aug 2012	6.060	Aug 2013	0.800	Aug 2014	-		0.800	Continuing	Continuing	Continuing
Link 16 Network E-2C Integration	WR	Unknown:Unknown	0.000	0.000		0.000		6.900	Oct 2013	-		6.900	Continuing	Continuing	Continuing
Link 16 Network JALN	WR	Unknown:Unknown	0.000	0.000		2.200	Mar 2013	2.200	Mar 2014	-		2.200	Continuing	Continuing	Continuing
Link 16 Network Development (MOS MOD)	C/FPIF	Unknown:Unknown	0.000	0.000		15.000	Jul 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Link 16 Network Software	WR	SPAWARSYSCEN PAC:San Diego, CA	2.496	0.000		0.500	Oct 2012	2.200	Oct 2013	-		2.200	Continuing	Continuing	Continuing
Link 16 Network Integrated Logistics Support	C/CPFF	SeaPort-E:San Diego, CA	1.100	0.390	Oct 2011	0.390	Oct 2012	0.390	Oct 2013	-		0.390	Continuing	Continuing	Continuing
Link 16 Network Systems Engineering	WR	SPAWARSYSCEN PAC:San Diego, CA	35.991	2.781	Oct 2011	1.930	Oct 2012	1.512	Oct 2013	-		1.512	Continuing	Continuing	Continuing
Link 16 Network IV&V	WR	SPAWARSYSCEN PAC:San Diego, CA	0.000	1.426	Oct 2011	0.234	Oct 2012	0.300	Oct 2013	-		0.300	Continuing	Continuing	Continuing
C2P Development	C/IDIQ	Northrop Grumman:San Diego, CA	0.000	3.329	Mar 2012	15.481	May 2013	21.336	May 2014	-		21.336	Continuing	Continuing	Continuing
C2P Development (Interoperability)	WR	SPAWARSYSCEN PAC:San Diego, CA	0.000	3.899	Oct 2011	4.125	Oct 2012	0.000		-		0.000	Continuing	Continuing	Continuing
C2P Systems Engineering	WR	SPAWARSYSCEN PAC:San Diego, CA	0.000	2.441	Dec 2011	7.184	Oct 2012	6.000	Oct 2013	-		6.000	Continuing	Continuing	Continuing
LMMT Inc I Integrated Logistics Support	C/CPFF	SeaPort-E:San Diego, CA	0.000	0.000		0.250	Feb 2013	0.275	Oct 2013	-		0.275	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LMMT Inc II (Development)	WR	SPAWARSYSCEN PAC:San Diego, CA	0.000	0.000		0.000		1.900	Oct 2013	-		1.900	Continuing	Continuing	Continuing
LMMT Inc II Systems Engineering	WR	SPAWARSYSCEN PAC:San Diego, CA	0.000	0.000		0.000		0.500	Oct 2013	-		0.500	Continuing	Continuing	Continuing
Subtotal			429.133	32.256		63.772		53.913		0.000		53.913			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATDLS Test and Evaluation	Various	Various:Various	65.171	0.000		0.000		0.000		-		0.000	0.000	65.171	65.171
Link 16 Network Developmental T&E	WR	SPAWARSYSCEN PAC:San Diego, CA	3.038	1.467	Oct 2011	0.252	Oct 2012	0.000	Oct 2013	-		0.000	Continuing	Continuing	Continuing
Link 16 Network Operational T&E	WR	SPAWARSYSCEN PAC:San Diego, CA	2.164	0.709	Oct 2011	0.397	Oct 2012	0.000	Oct 2013	-		0.000	Continuing	Continuing	Continuing
C2P T&E	WR	SPAWARSYSCEN PAC:San Diego, CA	0.000	1.771	Oct 2011	7.859	Oct 2012	0.000	Oct 2013	-		0.000	Continuing	Continuing	Continuing
LMMT (Inc I & II) Developmental T&E	WR	SPAWARSYSCEN PAC:San Diego, CA	0.000	0.000		0.750	Feb 2013	0.450	Oct 2013	-		0.450	Continuing	Continuing	Continuing
Subtotal			70.373	3.947		9.258		0.450		0.000		0.450			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATDLS System Engineering Support	Various	Various:Various	20.177	0.000		0.000		0.000		-		0.000	0.000	20.177	20.177
Link 16 Network Contractor Engineering Support	C/CPFF	SeaPort-E:San Diego, CA	3.409	6.124	Oct 2011	0.000		3.221	Oct 2013	-		3.221	Continuing	Continuing	Continuing

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0205604N: *Tactical Data Links*

PROJECT

2126: *ATDLS Integration*

Fiscal Year	2012				2013				2014				2015				2016				2017				2018								
	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					
Program Milestones Link 16 Network							DNM	MS	C/FDDR																								
Engineering Milestones Link 16 Network																																	
Test & Evaluation Milestones Link 16 Network																																	

- | | | | |
|--|---|---|--|
| <p>Legend:
 CDR - Critical Design Review
 CM - Cryptographic Modernization
 DT - Developmental Test
 DTRR - Developmental Test Readiness Review
 DNM - Dynamic Network Management
 FDR - Fielding Decision Review</p> | <p>FDDR - Full Dev. Decision Review
 FOT&E - Follow-on Operational Test & Evaluation
 FOC - Full Operating Capability
 FR - Frequency Remapping
 FRPDR - Full Rate Production Decision Review
 IOC - Initial Operating Capability</p> | <p>JTIDS - Joint Tactical Information Distribution System
 MOS - Multifunctional Info. Distribution Sys. (MIDS) On Ship (MOS)
 MOS MOD - MOS Modernization
 MS - Milestone
 OT - Operational Test
 OTRR - Operational Test Readiness Review</p> | <p>PDR - Preliminary Design Review
 PRR - Production Readiness Review
 SFR - System Functional Review
 SRR - System Requirements Review
 TRR - Test Readiness Review</p> |
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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
 PE 0205604N: *Tactical Data Links*

PROJECT
 2126: *ATDLS Integration*

Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
	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
Program Milestones C2P		▲ NGC2P INC II FOC C2P INTEROPERABILITY	▲ IPR												▲ LINK-22 Inc III MS B				▲ LINK 22 IPR				▲ LINK 22 IPR				▲ LINK 22 MS C	
Engineering Milestones C2P		▲ C2P INTEROPERABILITY Initial Software Build									▲ SRR	▲ PDR	▲ CDR								▲ LINK 22 Software Build 1	▲ LINK 22 Software Build 2	▲ LINK 22 Software Build 3					
Test & Evaluation Milestones C2P		▲ DT	▲ C2P INTEROPERABILITY TW-12	▲ Combat System Certification													▲ DTRR	▲ OTRR			▲ TECH REFRESH DT	▲ TECH REFRESH OT					▲ LINK 22 OA	▲ LINK-22 DTRR
Production Milestones C2P							▲ C2P INTEROPERABILITY Software Delivery																▲ TECH REFRESH PRR					▲ LINK-22 DT

Legend:
 C2P - Command and Control Processor
 CDR - Critical Design Review
 DT - Developmental Test
 DTRR - Developmental Test Readiness Review
 FDR - Fielding Decision Review
 FOC - Full Operating Capability
 IPR - In Progress Review
 MS B - Milestone B
 MS C - Milestone C
 OA - Operational Assessment
 OT - Operational Test
 OTRR - Operational Test Readiness Review
 PDR - Preliminary Design Review
 PRR - Production Readiness Review
 SRR - System Requirements Review
 TW - Trident Warrior
 TECH REFRESH

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2126				
C2P Interoperability Initial Software Build	1	2012	1	2012
NGC2P Increment II Full Operating Capability	2	2012	2	2012
C2P Interoperability Developmental Test	2	2012	2	2012
Link 16 Network JTIDS CM/FR Development Preliminary Design Review	3	2012	3	2012
C2P Interoperability In Progress Review	3	2012	3	2012
C2P Trident Warrior-12	4	2012	4	2012
Link 16 Network MOS DNM Developmental Test Readiness Review	2	2013	2	2013
Link 16 Network JTIDS DNM Developmental Test Readiness Review	2	2013	2	2013
Link 16 Network JTIDS DNM Operational Test Readiness Review	2	2013	2	2013
Link 16 Network JTIDS DNM Developmental Test	2	2013	2	2013
Link 16 Network JTIDS DNM Follow-on Operational Test & Evaluation	2	2013	2	2013
Link 16 Network DNM Milestone C/Full Development Decision Review	3	2013	3	2013
Link 16 Network DNM Initial Operating Capability	3	2013	3	2013
Link 16 Network JTIDS CM/FR Development Critical Design Review	3	2013	3	2013
Link 16 Network MOS DNM Operational Test Readiness Review	3	2013	3	2013
Link 16 Network MOS DNM Developmental Test	3	2013	3	2013
C2P Interoperability Software Delivery	3	2013	3	2013
Link 16 Network MOS MODERNIZATION System Functional Review	4	2013	4	2013
Link 16 Network JTIDS/MOS CM/FR Integration (Ship) System Requirements Review	4	2013	4	2013
Link 16 Network MOS DNM Follow-on Operational Test and Evaluation	4	2013	4	2013
C2P Tech Refresh System Requirements Review	4	2013	4	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C2P Interoperability Combat System Certification	4	2013	4	2013
LMMT Inc I Test Readiness Review	4	2013	4	2013
LMMT Inc I Test	1	2014	1	2014
Link 16 Network JTIDS/MOS CM/FR Integration (Ship) Preliminary Design Review	2	2014	2	2014
C2P Tech Refresh Preliminary Design Review	2	2014	2	2014
LMMT Inc II CD I System Requirements Review	2	2014	2	2014
Link 16 Network MOS CM/FR Development (Ship) System Requirements review	3	2014	3	2014
Link 16 Network MOS CM/FR Development (Ship) Preliminary Design Review	3	2014	3	2014
Link 16 Network JTIDS CM/FR Integration (Air) Sysyem requirements Review	3	2014	3	2014
Link 16 Network MOS MODERNIZATION Test Readiness Review	3	2014	3	2014
C2P Link 22 System Requirements Review	3	2014	3	2014
LMMT Inc I Fielding Review	3	2014	3	2014
Link 16 Network JTIDS CM/FR Test Readiness Review	4	2014	4	2014
Link 16 Network MOS CM/FR Development (Ship) Critical Design Review	4	2014	4	2014
Link 16 Network JTIDS CM/FR Integration (Air) Preliminary Design Review	4	2014	4	2014
Link 16 Network JTIDS/MOS CM/FR Development (Ship) Critical Design Review	4	2014	4	2014
C2P Tech Refresh Critical Design Review	4	2014	4	2014
LMMT Inc II CD I Preliminary Design Review	4	2014	4	2014
LMMT Inc II CD I Critical Design Review	4	2014	4	2014
C2P Link 22 Preliminary Design Review	1	2015	1	2015
Link 16 Network JTIDS CM/FR Integration (Air) Critical Design Review	2	2015	2	2015
Link 16 Network MOS MODERNIZATION Production Readiness Review	2	2015	2	2015
C2P Link 22 Increment III Milestone B	2	2015	2	2015
Link 16 Network JTIDS CM/FR (Ship/Air) Developmental Test Readiness Review	3	2015	3	2015
Link 16 Network MOS MOD Developmental Test Readiness Review	3	2015	3	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C2P Link 22 Critical Design Review	3	2015	3	2015
LMMT Inc II CD I Test Readiness Review	3	2015	3	2015
Link 16 Network DNM Full Operating Capability	4	2015	4	2015
Link 16 Network MOS MOD Operational Test Readiness Review	4	2015	4	2015
Link 16 Network JTIDS CM/FR (Ship/Air) Developmental Test	4	2015	4	2015
Link 16 Network MOS MOD Developmental Test	4	2015	4	2015
LMMT Inc II CD II System Requirements Review	4	2015	4	2015
LMMT Inc II CD I Development Test	4	2015	4	2015
LMMT Inc II CD I Operational Test	4	2015	4	2015
Link 16 Network JTIDS CM/FR (Ship/Air) Operational Test Readiness Review	1	2016	1	2016
Link 16 MOS MOD Operational Test	1	2016	1	2016
Link 16 Network JTIDS CM/FR (Ship/Air) Follow-On Operational Test and Evaluation	2	2016	2	2016
C2P Tech Refresh Developmental Test Readiness Review	2	2016	2	2016
LMMT Inc II CD I Initial Operating Capability	2	2016	2	2016
LMMT Inc II CD I Fielding Decision Review	2	2016	2	2016
LMMT Inc II CD II Preliminary Design Review	2	2016	2	2016
LMMT Inc II CD II Critical Design Review	2	2016	2	2016
Link 16 MOS MOD Fielding Decision Review	3	2016	3	2016
C2P Link 22 In Progress Review I	3	2016	3	2016
C2P Tech Refresh Developmental Test	3	2016	3	2016
Link 16 Network MOS CM/FR Developmental Test Readiness Review	4	2016	4	2016
C2P Link 22 Software Build I	4	2016	4	2016
C2P Tech Refresh Operational Test Readiness Review	4	2016	4	2016
C2P Tech Refresh Operational Test	4	2016	4	2016
Link 16 Network JTIDS CM/FR Full Rate Production Decision Review	1	2017	1	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Link 16 Network MOS CM/FR Operational Test Readiness Review	1	2017	1	2017
Link 16 Network MOS CM/FR Developmental Test	1	2017	1	2017
LMMT Inc II CD II Test Readiness Review	1	2017	1	2017
Link 16 Network JTIDS CM/FR Initial Operating Capability	2	2017	2	2017
Link 16 Network MOS CM/FR Operational Test	2	2017	2	2017
C2P Tech Refresh Fielding Decision Review	2	2017	2	2017
C2P Link 22 Software Build II	2	2017	2	2017
LMMT Inc II CD II Developmental Test	2	2017	2	2017
LMMT Inc II CD II Operational Test	2	2017	2	2017
C2P Link 22 In Progress Review	3	2017	3	2017
C2P Link 22 Software Build III	4	2017	4	2017
C2P Tech Refresh Production Readiness Review	4	2017	4	2017
LMMT Inc II CD II Fielding Decision Review	4	2017	4	2017
Link 16 Network MOS CM/FR Fielding Decision Review	1	2018	1	2018
C2P Link 22 Operational Assessment	1	2018	1	2018
C2P Link 22 Milestone C	2	2018	2	2018
C2P Link 22 Developmental Test Readiness Review	3	2018	3	2018
C2P Link 22 Developmental Test	4	2018	4	2018
LMMT Inc II Full Operational Capability	4	2018	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3020: <i>MIDS/JTRS</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3020: <i>MIDS/JTRS</i>	0.000	0.000	0.000	119.929	-	119.929	78.447	61.371	30.438	10.632	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Program of Records (JTRS PORs) transitioned to a Military Department-managed program. MIDS transitioned to the Navy under PE 0205604N but was formerly in PE 0604280N.

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 nets 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 2012	FY 2013	FY 2014
Title: MIDS	0.000	0.000	119.929
Articles:			0
FY 2014 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3020: <i>MIDS/JTRS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue the development and implementation of four nets CNM-4 with CCR for MIDS JTRS. Conduct Critical Design Review 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 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 Initial Baseline Review. Continue TTNT waveform development to incorporate version 7.0.4 into the detailed hardware design at PDR.			
Continue the Crypto Modernization (CM)/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. Continue MIDS systems engineering, Communication Security, IA and program management support.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	119.929

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 FY14 budget supports development and implementation of Crypto Modernization, Frequency Remapping, and Enhanced Throughput capabilities for the MIDS-LVT terminal as well as the development to incorporate Concurrent Multi-Netting-4 (CMN-4) and Tactical Targeting Network Technology (TTNT) into MIDS JTRS. MIDS JTRS also takes over the responsibility of developing the TTNT waveform.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3020: <i>MIDS/JTRS</i>

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 it's 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3020: <i>MIDS/JTRS</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MIDS JTRS CMN-4 Development	C/CPFF	DLS:Cedar Rapids, IA	0.000	0.000		0.000		0.608	Feb 2014	-		0.608	0.000	0.608	
MIDS JTRS CMN-4 Development	C/CPFF	ViaSat:San Diego, CA	0.000	0.000		0.000		0.609	Feb 2014	-		0.609	0.000	0.609	
MIDS JTRS NIFCA TTNT Full Development	C/CPFF	DLS:Cedar Rapids, IA	0.000	0.000		0.000		25.250	Dec 2013	-		25.250	Continuing	Continuing	Continuing
MIDS JTRS NIFCA TTNT Full Development	C/CPFF	ViaSat:San Diego, CA	0.000	0.000		0.000		25.250	Dec 2013	-		25.250	Continuing	Continuing	Continuing
MIDS JTRS NIFCA TTNT Waveform Development	C/CPFF	Rockwell Collins:Wayne, NJ	0.000	0.000		0.000		20.200	Feb 2014	-		20.200	Continuing	Continuing	Continuing
MIDS-LVT BU2 Full Development	C/CPFF	DLS:Cedar Rapids, IA	0.000	0.000		0.000		15.831	Jan 2014	-		15.831	Continuing	Continuing	Continuing
MIDS-LVT BU2 Full Development	C/CPFF	ViaSat:San Diego, CA	0.000	0.000		0.000		15.831	Jan 2014	-		15.831	Continuing	Continuing	Continuing
MIDS-LVT BU2 Software Full Development	C/CPFF	BAE:Wayne, NJ	0.000	0.000		0.000		12.400	Jan 2014	-		12.400	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		115.979		0.000		115.979			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering Support	MIPR	MITRE:Bedford, MA	0.000	0.000		0.000		0.792	Oct 2013	-		0.792	0.000	0.792	
Government Engineering Support TTNT	WR	SSC:San Diego, CA	0.000	0.000		0.000		0.634	Oct 2013	-		0.634	0.000	0.634	
Govt Engineering Support BU2	WR	SSC:San Diego, CA	0.000	0.000		0.000		0.619	Oct 2013	-		0.619	0.000	0.619	
IA Cert Support	MIPR	NSA:Fort George Meade, MD	0.000	0.000		0.000		0.191	Oct 2013	-		0.191	0.000	0.191	
Contractor Eng Support	TBD	TBD/Source Selection:TBD	0.000	0.000		0.000		0.906	Feb 2014	-		0.906	0.000	0.906	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3020: <i>MIDS/JTRS</i>
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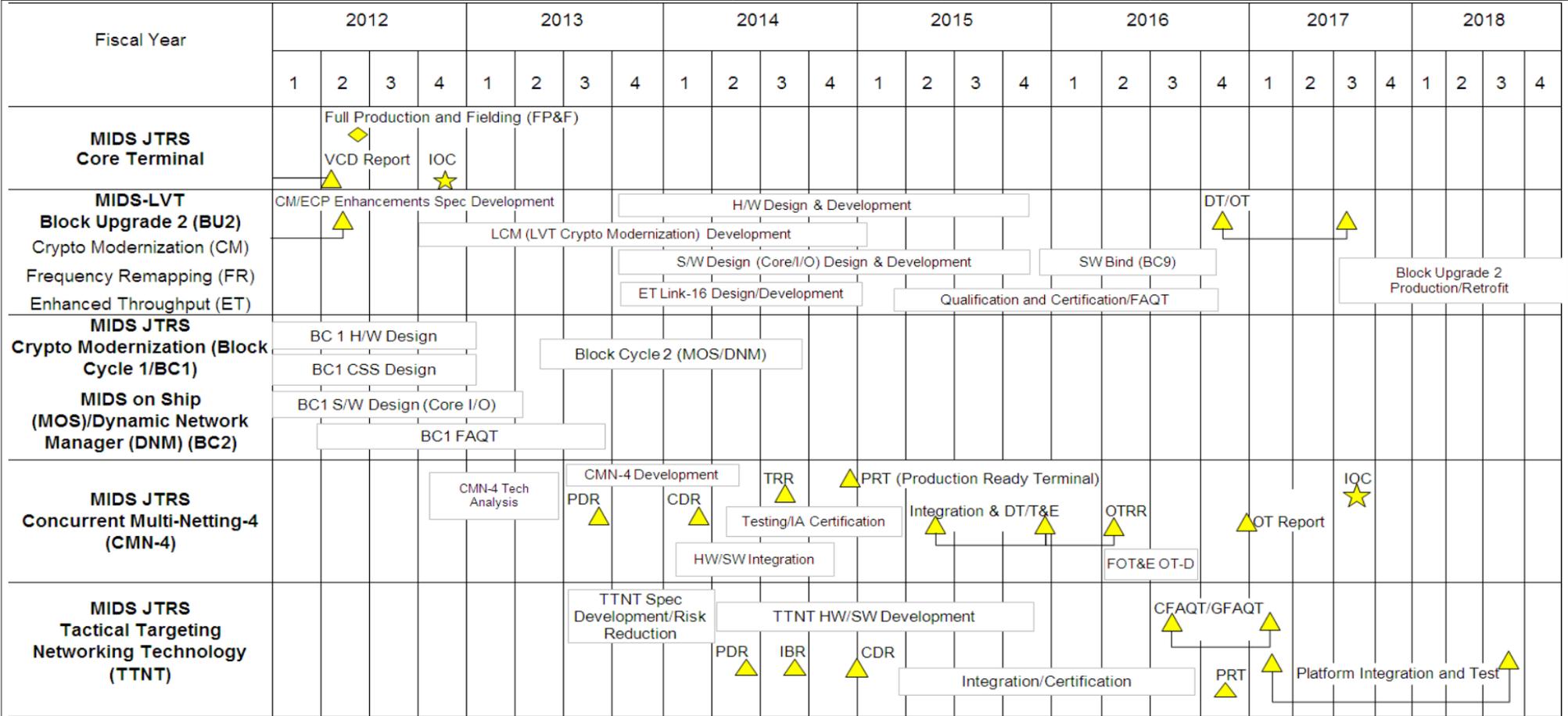
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	WR	Travel:Pax River, MD /DC	0.000	0.000		0.000		0.035	Oct 2013	-		0.035	0.000	0.035	
Govt Program Support NIFCA	WR	NAVAIR:Pax River, MD	0.000	0.000		0.000		0.773	Oct 2013	-		0.773	0.000	0.773	
Subtotal			0.000	0.000		0.000		3.950		0.000		3.950	0.000	3.950	
Project Cost Totals			0.000	0.000		0.000		119.929		0.000		119.929			

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

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3020: <i>MIDS/JTRS</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3020: <i>MIDS/JTRS</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MIDS				
MIDS JTRS Core Terminal: VCD Report	2	2012	2	2012
MIDS JTRS Core Terminal: Full Production Fielding Decision (FPF)	2	2012	2	2012
MIDS JTRS Core Terminal: IOC (Initial Operational Capability)	4	2012	4	2012
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): CM/ECP Enhancements Spec Development	2	2012	2	2012
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): LCM (LVT Crypto Modernization) Development	4	2012	1	2015
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Hardware (HW) Design and Development	4	2013	4	2015
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Software (SW) Design and Development	4	2013	4	2015
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Enhanced Throughput (ET) Link-16 Design and Development	4	2013	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): Developmental Test/Operational Test (DT/OT)	4	2016	3	2017
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Block Upgrade 2 Production/Retrofit	3	2017	4	2018
MIDS JTRS Crypto Modernization (Block Cycle 1/BC1): BC1 Hardware Design	1	2012	1	2013
MIDS JTRS Crypto Modernization (Block Cycle 1/BC1): BC1 CSS Design	1	2012	1	2013
MIDS JTRS Crypto Modernization (Block Cycle 1/BC1): BC1 Software Design (Core I/O)	1	2012	2	2013
MIDS JTRS Crypto Modernization (Block Cycle 1/BC1): BC1 FAQT	1	2012	3	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3020: <i>MIDS/JTRS</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MIDS JTRS MIDS on Ship (MOS)/Dynamic Network Manager (DNM) (BC2): Block Cycle 2	2	2013	3	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): CMN-4 Tech Analysis	4	2012	2	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	1	2014	4	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Testing/IA Certification	2	2014	1	2015
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Technical Readiness Review	3	2014	3	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Production Ready Terminal	4	2014	4	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Integration and DT/T&E	2	2015	4	2015
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): DT&T&E to OTRR	4	2015	2	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	4	2016	4	2016
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	3	2013	2	2014
MIDS JTRS Tactical Targeting Networking Technology (TTNT): TTNT Hardware/Software Development	2	2014	4	2015
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Preliminary Design Review	2	2014	2	2014
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Initial Baseline Review	3	2014	3	2014
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Critical Design Review	4	2014	4	2014
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Integration/Certification	1	2015	3	2016
MIDS JTRS Tactical Targeting Networking Technology (TTNT): CFAQT/GFAQT	3	2016	1	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3020: <i>MIDS/JTRS</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Production Ready Terminal	4	2016	4	2016
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Platform Integration and Test	1	2017	3	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3341: <i>Network Tactical Common Data Link</i>	0.000	0.000	14.907	8.104	-	8.104	0.000	0.000	0.000	0.000	0.000	23.011
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 (air, surface, 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 (air, surface, sub-surface, 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.

FY14: Funding enables continued program acquisition; engineering, manufacturing and development activities in support of NTCDL surface CDL variant. The threshold requirement is for five (5) simultaneous off-ship CDL missions, with limited topside footprint as a design priority.

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

	FY 2012	FY 2013	FY 2014
Title: Network Tactical Common Data Link (NTCDL)	0.000	14.907	8.104
Articles:		0	1
Description: Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.			
FY 2013 Plans: FY13 funds will be used for Acquisition documentation (Capability Development Document (CDD), System Performance Specification (SPS), Test and Evaluation Master Plan (TEMP), Integrated Master Schedule (IMS), etc). Also, contract to design/develop an NTCDL system appropriate to support Aircraft Carrier (CVN) CDL operations.			
FY 2014 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY14 funding will be used to continue program acquisition, and engineering, manufacturing and development activities, as well as conduct critical design reviews and testing in support of the NTCDL surface CDL variant.			
Accomplishments/Planned Programs Subtotals	0.000	14.907	8.104

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPN/2950: <i>Network Tactical Common Data Link .</i>	0.000	0.000	0.000		0.000	27.299	19.400	6.999	7.125	Continuing	Continuing

Remarks

D. Acquisition Strategy

NTCDL will utilize the evolutionary acquisition approach for each defined tiers (air, surface, sub-surface, 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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NTCDL Product Development	C/CPIF	UNKNOWN:UNKNOWN	0.000	0.000		12.004	Sep 2013	6.907	Oct 2013	-		6.907	0.000	18.911	
Subtotal			0.000	0.000		12.004		6.907		0.000		6.907	0.000	18.911	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NTCDL Systems Engineering	WR	SPAWARSYSCTR:San Diego, CA	0.000	0.000		0.700	Apr 2013	0.500	Oct 2013	-		0.500	0.000	1.200	
Subtotal			0.000	0.000		0.700		0.500		0.000		0.500	0.000	1.200	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NTCDL Test and Evaluation	WR	SPAWARSYSCTR:San Diego, CA	0.000	0.000		1.000	Apr 2013	0.050	Oct 2013	-		0.050	0.000	1.050	
NTCDL Test and Review	MIPR	JITC:Fort Huachuca, AZ	0.000	0.000		0.200	Apr 2013	0.050	Oct 2013	-		0.050	0.000	0.250	
NTCDL Waveform certification	MIPR	COMOPTEVFOR:Norfolk, VA	0.000	0.000		0.200	Apr 2013	0.050	Oct 2013	-		0.050	0.000	0.250	
Subtotal			0.000	0.000		1.400		0.150		0.000		0.150	0.000	1.550	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	WR	SPAWARSYSCTR:San Diego, CA	0.000	0.000		0.500	Apr 2013	0.200	Oct 2013	-		0.200	0.000	0.700	

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0205604N: *Tactical Data Links*

PROJECT

3341: *Network Tactical Common Data Link*

Tasks	FY 13				FY 14				FY 15				FY 16				FY 17				FY 18			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Major Milestones and Reviews			◇ Pre-EMD				◇ CDR				◇ MSC				◇ IOC	◇	◇ FRP DR							
			◇ MSB				◇ PDR																	
Documentation		◇ CDD	◇ AS (Pre-EMD)						◇ CPD		◇ AS (MSC)				◇ TEMP (OT)				◇ AS (FRP)					
											◇ TEMP (OA)													
NTCDL Contract		◇ Sys Spec/SOW	◇ RFP				◇ Award				◇ LRIP Order								◇ FRP Orders					
															◇ LRIP Deliveries						◇ FRP Deliveries			
NTCDL Development and Testing									◇ Test Article		◇ Shock	◇ DT/OA			◇ DT/OT Install									

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3341				
NTCDL- Capabilities Development Document (CDD)	3	2013	3	2013
NTCDL- System Spec/Statement of Work	3	2013	4	2013
NTCDL- Acquisition Strategy (Pre-EMD)	3	2013	3	2013
NTCDL- Pre-Engineering and Manufacturing Development (EMD)	3	2013	3	2013
NTCDL- Request for Proposal (Contract)	3	2013	3	2013
NTCDL- Milestone B	4	2013	4	2013
NTCDL- Contract Award	1	2014	1	2014
NTCDL- Preliminary Design Review (PDR)	2	2013	2	2014
NTCDL- Critical Design Review (CDR)	3	2014	3	2014
NTCDL- Capability Production Document (CPD)	1	2015	1	2015
NTCDL- First Test Article	1	2015	1	2015
NTCDL- Shock Testing	2	2015	2	2015
NTCDL- Test and Evaluation Master Plan (TEMP) (OA)	2	2015	2	2015
NTCDL- Development Test (DT) and Operational Assessment (OA)	2	2015	2	2015
NTCDL- Acquisition Strategy (MS C)	2	2015	2	2015
NTCDL- Milestone C	3	2015	3	2015
NTCDL- Low Rate Initial Production (LRIP) Contract Award	3	2015	3	2015
NTCDL- LRIP Deliveries	3	2016	4	2016
NTCDL- Developmental Test/Operational Test Installs	1	2016	1	2016
NTCDL- Test and Evaluation Master Plan (TEMP) (OT)	2	2016	2	2016
NTCDL- Development Test (DT) and Operational Test (OT)	2	2016	2	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NTCDL- Initial Operating Capability (IOC)	4	2016	4	2016
NTCDL- Acquisition Strategy (FRP)	4	2016	4	2016
NTCDL-Full Rate Production Descision Review (FPR-DR)	4	2016	4	2016
NTCDL- Full Rate Production Contract Award	4	2016	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4022: <i>Other Tactical Data Link Engineering</i>	0.600	11.701	21.999	4.969	-	4.969	0.000	0.000	0.000	0.000	0.000	39.269
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

See Classified Annex for details of this project.

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

	FY 2012	FY 2013	FY 2014
Title: Other Tactical Data Link Engineering	11.701	21.999	4.969
Articles:	0	0	0
FY 2012 Accomplishments: See Classified Annex for details of this project.			
FY 2013 Plans: See Classified Annex for details of this project.			
FY 2014 Plans: See Classified Annex for details of this project.			
Accomplishments/Planned Programs Subtotals	11.701	21.999	4.969

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

N/A

Remarks

D. Acquisition Strategy

See Classified Annex for details of this project.

E. Performance Metrics

See Classified Annex for details of this project.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ACD Development and Integration	SS/CPFF	Raytheon:Sudbury, MA	0.500	10.388	Apr 2012	15.798	Jan 2013	1.372	Jan 2014	-		1.372	0.000	28.058	27.529
ACD Development and Integration	WR	SPAWAR:San Diego, CA	0.000	0.580	Aug 2012	2.683	Jan 2013	0.140	Feb 2014	-		0.140	0.000	3.403	
Subtotal			0.500	10.968		18.481		1.512		0.000		1.512	0.000	31.461	

Remarks
See Classified Annex for details of this project.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering Support	C/CPFF	JHU/APL:Laurel, MD	0.065	0.250	Feb 2012	0.100	Mar 2013	0.012	Nov 2013	-		0.012	0.000	0.427	
Systems Engineering Support	WR	SPAWAR:San Diego, CA	0.000	0.235	Jul 2012	0.474	Feb 2013	0.660	Feb 2014	-		0.660	0.000	1.369	
Systems Engineering Support	MIPR	MIT/LL:Hanscom, MA	0.000	0.050	Feb 2012	0.025	Dec 2012	0.150	Dec 2013	-		0.150	0.000	0.225	
Systems Engineering Support	C/CPAF	Systems, Planning and Analysis:Alexandria, VA	0.000	0.170	Jul 2012	0.600	Mar 2013	0.300	Dec 2013	-		0.300	0.000	1.070	
Subtotal			0.065	0.705		1.199		1.122		0.000		1.122	0.000	3.091	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ACD Test	SS/CPFF	Raytheon:Subury, MA	0.000	0.000		2.000	Mar 2013	2.000	Dec 2013	-		2.000	0.000	4.000	4.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ACD Test	WR	SPAWAR:San Diego, CA	0.016	0.000		0.284	Feb 2013	0.300	Dec 2013	-		0.300	0.000	0.600	
Subtotal			0.016	0.000		2.284		2.300		0.000		2.300	0.000	4.600	

Remarks
See Classified Annex for details of this project.

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C/CPAF	Systems, Planning and Analysis:Alexandria, VA	0.019	0.018	Feb 2012	0.025	Dec 2012	0.025	Jan 2014	-		0.025	0.000	0.087	
TRAVEL	Allot	PEOISW2I:Washington, DC	0.000	0.010	Aug 2012	0.010	Dec 2012	0.010	Dec 2013	-		0.010	0.000	0.030	
Subtotal			0.019	0.028		0.035		0.035		0.000		0.035	0.000	0.117	

Remarks
See Classified Annex for details of this project.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.600	11.701	21.999	4.969	0.000	4.969	0.000	39.269	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>

FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Proj 4022	
See Classified Annex for Details.	

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4022				
See Classified Annex for Details.	1	2012	1	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	113.835	28.927	27.342	31.863	-	31.863	30.710	27.595	28.095	28.932	Continuing	Continuing
1916: <i>Surface ASW System Improvement</i>	113.835	21.427	27.342	31.863	-	31.863	30.710	27.595	28.095	28.932	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	7.500	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.500

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 801 and 802-2 (TEMP 801 & 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/III) class ships. The Open Architecture

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>
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(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 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 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	29.472	27.342	35.064	-	35.064
Current President's Budget	28.927	27.342	31.863	-	31.863
Total Adjustments	-0.545	0.000	-3.201	-	-3.201
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.545	0.000			
• Program Adjustments	0.000	0.000	-2.912	-	-2.912
• Rate/Misc Adjustments	0.000	0.000	-0.289	-	-0.289

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Surf ASW SBIR (Cong)*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2012	FY 2013
	7.500	-
	7.500	0.000
	7.500	0.000

Change Summary Explanation

Reduced FY14 Surface ASW System Improvement funding efforts to properly phase program requirements in accordance with expenditures.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1916: <i>Surface ASW System Improvement</i>	113.835	21.427	27.342	31.863	-	31.863	30.710	27.595	28.095	28.932	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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'), Test and Evaluation Master Plan 801 and 802-2 (TEMP 801 & 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 P31 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, and 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 and reduced watch-team operational concept implementation), distributed engagement management (Network Centric Enterprise Services implementation, new displays and decision aids, ASW Community-of-Interest model capabilities implementation), marine mammal detection and mitigation, Multi-Static Active ASW, Multi-Frequency Acoustic Communications (MF ACOMMS) between Surface Combatants and Submarines, new RAPTOR radar processing, and upgraded technologies such as algorithm improvements, increased Passive Narrow Band (PNB) frequency,

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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improved Extended Echo Ranging (EER), 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.

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

	FY 2012	FY 2013	FY 2014
<p>Title: SQQ-89A(V)15 Surface Ship ASW Advanced Capability Build (ACB) Development</p> <p style="text-align: right;">Articles:</p> <p>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, Marine Mammal Detection and Mitigation (MMDM) capability, 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, Low Frequency Multi-Static Functional Segment (LFMFS) 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 Data Fusion Functional Segment (DFFS) 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, Extended Echo Ranging (EER) "Distant Thunder" integration into the AN/SQQ-89A(V)15 Surface Common Airborne Undersea Sensor System (CAUSS) Functional Segment airframe sensor processing suite, 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.</p> <p>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, MMDM, fire control, contact management, performance prediction, operator productivity and on-board training, MFTA, Digital Fire Control Interface (DFCI), Remote Mine-Hunting System (RMS), MFA processing, and adaptive beamforming.</p> <p>FY 2012 Accomplishments:</p>	17.927	23.342	27.913
	0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>		PROJECT 1916: <i>Surface ASW System Improvement</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Continued development and integration of enhancements to the AN/SQQ-89A(V)15 for ACB-13. Conducted independent testing and initiated transition of the ACB-13 software. ACB-13 will focus on reducing Operator Machine Interfaces complexity to support ease of use and reduced training burden; improved active detection and tracking automation; full sensor simulation for training; improved situational awareness through automation and OMI; enhanced software architecture to improve system reliability.</p> <p>FY 2013 Plans: Continue 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. Finish production development of ACB-13 and deliver the ACB-13 software build to the AEGIS certification process for approval and testing prior to fielding. Initiate 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 to down select technologies and assist 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.</p> <p>FY 2014 Plans: Continue development and integration of enhancements to the AN/SQQ-89A(V)15 for ACB-15. 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 full system. Prepare data collection and test plans for Step 3 land-based testing as part of 4 Step ACB process. Step 3 is peer review by subject matter experts of fully integrated tactical capability.</p>				
<p>Title: AN/SQQ-89(V) Surface Ship ASW Test & Evaluation Program</p> <p>Articles:</p> <p>FY 2012 Accomplishments: Continued ACB-11 AN/SQQ-89A(V)15 Surface Ship ASW test and evaluation planning support; SAT analysis, determined test ship, test location, target requirements, personnel requirements and materials required, developed a test plan based on system configuration, at-sea data requirements, and ship, target, and range availabilities.</p> <p>FY 2013 Plans: Conduct Development Test (DT) and Operational Test (OT) to support fielding of ACB-11. In support of ACB-13, complete AN/SQQ-89A(V)15 System Qualification Test (SQT) 3Q13 and Aegis Integration Event (AIE) 4Q13.</p> <p>FY 2014 Plans:</p>		0.300 0	0.800 0	0.700 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue ACB-13 AN/SQQ-89A(V)15 ASW test and evaluation. Determine test ship, test location test location, target requirements, personnel requirements and materials required to support at sea test in conjunction with Aegis.			
Title: Surface Ship Enhanced Measurement Program (SSEMP)			
Articles:	3.200 0	3.200 0	3.250 0
Description: Analyze the sonar employment in the operational setting and reported 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 provided summary reports to document results.			
FY 2012 Accomplishments: Conducted ACB-09 and ACB-11 lab-based system and operator performance comparison test. Completed analysis of SSEMP cases 25 and 27.			
FY 2013 Plans: Continue ACB-11 performance assessment and operator at-sea testing and analysis of SSEMP cases. Update lab hardware to TI-12 and install ACB-11 tactical software.			
FY 2014 Plans: Commence ACB-11 and ACB-13 lab-based system and operator performance comparison test and continue analysis of SSEMP cases.			
Accomplishments/Planned Programs Subtotals	21.427	27.342	31.863

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	FY 2012	FY 2013	FY 2014 <u>Base</u>	FY 2014 <u>OCO</u>	FY 2014 <u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPN/2136: <i>AN/SQQ-89 Surface ASW Combat System</i>	71.771	89.201	83.231		83.231	112.892	129.202	120.115	149.861	Continuing	Continuing
• OPN/0900: <i>DDG Modernization</i>	126.373	452.371	285.994		285.994	517.286	469.890	530.225	801.286	Continuing	Continuing
• OPN/0960: <i>CG Modernization</i>	557.503	101.000	10.539		10.539	79.058	10.992	0.000	0.000	Continuing	Continuing

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>

D. Acquisition Strategy

- Completed AN/SQQ-89A(V)15 Surface Ship ASW Combat System Pre-Production Prototype, performed installation, conducted DT&E, and Initial IOT&E. 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.
- Awarded new, competitive contract for AN/SQQ-89(V) prime system integrator in FY 2007. Plan to award next new, competitive contract for AN/SQQ-89(V) prime system integrator in FY 2014.

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-11 development reflecting active capability for Continuous Active Sonar (CAS) including clutter reduction, passive processing from submarine APB-09, SAST, and improvements in contact and data management.
- Continue SAST system development, integration and testing.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SQQ-89 S/W Development/Integration	C/CPFF	AAC:NY	4.508	1.300	Jan 2012	1.850	Feb 2013	1.850	Dec 2013	-		1.850	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	AM:VA	11.622	1.650	Dec 2011	2.250	Jan 2013	2.350	Dec 2013	-		2.350	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	GD-AIS:VA	11.322	0.000		0.000		0.000		-		0.000	0.000	11.322	
SQQ-89 S/W Development/Integration	C/CPFF	In-Depth Engineering:VA	2.100	0.875	Jan 2012	0.950	Dec 2012	1.200	Dec 2013	-		1.200	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	JHU/APL:MD	8.675	3.761	Feb 2012	5.435	Dec 2012	6.125	Dec 2013	-		6.125	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	Lockheed Martin:NY	8.705	1.500	Feb 2012	2.450	Dec 2012	2.690	Dec 2013	-		2.690	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	Lockheed Martin:VA	1.800	1.700	Feb 2012	1.750	Dec 2012	2.125	Dec 2013	-		2.125	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	WR	NSWC/ Carderock:MD	1.720	0.000		0.125	Nov 2012	0.350	Nov 2013	-		0.350	0.000	2.195	
SQQ-89 S/W Development/Integration	WR	NSWC/Dahlgren:VA	1.336	0.104	Jan 2012	0.175	Apr 2013	0.000		-		0.000	Continuing	Continuing	Continuing
SQQ-89 S/W TDA Support	WR	NUWC/Newport:RI	5.473	1.287	Nov 2011	2.583	Nov 2012	2.745	Nov 2013	-		2.745	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	SEDNA:VA	1.400	1.400	Dec 2011	1.400	Dec 2012	1.400	Dec 2013	-		1.400	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	UT/ARL:TX	6.767	0.500	Dec 2011	0.975	Feb 2013	1.110	Dec 2013	-		1.110	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	VAR:VAR*	4.890	3.088	Dec 2011	3.893	Dec 2012	5.608	Dec 2013	-		5.608	Continuing	Continuing	Continuing
SAST Development/ Integration	C/CPFF	JHU/APL:MD	8.302	0.000		0.000		0.000		-		0.000	0.000	8.302	
SAST Development/ Integration	WR	NSWC/ Carderock:MD	11.265	0.000		0.000		0.000		-		0.000	0.000	11.265	
SAST Development/ Integration	WR	NUWC/Newport:RI	2.950	0.000		0.000		0.000		-		0.000	0.000	2.950	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SAST Development/Integration	C/CPFF	SEDNA:VA	4.792	0.000		0.000		0.000		-		0.000	0.000	4.792	
SAST Development/Integration	C/CPFF	UT/ARL:TX	1.652	0.000		0.000		0.000		-		0.000	0.000	1.652	
SAST Development/Integration	C/CPFF	VAR:VAR*	0.380	0.000		0.000		0.000		-		0.000	0.000	0.380	
Subtotal			99.659	17.165		23.836		27.553		0.000		27.553			

Remarks
 *Consists of multiple performing activities with funding for each not greater than \$1M per year.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SSEMP ConductTest/Data Evaluation	C/CPFF	JHU/APL:MD	5.760	2.005	Feb 2012	2.100	Dec 2012	2.100	Dec 2013	-		2.100	Continuing	Continuing	Continuing
SSEMP Conduct/Test/Data Evaluation	WR	NUWC/Newport:RI	1.362	0.550	Nov 2011	0.500	Nov 2012	0.500	Nov 2013	-		0.500	Continuing	Continuing	Continuing
SSEMP Conduct/Test/Data Evaluation	C/CPFF	UT/ARL:TX	1.878	0.600	Dec 2011	0.600	Feb 2013	0.600	Dec 2013	-		0.600	Continuing	Continuing	Continuing
SQQ-89 IV&V/SAT/TEMP Assess./Update	WR	NUWC/Newport:RI	1.276	0.350	Nov 2011	0.000		0.000		-		0.000	0.000	1.626	
SQQ-89 DT/OT/Miscellaneous T&E	WR	VAR:VAR*	1.475	0.310	Dec 2011	0.000		0.800	Dec 2013	-		0.800	0.000	2.585	
Subtotal			11.751	3.815		3.200		4.000		0.000		4.000			

Remarks
 *Consists of multiple performing activities with funding for each not greater than \$1M per year.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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Proj 1916	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				
	1Q	2Q	3Q	4Q																									
Acquisition/Contract Milestones									▲																				Contract Award
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-13)																													ACB-13 Development - Certification ▲ SQT ▲ AIE ACB-13 Delivery ▲
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-15)																													ACB-15 Development - Certification ▲ SQT ▲ AIE ACB 15 Delivery ▲
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-17)																													ACB-17 Development - Certification ▲ SQT ▲ AIE ACB-17 Delivery ▲
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-19)																													ACB-19 Development - Certification
Surface Ship Enhanced Measurement Program (SSEMP)																													SSEMP

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1916				
Acquisition/Contract Milestones: New AN/SQQ-89(V) Prime Integrator Contract Award	1	2014	1	2014
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-13): SQQ-89A(V)15 ACB-13 Dev./Step Eval./PRT/Integ./Cert.	1	2012	2	2013
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-13): SQQ-89A(V)15 ACB-13 System Qualification Test (SQT)	3	2013	3	2013
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-13): SQQ-89A(V)15 ACB-13 Aegis Integration Event (AIE)	4	2013	4	2013
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-13): SQQ-89A(V)15 ACB-13 Prdtn. S/W Delivery to Integrator	4	2013	4	2013
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-15): SQQ-89A(V)15 ACB-15 Dev./Step Eval./PRT/Integ./Cert.	2	2013	2	2015
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-15): SQQ-89A(V)15 ACB-15 System Qualification Test (SQT)	3	2015	3	2015
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-15): SQQ-89A(V)15 ACB-15 Aegis Integration Event (AIE)	4	2015	4	2015
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-15): SQQ-89A(V)15 ACB-15 Prdtn. S/W Delivery to Integrator	4	2015	4	2015
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-17): SQQ-89A(V)15 ACB-17 Dev./Step Eval./PRT/Integ./Cert.	2	2015	2	2017
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-17): SQQ-89A(V)15 ACB-17 System Qualification Test (SQT)	3	2017	3	2017
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-17): SQQ-89A(V)15 ACB-17 Aegis Integration Event (AIE)	4	2017	4	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-17): SQQ-89A(V)15 ACB-17 Prdtn. S/W Delivery to Integrator	4	2017	4	2017
AN/SQQ-89A(V)15 Advanced Capability Build (ACB-19): SQQ-89A(V)15 ACB-15 Dev./Step Eval./PRT/Integ./Cert.	2	2017	4	2018
Surface Ship Enhanced Measurement Program (SSEMP): Surface Ship Enhanced Measurement Program (SSEMP)	1	2012	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	7.500	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.500
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2012	FY 2013
<i>Congressional Add:</i> Surf ASW SBIR (Cong)	7.500	-
<i>FY 2012 Accomplishments:</i> Provided the DESRON Commander, performing the Anti-Submarine Warfare Commander (ASWC) role, the ability to enhance the execution of Surface ASW by enabling net-centric ASW information exchange between assigned units. Currently the ASWC's two primary sensors, Periscope Detection Radar (PDR), SPS-74, and Surface Ship Sonar, AN/SQQ-89A(V)15, only provide data to the installed ship. Sharing this sensor information will dramatically improve the successful execution of the DESRON Commanders ASW mission. Provided engineering services that support integration, testing, evaluation, and certification of the interfaces between the Undersea Warfare - Decision Support System (USW-DSS) Build 2 and above surface ASW sensors. This is accomplished via the execution of a formal test plan that includes: formal External Interface Testing (EIT); formal lab-based software certification; and multiple at-sea testing events as part of Development Testing in preparation for Operational Testing Certification.		
Congressional Adds Subtotals	7.500	0.000

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 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	164.443	45.130	28.717	12.806	-	12.806	24.116	23.598	21.130	21.339	Continuing	Continuing
0366: <i>MK 48 ADCAP</i>	164.443	37.630	28.717	12.806	-	12.806	24.116	23.598	21.130	21.339	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	7.500	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.500

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Element (0205632N/0366) 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 Research and Development (R&D) 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. The Commonwealth of Australia Royal Navy is jointly participating to develop CBASS Phase II 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 R&D 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 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 R&D community). This approach will incorporate developmental testing of the FNC transitioning technologies for ADCAP upgrades in the areas

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>
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of torpedo sensors, weapon/platform connectivity, warhead lethality, speed and depth. These efforts will continue torpedo development investment at a lower cost and shorter term than traditional torpedo programs.

The MK-48 ADCAP torpedo program completed the OT phase of testing Spiral 4 on ACOT and CBASS units in 1st Qtr 2013 in support of IOC.

APB5 software upgrades are currently in process for MK-48 ADCAP torpedoes.

FNC technologies and MK-54 Lightweight torpedo 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	46.759	28.717	25.333	-	25.333
Current President's Budget	45.130	28.717	12.806	-	12.806
Total Adjustments	-1.629	0.000	-12.527	-	-12.527
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.750	0.000			
• SBIR/STTR Transfer	-0.879	0.000			
• Program Adjustments	0.000	0.000	-8.070	-	-8.070
• Rate/Misc Adjustments	0.000	0.000	-4.457	-	-4.457

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Small Business Technology Insertion*

	FY 2012	FY 2013
	7.500	-
Congressional Add Subtotals for Project: 9999	7.500	0.000
Congressional Add Totals for all Projects	7.500	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0366: <i>MK 48 ADCAP</i>	164.443	37.630	28.717	12.806	-	12.806	24.116	23.598	21.130	21.339	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Completed Spiral 4 OT testing with delivery of the final report in support of IOC in 2nd Qtr 2013

MK-48 ADCAP RDT&E 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 Element (0205632N/0366) 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 Automated Test Equipment replacement.

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

	FY 2012	FY 2013	FY 2014
Title: TORPEDO APB	24.112	19.795	5.165
Articles:	0	0	0
FY 2012 Accomplishments:			
-Continued APB 5 development and Spiral 4 OT.			
-Conducted development of the RDTE Guidance Control (G&C) initiative to support production restart efforts on G&C components so 50 G&Cs can be matched up with arrays and AB/TCs thus increasing inventory numbers.			
-Started development of Automated Test Equipment (ATE) replacement.			
FY 2013 Plans:			
-Continue APB 5 development.			
-Continue development of Automated Test Equipment (ATE) replacement.			
FY 2014 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
-Continue APB 5 development.			
Title: OPERATIONAL TEST SUPPORT	13.518	8.922	7.641
Articles:	0	0	0
FY 2012 Accomplishments: Completed Spiral 4 OT.			
FY 2013 Plans: Conduct APB 5 testing.			
FY 2014 Plans: Continue APB 5 testing.			
Accomplishments/Planned Programs Subtotals	37.630	28.717	12.806

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• WPN/3225: <i>MK-48 Torpedo ADCAP Mods</i>	42.493	54.281	53.203		53.203	56.557	71.883	59.400	49.926	Continuing	Continuing

Remarks

D. Acquisition Strategy

Sole Source Production Contract awarded in FY 2004 for MK-48 ADCAP MODS, Lightweight MK-54, and Common Broadband Advanced Sonar System (CBASS) kits, including Royal Australian Navy (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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Software Development	WR	NUWC NPT:Newport RI	24.015	3.147	Dec 2011	11.206	Oct 2012	1.947	Oct 2013	-		1.947	Continuing	Continuing	Continuing
Primary Hardware Development	WR	NUWC NPT:Newport RI	0.000	16.400	Jun 2012	4.900	Dec 2012	0.000		-		0.000	0.000	21.300	
Primary Hardware Development	C/CPFF	Progeny:Manassas VA	10.852	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			34.867	19.547		16.106		1.947		0.000		1.947			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	WR	NUWC NPT:Newport RI	15.096	3.218	Oct 2011	3.069	Oct 2012	2.035	Oct 2013	-		2.035	Continuing	Continuing	Continuing
Software Development	Various	Various:Not Specified	36.317	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Integrated Logistics Support	WR	NUWC NPT:Newport RI	2.243	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering WCF	WR	NUWC NPT:Newport RI	17.750	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering	Various	NUWC NPT:Newport RI	0.000	0.676	Dec 2011	0.000		0.673	Dec 2013	-		0.673	Continuing	Continuing	Continuing
Subtotal			71.406	3.894		3.069		2.708		0.000		2.708			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation	WR	NUWC NPT:Newport RI	10.586	5.798	Oct 2011	0.000		2.772	Nov 2013	-		2.772	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Operational Test & Evaluation	WR	Operational Test Force:Norfolk VA	7.033	0.250	Nov 2011	0.450	Oct 2012	0.303	Oct 2013	-		0.303	Continuing	Continuing	Continuing
Modeling & Simulation	WR	NUWC NPT:Newport RI	9.745	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Modeling & Simulation	C/CPFF	ARL / PSU:State College PA	5.700	1.500	Dec 2011	1.988	Dec 2012	1.784	Dec 2013	-		1.784	Continuing	Continuing	Continuing
Test & Evaluation	WR	NUWC Keyport (KPT):Keyport WA	21.696	5.970	Oct 2011	6.484	Dec 2012	2.782	Oct 2013	-		2.782	Continuing	Continuing	Continuing
Subtotal			54.760	13.518		8.922		7.641		0.000		7.641			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C/FFP	Alion Science:Mclean VA	2.680	0.488	Oct 2011	0.462	Oct 2012	0.476	Oct 2013	-		0.476	Continuing	Continuing	Continuing
Travel	WR	NAVSEA:Washington DC	0.730	0.183	Oct 2011	0.158	Oct 2012	0.034	Oct 2013	-		0.034	Continuing	Continuing	Continuing
Subtotal			3.410	0.671		0.620		0.510		0.000		0.510			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		164.443	37.630	28.717	12.806	0.000		12.806	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy	DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy	R-1 ITEM NOMENCLATURE	DATE: February 2013																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0366				
Software Development: Spiral 4 Operational Test (OT)	1	2012	1	2013
Software Development: Spiral 4 IOC	2	2013	2	2013
Software Development: APB 5 Development	1	2012	2	2016
Software Development: APB 5 Developmental Test (DT)	3	2016	1	2018
Software Development: APB 5 Operation Test (OT)	2	2018	4	2018
Guidance and Production Restart Efforts: Guidance and Production Restart Efforts	1	2012	4	2013
Automated Test Equipment Production Restart Efforts: Automated Test Equipment Production Restart Efforts	1	2012	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	7.500	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.500
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 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 2012	FY 2013
<i>Congressional Add:</i> Small Business Technology Insertion	7.500	-
<i>FY 2012 Accomplishments:</i> FY12 Congressional Add used to develop array and array electronics upgrades.		
Congressional Adds Subtotals	7.500	0.000

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

N/A

Remarks

D. Acquisition Strategy

Congressional Adds

E. Performance Metrics

Congressional Adds

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	905.410	101.135	89.157	88.607	-	88.607	113.421	123.058	121.342	126.096	Continuing	Continuing
0601: <i>Acft Handling & Service Equip</i>	26.874	0.260	3.221	3.173	-	3.173	3.232	3.243	3.315	3.371	Continuing	Continuing
0852: <i>Consolidated Auto Support System</i>	94.361	32.525	8.325	6.496	-	6.496	6.635	6.736	6.875	6.991	Continuing	Continuing
1041: <i>Acft Equip Repl/Maint Prog</i>	34.274	2.972	3.238	3.273	-	3.273	3.344	3.398	3.468	3.528	Continuing	Continuing
1355: <i>Propulsion and Power Component Improvement Program</i>	749.901	60.673	61.296	70.497	-	70.497	90.844	94.685	96.693	112.206	Continuing	Continuing
2269: <i>EAF Matting</i>	0.000	4.705	13.077	5.168	-	5.168	9.366	14.996	10.991	0.000	0.000	58.303

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

The Expeditionary Airfields (EAF) program is a FY2012 New Start. It was previously budgeted for in Program Element 0205633N, Project Unit 0601 and has been administratively moved to Project Unit 2269 within this same program element.

A. Mission Description and Budget Item Justification

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.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>
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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 EAF program designs, develops, tests and fields an Improved EAF Lighting Program to replace existing obsolete legacy EAF lighting system.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	100.415	89.157	96.658	-	96.658
Current President's Budget	101.135	89.157	88.607	-	88.607
Total Adjustments	0.720	0.000	-8.051	-	-8.051
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.907	0.000			
• SBIR/STTR Transfer	-2.187	0.000			
• Program Adjustments	0.000	0.000	-5.300	-	-5.300
• Rate/Misc Adjustments	0.000	0.000	-2.751	-	-2.751

Change Summary Explanation

Schedule:

Project 0601: Aircraft Spotting Dolly Milestone B, Prototype Phase, and Milestone C delayed as a result of the majority of funding being re-directed to a higher priority program.

Project 3190: The Navy canceled the Multi-Purpose Bomb Rack program in April 2011. Budget exhibits reflect cancellation.

Project 1041: Wiring Diagnostics and Prognostics effort was extended to account for technological challenges delaying completion. Ultra-high Density Power Storage was added as a spin-off effort of the Advanced Methods of Structural Repair project; this technology enables long-term structural health monitoring within inaccessible locations. Wireless Data Bus effort was accelerated into FY17 based on current progress of technology development. Improved Corrosion Preventative Compounds effort was extended so that emergent products can be evaluated. Advanced Methods of Structural Repair was extended due to delays in securing components to demonstrate repair. Corrosion Prevention and Control was extended to allow additional time for field evaluations. Subsystem Improvement Initiative scheduled completion was delayed due to increased complexity of the solution over what was originally anticipated. Expanded Qualification of Electro-Discharge Machine Drilling was added as an emergent capability with significant cost savings potential at the Fleet Readiness Centers (FRCs). MultiLayer Sacrificial Film Laminates for Windscreen Protection is a new effort to leverage Army investment in a multilayer product. Rapid Composite Tooling was added as an emergent capability with significant cost savings potential at the FRCs. Sensor Fusion for Advanced Prognostics effort was accelerated

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0205633N: *Aviation Improvements*

into FY16 based on results of current university research. Maintainability of Signature-controlled Structures was accelerated into FY17 due to cost savings potential. Significant need existed to find cost-effective ways to maintain and verify the integrity of these structures.

Project 2269: Preliminary Design Review and Critical Design Review each slipped 8 quarters or 2 years to the right because the original schedule was based off of an estimate that was a complete Commercial Off The Shelf solution where there were no upfront design requirements.

Technical:

Project 0601: A recent market research effort determined that industry has Hydraulic Test Stands that will meet, with minor modification (modified COTS - APN7), the Navy's requirement. No Research and Development effort required.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0601: <i>Acft Handling & Service Equip</i>	26.874	0.260	3.221	3.173	-	3.173	3.232	3.243	3.315	3.371	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Program is Carrier/Amphibious Assault Ship Crash Crane (CV/AACC) in FY13. 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 2012	FY 2013	FY 2014
Title: Aircraft Spotting Dolly (ASD)	0.000	2.009	0.938
Articles:		1	0
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			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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.				
FY 2013 Plans: Procure prototype of Aircraft Spotting Dolly.				
FY 2014 Plans: Continue contractor and government run test.				
Title: Carrier/Amphibious Assault Ship Crash Crane (CV/AACC)		0.000	0.714	1.790
			0	1
Description: CV/AACC are required to remove damaged aircraft from the flight line. In 2004, a solicitation for a commercial 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 Plans: Initiate prototype development of CV/AACC.				
FY 2014 Plans: Initiate contractor and government run test.				
Title: Portable Electronic Maintenance Aid (PEMA)		0.260	0.498	0.445
			0	0
Description: 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 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.				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> 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.</p> <p><i>FY 2013 Plans:</i> 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.</p> <p><i>FY 2014 Plans:</i> 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.</p>			
Accomplishments/Planned Programs Subtotals	0.260	3.221	3.173

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/0705: <i>Ground Support Equipment</i>	130.497	127.015	127.417		127.417	135.194	129.994	134.593	136.921	Continuing	Continuing
• OPN/4264: <i>Portable Electronic Maintenance Aids</i>	8.778	7.954	7.969		7.969	8.126	8.251	8.386	8.532	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.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Dev--ASD	C/FFP	TBD:TBD	0.000	0.000		1.509	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering-ASD	WR	NAWCAD:LAKEHURST, NJ	0.000	0.000		0.500	Nov 2012	0.438	Nov 2013	-		0.438	Continuing	Continuing	Continuing
Systems Engineering-CV/AACC	WR	NAWCAD:LAKEHURST, NJ	0.000	0.000		0.714	Nov 2012	0.355	Nov 2013	-		0.355	Continuing	Continuing	Continuing
Primary Hardware Dev-CV/AACC	C/FFP	TBD:TBD	0.000	0.000		0.000		0.750	Dec 2013	-		0.750	Continuing	Continuing	Continuing
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various:Various	17.517	0.000		0.000		0.000		-		0.000	0.000	17.517	
Subtotal			17.517	0.000		2.723		1.543		0.000		1.543			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior year Support cost no longer funded in the FYDP	Various	Various:Various	8.857	0.000		0.000		0.000		-		0.000	0.000	8.857	
Subtotal			8.857	0.000		0.000		0.000		0.000		0.000	0.000	8.857	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Operational T & E - PEMA	WR	NAWCAD:PAX RIVER, MD	0.000	0.260	Nov 2011	0.498	Nov 2012	0.445	Nov 2013	-		0.445	Continuing	Continuing	Continuing
C&G Test - ASD	WR	NAWCAD:PAX RIVER, MD	0.000	0.000		0.000		0.500	Nov 2013	-		0.500	Continuing	Continuing	Continuing
C&G Test - CV/AACC	WR	NAWCAD:PAX RIVER, MD	0.000	0.000		0.000		0.685	Nov 2013	-		0.685	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
 PE 0205633N: *Aviation Improvements*

PROJECT
 0601: *Acft Handling & Service Equip*

AIRCRAFT SPOTTING DOLLY (ASD)	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q																												
Acquisition Milestones																																
Milestones																																
Systems Development																																
Hardware Development																																
Test & Evaluation																																
C & G Test																																
Production Milestones																																
Deliveries																																

2014PB - 0205633N - 0601

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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CARRIER/AMPHIBIOUS ASSAULT SHIP CRASH CRANE (CV/AACC)	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
Acquisition Milestones																													
Milestones																													
Systems Development																													
Hardware Development					ECP DEVELOPMENT																								
Test & Evaluation																													
C & G Test																													
Production Milestones																													

2014PB - 0205633N - 0601

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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PORTABLE ELECTRONIC MAINTENANCE AIDS (PEMA)	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Systems Development																												
Contract Award	3				4				5				6				7				8				9			
Requirements		Study 3				Study 4				Study 5				Study 6				Study 7				Study 8				Study 9		
Engineering Change Proposal By T/M/S			ECP 3			ECP 4				ECP 5				ECP 6				ECP 7				ECP 8				ECP 9		
Image Development By T/M/S			Image Devel 3			Image Devel 4				Image Devel 5				Image Devel 6				Image Devel 7				Image Devel 8				Image Devel 9		
Test & Evaluation																												
Functional Regression Testing				F/R Test 3				F/R Test 4				F/R Test 5				F/R Test 6				F/R Test 7				F/R Test 8			F/R Test 9	
Independent Validation & Verification Testing				V/V Test 3				V/V Test 4				V/V Test 5				V/V Test 6				V/V Test 7				V/V Test 8			V/V Test 9	
Production Milestones																												
Deliveries																												
Production Deliveries				Rel 3				Rel 4				Rel 5				Rel 6				Rel 7				Rel 8			Rel 9	

2014PB - 0205633N - 0601

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AIRCRAFT SPOTTING DOLLY (ASD)				
Acquisition Milestones: Milestones: ASD-MILESTONE B	1	2013	1	2013
Acquisition Milestones: Milestones: ASD-MILESTONE C	4	2015	4	2015
Systems Development: Hardware Development: ASD - Reqts Analysis Doc (RAD) Dev / PROTOTYPE PHASE	1	2013	4	2014
Test & Evaluation: ASD - CONTRACTOR AND GOVT RUN TESTING	2	2013	4	2015
CARRIER/AMPHIBIOUS ASSAULT SHIP CRASH CRANE (CV/AACC)				
Acquisition Milestones: Milestones: MILESTONE C	4	2015	4	2015
Systems Development: Hardware Development: CV/AACC-ECP DEVELOPMENT	1	2013	1	2015
Test & Evaluation: CV/AACC-CONTRACTOR AND GOVT RUN TESTING	1	2014	3	2015
PORTABLE ELECTRONIC MAINTENANCE AIDS (PEMA)				
Systems Development: Contract Award: Contract Award 3	1	2012	1	2012
Systems Development: Contract Award: Contract Award 4	1	2013	1	2013
Systems Development: Contract Award: Contract Award 5	1	2014	1	2014
Systems Development: Contract Award: Contract Award 6	1	2015	1	2015
Systems Development: Contract Award: Contract Award 7	1	2016	1	2016
Systems Development: Contract Award: Contract Award 8	1	2017	1	2017
Systems Development: Contract Award: Contract Award 9	1	2018	1	2018
Systems Development: Requirements: Requirements Study Complete 3	2	2012	2	2012
Systems Development: Requirements: Requirements Study Complete 4	2	2013	2	2013
Systems Development: Requirements: Requirements Study Complete 5	2	2014	2	2014
Systems Development: Requirements: Requirements Study Complete 6	2	2015	2	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>		PROJECT 0601: <i>Acft Handling & Service Equip</i>	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Systems Development: Requirements: Requirements Study Complete 7	2	2016	2	2016
Systems Development: Requirements: Requirements Study Complete 8	2	2017	2	2017
Systems Development: Requirements: Requirements Study Complete 9	2	2018	2	2018
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 3	3	2012	3	2012
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 4	3	2013	3	2013
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 5	3	2014	3	2014
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 6	3	2015	3	2015
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 7	3	2016	3	2016
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 8	3	2017	3	2017
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 9	3	2018	3	2018
Systems Development: Image Development By T/M/S: Image Development By T/M/S 3	3	2012	3	2012
Systems Development: Image Development By T/M/S: Image Development By T/M/S 4	3	2013	3	2013
Systems Development: Image Development By T/M/S: Image Development By T/M/S 5	3	2014	3	2014
Systems Development: Image Development By T/M/S: Image Development By T/M/S 6	3	2015	3	2015
Systems Development: Image Development By T/M/S: Image Development By T/M/S 7	3	2016	3	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Systems Development: Image Development By T/M/S: Image Development By T/M/S 8	3	2017	3	2017
Systems Development: Image Development By T/M/S: Image Development By T/M/S 9	3	2018	3	2018
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 3	4	2012	4	2012
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 4	4	2013	4	2013
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 5	4	2014	4	2014
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 6	4	2015	4	2015
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 7	4	2016	4	2016
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 8	4	2017	4	2017
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 9	4	2018	4	2018
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 3	4	2012	4	2012
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 4	4	2013	4	2013
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 5	4	2014	4	2014
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 6	4	2015	4	2015
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 7	4	2016	4	2016
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 8	4	2017	4	2017
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 9	4	2018	4	2018
Deliveries: Production Deliveries: Production Delivery, Release 3	4	2012	4	2012
Deliveries: Production Deliveries: Production Delivery, Release 4	4	2013	4	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: Production Deliveries: Production Delivery, Release 5	4	2014	4	2014
Deliveries: Production Deliveries: Production Delivery, Release 6	4	2015	4	2015
Deliveries: Production Deliveries: Production Delivery, Release 7	4	2016	4	2016
Deliveries: Production Deliveries: Production Delivery, Release 8	4	2017	4	2017
Deliveries: Production Deliveries: Production Delivery, Release 9	4	2018	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0852: <i>Consolidated Auto Support System</i>	94.361	32.525	8.325	6.496	-	6.496	6.635	6.736	6.875	6.991	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: eCASS Development	32.525	7.925	6.196
Articles:	8	0	0
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 2012 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Conduct eCASS system Critical Design Review, procure initial Engineering Development Models, initiate Test Program Set integration, and conduct Test Readiness Review (TRR). Commence Developmental Test DT-B1 and DT-B2 test events.</p> <p>FY 2013 Plans: Continue Test Program Set integration. Conduct Production Readiness Review. Conduct Milestone C Review. Conduct TRR. Commence DT-C1 test event.</p> <p>FY 2014 Plans: Continue DT-C1/DT-C2 test events. Award LRIP Option.</p>			
<p>Title: Test Technology Development</p> <p align="right">Articles:</p>	0.000	0.400 1	0.300 1
<p>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).</p> <p>FY 2013 Plans: Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems.</p> <p>FY 2014 Plans: Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems.</p>			
Accomplishments/Planned Programs Subtotals	32.525	8.325	6.496

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>						
• APN/0705: <i>Common Ground Equip APN-7</i>	68.414	93.186	93.802		93.802	95.610	96.503	98.542	100.223	Continuing	Continuing
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hdw Dev eCASS	C/CPIF	LOCKHEED MARTIN:ORLANDO, FL	43.380	31.169	Dec 2011	5.796	Dec 2012	4.217	Dec 2013	-		4.217	Continuing	Continuing	Continuing
Primary Hdw Dev Test Technology	C/CPFF	Various:Various	0.882	0.000		0.300	Dec 2012	0.250	Dec 2013	-		0.250	Continuing	Continuing	Continuing
Prior Year Prod Dev no longer funded in the FYDP	Various	Various:Various	28.397	0.000		0.000		0.000		-		0.000	0.000	28.397	
Subtotal			72.659	31.169		6.096		4.467		0.000		4.467			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
eCASS Support	WR	Various:Various	2.451	0.391	Jan 2012	0.956	Dec 2012	0.900	Dec 2013	-		0.900	Continuing	Continuing	Continuing
eCASS Support	WR	NAWC AD:Lakehurst, NJ	4.150	0.715	Jan 2012	1.052	Dec 2012	0.976	Dec 2013	-		0.976	Continuing	Continuing	Continuing
Test Technology Support	WR	Various:Various	0.450	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Support cost no longer funded in the FDYP	Various	Various:Various	12.403	0.000		0.000		0.000		-		0.000	0.000	12.403	
Subtotal			19.454	1.106		2.008		1.876		0.000		1.876			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
eCASS Travel	WR	Various:Various	0.379	0.250	May 2012	0.121	May 2013	0.103	May 2014	-		0.103	Continuing	Continuing	Continuing
Test Tech Travel	WR	Various:Various	0.200	0.000		0.100	May 2013	0.050	May 2014	-		0.050	Continuing	Continuing	Continuing
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various:Various	1.669	0.000		0.000		0.000		-		0.000	0.000	1.669	
Subtotal			2.248	0.250		0.221		0.153		0.000		0.153			

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>
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electronic Consolidated Automated Support System (eCASS)	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Milestones																												
					MS C ▲								FRPDR ◆								IOC ▲							
Systems Development																												
Hardware and Software Development	System Development																											
Test & Evaluation																												
Development Testing					DT-B1 & B2 Testing				DT-C1 Testing				DT-C2 Testing															
Production Milestones																												
					LRIP 1 ●				LRIP 2 ●				FRP 1 ●				FRP 2 ●				FRP 3 ●				FRP 4 ●			
Deliveries																												

2014PB - 0205633N - 0852

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>electronic Consolidated Automated Support System (eCASS)</i>				
Acquisition Milestones: Milestones: Milestone C	4	2013	4	2013
Acquisition Milestones: Milestones: Full Rate Production Decision Review	4	2015	4	2015
Acquisition Milestones: Milestones: Initial Operating Capability	4	2016	4	2016
Systems Development: Hardware and Software Development: eCASS System Development	1	2012	4	2018
Test & Evaluation: Development Testing: eCASS DT-B1 & B2 Testing	4	2012	2	2013
Test & Evaluation: Development Testing: eCASS DT-C1 Testing	4	2013	1	2014
Test & Evaluation: Development Testing: eCASS DT-C2 Testing	4	2014	1	2015
Production Milestones: eCASS LRIP 1-APN	4	2013	4	2013
Production Milestones: eCASS LRIP 2-APN	4	2014	4	2014
Production Milestones: eCASS FRP 1-APN	4	2015	4	2015
Production Milestones: eCASS FRP 2-APN	2	2016	2	2016
Production Milestones: eCASS FRP3-APN	2	2017	2	2017
Production Milestones: eCASS FRP4-APN	2	2018	2	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1041: <i>Acft Equip Repl/Maint Prog</i>	34.274	2.972	3.238	3.273	-	3.273	3.344	3.398	3.468	3.528	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

Title: Avionics and Wiring	FY 2012	FY 2013	FY 2014
	0.846	0.713	0.596
Articles:	0	0	0
FY 2012 Accomplishments: Qualify additional materials or pieces of equipment and the procedures/process required for their implementation. Test and evaluate off-board diagnostic equipment for generator diagnostics/prognostics. Refine algorithms for multiple battery models, including lithium chemistries. Continue testing in aircraft simulated environment. Pursue next-generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address avionics-related reliability issues impacting multiple aircraft platforms.			
FY 2013 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 generator and battery diagnostics and prognostics. Continue to enhance algorithms for multiple battery models covering additional legacy platforms. Pursue next-			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>		PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address emergent avionics and wiring-related reliability issues impacting multiple aircraft platforms.</p> <p>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.</p>				
<p>Title: Air Vehicle</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Qualify additional materials or pieces of equipment and the procedures/process required for their implementation. Develop new methods of structural repair with focus on lightweight, high-cost, and low observability platforms. Expand focus of human factors and advanced materials/coatings in corrosion prevention control. Expand use of protective coatings on aircraft components to resist abrasion, wear, and corrosion, while lowering maintenance hours and cost.</p> <p>FY 2013 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. Develop 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 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.</p> <p>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.</p>		1.328 0	1.645 0	1.786 0
Title: Systems Engineering Revitalization		0.798	0.880	0.891

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Articles:	0	0	0
<p><i>FY 2012 Accomplishments:</i> Complete initial version of the Systems Engineering Technical Review web-based checklist tool. Identify web-tool critical limitations and implement changes and improvements within the tool. 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.</p> <p><i>FY 2013 Plans:</i> Perform continuous and systematic update of the Systems Engineering Technical Review (SETR) web-based checklist tool. Continue to identify web-tool 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 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.</p> <p><i>FY 2014 Plans:</i> Perform continuous and systematic update of the 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.</p>			
Accomplishments/Planned Programs Subtotals	2.972	3.238	3.273

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 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Sys Eng - Avionics/Wiring	WR	NAWCAD:Patuxent River, MD	4.590	0.604	Nov 2011	0.293	Oct 2012	0.398	Oct 2013	-		0.398	Continuing	Continuing	Continuing
Sys Eng - Avionics/Wiring	C/FFP	Various:Various	0.505	0.000		0.050	Feb 2013	0.085	Feb 2014	-		0.085	0.000	0.640	0.640
Sys Eng - Avionics/Wiring	C/FFP	GEM Power:Redlands, CA	0.000	0.000		0.100	Mar 2013	0.000		-		0.000	0.000	0.100	0.100
Sys Eng - Avionics/Wiring	C/FFP	PCKA:West Lafayette, IN	0.000	0.000		0.100	Mar 2013	0.000		-		0.000	0.000	0.100	0.100
Sys Eng - Avionics/Wiring	WR	FRC:Cherry Point, NC	0.000	0.000		0.100	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	NAWCAD:Patuxent River, MD	6.119	0.682	Nov 2011	0.652	Oct 2012	0.732	Oct 2013	-		0.732	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:San Diego, CA	0.508	0.229	Dec 2011	0.130	Nov 2012	0.146	Nov 2013	-		0.146	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:Cherry Point, NC	0.428	0.221	Dec 2011	0.224	Nov 2012	0.250	Nov 2013	-		0.250	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:Jacksonville, FL	0.460	0.148	Dec 2011	0.275	Nov 2012	0.309	Nov 2013	-		0.309	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	C/FFP	Various:Various	0.712	0.050	Mar 2012	0.211	Jan 2013	0.237	Jan 2014	-		0.237	0.000	1.210	1.210
Sys Eng - SE Revitalization	WR	NAWCAD:Patuxent River, MD	0.792	0.003	Dec 2011	0.003	Oct 2012	0.003	Oct 2013	-		0.003	Continuing	Continuing	Continuing
Sys Eng - SE Revitalization	C/FFP	L-3 Communications:Marlton, NJ	2.059	0.795	Mar 2012	0.877	Jan 2013	0.888	Jan 2014	-		0.888	0.000	4.619	4.619
Sys Eng - NAE Corrosion	WR	NAWCAD:Patuxent River, MD	0.608	0.000		0.000		0.000		-		0.000	0.000	0.608	
Sys Eng - NAE Corrosion	WR	FRC:San Diego, CA	0.100	0.000		0.000		0.000		-		0.000	0.000	0.100	
Sys Eng - NAE Corrosion	WR	FRC:Cherry Point, NC	0.125	0.000		0.000		0.000		-		0.000	0.000	0.125	
Sys Eng - NAE Corrosion	WR	FRC:Jacksonville, FL	0.130	0.000		0.000		0.000		-		0.000	0.000	0.130	
Prior Year Prod Dev no longer funded in the FYDP	Various	Various:Various	1.504	0.000		0.000		0.000		-		0.000	0.000	1.504	1.504
Subtotal			18.640	2.732		3.015		3.048		0.000		3.048			

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>
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	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acft Equip Repl/Maint Prog																												
Avionics & Wiring	Aircraft Battery Diagnostic & Prognostic System																											
	Generator System Diagnostics & Health																											
	Investigate High Value Return on Investment																											
	Wiring Diagnostics and Prognostics																											
																	Ultra-high Density Power Storage											
	Wireless Data Bus																											
Air Vehicle																												
	Improved Corrosion Preventative Compounds																											
	Corrosion Prevention and Control																											
	Advanced Methods of Structural Repair																											
	Subsystem Improvement Initiatives																											
	Non-Solvent Plasma																											
	Investigate High Value Return on Investment																											
	Ambient Temperature Bonding				Expanded Qualification of Electro-Discharge Machine Drilling																							
					Multi-layer Sacrificial Laminates for Windscreen Protection																							
					Rapid Composite Tooling												Sensor Fusion for Advanced Prognostics											
	Maintainability of Signature-controlled Structures																											
SE Revitalization																												
	Improved Technical Excellence of Acquisition Programs																											

2014OSD - 0205633N - 1041

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Acft Equip Repl/Maint Prog</i>				
Avionics & Wiring: Aircraft Battery Diagnostic & Prognostic System	1	2012	4	2013
Avionics & Wiring: Generator System Diagnostics & Health	1	2012	4	2013
Avionics & Wiring: Investigate High Value Return on Investment	1	2012	4	2018
Avionics & Wiring: Wiring Diagnostics and Prognostics	1	2012	4	2016
Avionics & Wiring: Ultra-high Density Power Storage	1	2015	4	2017
Avionics & Wiring: Wireless Data Bus	1	2017	4	2018
Air Vehicle: Improved Corrosion Preventative Compounds	1	2012	4	2016
Air Vehicle: Corrosion Prevention and Control	1	2012	4	2015
Air Vehicle: Advanced Methods of Structural Repair	1	2012	4	2015
Air Vehicle: Subsystem Improvement Initiatives	1	2012	4	2016
Air Vehicle: Non-Solvent Plasma	1	2012	4	2012
Air Vehicle: Investigate High Value Return on Investment	1	2012	4	2018
Air Vehicle: Ambient Temperature Bonding	1	2012	4	2012
Air Vehicle: Expanded Qualification of Electro-Discharge Machine Drilling	1	2013	4	2015
Air Vehicle: Multi-layer Sacrificial Laminates for Windscreen Protection	1	2013	4	2015
Air Vehicle: Rapid Composite Tooling	1	2013	4	2015
Air Vehicle: Sensor Fusion for Advanced Prognostics	1	2016	4	2017
Air Vehicle: Maintainability of Signature-controlled Structures	1	2017	4	2018
SE Revitalization: Improved Technical Excellence of Acquisition Programs	1	2012	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1355: <i>Propulsion and Power Component Improvement Program</i>	749.901	60.673	61.296	70.497	-	70.497	90.844	94.685	96.693	112.206	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Propulsion and Power Engine 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 CIP addresses concern safety-of-flight deficiencies, which account for approximately 80% of 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. 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 CIP can provide an immediate engineering response to these flight-critical problems and accelerated engine testing can avoid potential problems. CIP starts after development and Navy acceptance of the first production article and addresses usage and life problems not covered by warranties. 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. 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)

Title: P3, E2, C2, C130 (T56)		FY 2012	FY 2013	FY 2014
		5.837	8.403	7.800
	Articles:	0	0	0
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Redesign the Aft Cone-Adaptor significant engine removal contributor. Begin design and fabrication of a replacement to the current electronic control system which will no longer be repairable due to obsolescence. Complete further testing on in-service hardware to extend the T1 blade re-use limit. Continue the Analytical Condition Inspections program. Qualify redesigned combustor liner. Continue to investigate all service revealed deficiencies. Redesigns for C-2 engine reliability improvements, Scavenge Oil System Improvements. Initiate Gearbox improvements. Improve turbine vane durability for improve engine reliability.</p> <p>FY 2013 Plans: 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 Inspections program. Complete qualification of redesigned combustor liner. Continue to investigate all service revealed deficiencies. Complete Gearbox improvements. Complete turbine vane durability project.</p> <p>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.</p>				
<p>Title: E2/C2/C130/P3 (Props)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Continue research and testing of potential NP2000 Blade Erosion Coatings. Complete P-3/C-130 propeller taper bore corrosion testing and implement design change as required. Continue build of NP2000 Control System Working Model. Continue to investigate all service revealed deficiencies.</p> <p>FY 2013 Plans: 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.</p> <p>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.</p>		1.410 0	1.500 0	1.900 0
<p>Title: EA-6B (J52)</p> <p align="right">Articles:</p>		1.569 0	2.423 0	2.300 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>		PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Complete incorporation of the new 4.5 bearing, new 4.5 bearing inner race nut torque value and torque tooling. Maintenance awareness will be presented at Operational & Intermediate levels. Begin development of a Thermal Barrier Coating for the combustion chamber interior surfaces. Develop a repair for the wear found in the inlet case vane driver boss replacement.</p> <p><i>FY 2013 Plans:</i> 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.</p> <p><i>FY 2014 Plans:</i> 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.</p>				
<p><i>Title:</i> SH-60B/F, HH-60H, MH-60R/S (T700)</p> <p align="right"><i>Articles:</i></p>		2.572 0	2.571 0	3.575 0
<p><i>FY 2012 Accomplishments:</i> Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Continue a Fleet Leader of the Automatic Wire Analyzer at Naval Air Station North Island to train operators, develop procedures, and measure effectiveness. Continue the redesign of the Main Transmission Gearbox from Magnesium to Aluminum.</p> <p><i>FY 2013 Plans:</i> 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.</p> <p><i>FY 2014 Plans:</i> 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.</p>				
<p><i>Title:</i> H-1 (T400/T700)</p> <p align="right"><i>Articles:</i></p>		1.050 0	1.792 0	1.105 0
<p><i>FY 2012 Accomplishments:</i> Begin development of T700-401 engine harness testor. Complete LiPoly battery for H-1 upgrades. Continue support of common T700 engine projects.</p> <p><i>FY 2013 Plans:</i></p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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.				
Title: AV-8B (F402)		4.081	5.241	4.810
		Articles: 0	0	0
FY 2012 Accomplishments: Engineering Change Proposals for low plasticity burnishing of low pressure compressor stage one, two and three blades, fuel leak redesign of Engine Variable Inlet Control System (EVICS), Hydro Mechanical Unit (HMU) permanent magnet alternator, fuel manifold pipe leakage redesign, meandering wire magnetometer inspection technique for low pressure compressor stage one blade dovetails.				
FY 2013 Plans: 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.				
Title: H-53/H-46/H-3 (T58/T64)		5.919	9.427	4.795
		Articles: 0	0	0
FY 2012 Accomplishments: H-46/H-3 (T58) Complete qualification of Next Generation Coating for 1st stage compressor blades. H-53 (T64) Complete mid sump improvements and modernized torque sensor effort continue. Continue Fuel control reliability improvement program. Continue life management analysis and Reliability Centered Maintenance efforts.				
FY 2013 Plans: H-46/H-3 (T58) Continue to develop inspection and repair criteria for fielded components. H-53 (T64)				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>		PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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.				
Title: F-18 C/D/E/F (F414/F404)		17.525	16.589	17.340
		Articles: 0	0	0
FY 2012 Accomplishments: Flameholder attachment redesign. Full Authority Digital Electronic Control obsolescence redesign. Turbine disk dovetail edge of contact improvements. Near real time damage assessment. Field performance management. High Pressure Compressor throat wear limit expansion. Oil pressure cautions. Main Fuel Control improvements to reduce mission aborts. FY 2013 Plans: 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.				
Title: T-45 (F405)		1.949	4.714	6.625
		Articles: 0	0	0
FY 2012 Accomplishments: Continue to address safety issues reported from fleet. Analysis and redesign components based on service revealed deficiencies. FY 2013 Plans: Complete to address safety issues reported from fleet. Analysis and redesign components based on service revealed deficiencies. FY 2014 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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		6.412	0.000	1.200
		Articles: 0		0
FY 2012 Accomplishments: Initiate Drive system corrosion improvement project, drive system lead the fleet, Full Authority Digital Engine Control Troubleshooting, constant frequency generator to Accessory gearbox casting change. Continue Infrared suppressor removal study, software generation, upper Nacelle system and compressor coating Trade Studies. Complete engine and system management plans.				
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.				
Title: Multi-Platform Product Support Teams		12.349	7.849	9.358
		Articles: 0	0	0
FY 2012 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 2013 Plans: 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:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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.				
Title: Adversary (J85) (F100)		0.000	0.787 0	0.585 0
Articles:				
FY 2013 Plans: Continue contribution to common Component Improvement Program tasks with United States Air Force for F100 and J85 Engine. J85 unique tasks include rotating part life update and fuel control redesign.				
FY 2014 Plans: Continue contribution to common Component Improvement Program with U.S. Air Force 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.				
Title: Joint Strike Fighter (F135 Engine)		0.000	0.000	9.104 0
Articles:				
FY 2014 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. Future efforts will include procurement of short takeoff and vertical landing hardware to initiate LTF testing.				
Accomplishments/Planned Programs Subtotals		60.673	61.296	70.497
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.				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>

E. Performance Metrics

The Component 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. In FY11 and FY12, this equates to more than 350 individual Engineering Project Descriptions (EPDs). CIP will also address reliability and maintainability deficiencies equating to at least another 150 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 seven 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Sys Eng T56 Engine Program	WR	NAWCAD:PAX RIVER, MD	24.360	1.796	Oct 2011	3.361	Oct 2012	3.120	Oct 2013	-		3.120	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	SS/CPFF	ROLLS ROYCE:IN	35.311	4.115	Mar 2012	5.059	Jan 2013	4.708	Jan 2014	-		4.708	0.000	49.193	49.193
Sys Eng T56 Engine Program	WR	FRC-E:Cherry Point, NC	0.000	0.112	Nov 2011	0.000		0.000		-		0.000	0.000	0.112	
Sys Eng T56 Engine Program	WR	FRC-SE:Jacksonville, FL	0.000	0.218	Nov 2011	0.000		0.000		-		0.000	0.000	0.218	
Sys Eng Props Program	SS/CPFF	HAM SUNSTRAND:Windsor, CT	13.739	2.431	Jan 2012	1.500	Jan 2013	1.900	Jan 2014	-		1.900	0.000	19.570	19.570
Sys Eng Props Program	WR	FRC-E:Cherry Point, NC	0.000	0.388	Nov 2011	0.000		0.000		-		0.000	0.000	0.388	
Sys Eng J52 Engine Program	WR	NAWCAD:PAX RIVER, MD	11.312	0.547	Oct 2011	0.969	Oct 2012	0.920	Oct 2013	-		0.920	Continuing	Continuing	Continuing
Sys Eng J52 Engine Program	SS/CPFF	P&W:FLORIDA	37.968	0.952	Apr 2012	1.454	Jan 2013	1.380	Jan 2014	-		1.380	0.000	41.754	41.754
Sys Eng T700 Engine Program	WR	NAWCAD:PAX RIVER, MD	10.540	0.791	Oct 2011	1.028	Oct 2012	1.430	Oct 2013	-		1.430	Continuing	Continuing	Continuing
Sys Eng T700 Engine Program	SS/CPFF	GE:MASS	24.999	1.856	Feb 2012	1.543	Jan 2013	2.145	Jan 2014	-		2.145	0.000	30.543	30.543
Sys Eng T400 Engine Program	WR	NAWCAD:PAX RIVER, MD	0.000	0.000		0.717	Oct 2012	0.442	Oct 2013	-		0.442	Continuing	Continuing	Continuing
Sys Eng T400 Engine Program	SS/CPFF	P&W:FLORIDA	5.210	0.000		1.075	Jan 2013	0.663	Jan 2014	-		0.663	0.000	6.948	6.948
Sys Eng T400 Engine Program	WR	NSWC:Crane, IN	0.000	0.077	Feb 2012	0.000		0.000		-		0.000	0.000	0.077	
Sys Eng T400 Engine Program	SS/CPFF	Dow Kokam:Detroit, MI	0.000	0.290	Sep 2012	0.000		0.000		-		0.000	0.000	0.290	0.290
Sys Eng F402 Engine Program	WR	NAWCAD:PAX RIVER, MD	10.916	1.302	Oct 2011	2.096	Oct 2012	1.924	Oct 2013	-		1.924	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Sys Eng F402 Engine Program	SS/CPFF	ROLLS ROYCE:UK	55.856	2.336	Dec 2011	3.145	Jan 2013	2.886	Jan 2014	-		2.886	0.000	64.223	64.223
Sys Eng F402 Engine Program	WR	NAWCWD:China Lake, CA	0.000	0.800	Feb 2012	0.000		0.000		-		0.000	0.000	0.800	
Sys Eng F402 Engine Program	WR	FRC-E:Cherry Point, NC	0.000	0.020	Jul 2012	0.000		0.000		-		0.000	0.000	0.020	
Sys Eng T58/T64 Engine Program	WR	NAWCAD:PAX RIVER, MD	24.495	2.584	Oct 2011	3.771	Oct 2012	1.918	Oct 2013	-		1.918	Continuing	Continuing	Continuing
Sys Eng T58/T64 Engine Program	SS/CPFF	GE:MASS	74.481	2.458	Jan 2012	5.656	Jan 2013	2.877	Jan 2014	-		2.877	0.000	85.472	85.472
Sys Eng F414/F404 Engine Program	WR	NAWCAD:PAX RIVER, MD	13.968	5.336	Oct 2011	6.648	Oct 2012	6.771	Oct 2013	-		6.771	Continuing	Continuing	Continuing
Sys Eng F414/F404 Engine Program	SS/CPFF	GE:MASS	89.758	13.377	Feb 2012	9.965	Jan 2013	10.569	Jan 2014	-		10.569	0.000	123.669	123.669
Sys Eng F414/F404 Engine Program	SS/CPFF	Honeywell:Tempe, AZ	0.000	0.350	Sep 2012	0.000		0.000		-		0.000	0.000	0.350	0.350
Sys Eng F405 Engine Program	WR	NAWCAD:PAX RIVER, MD	2.722	0.834	Oct 2011	1.886	Oct 2012	2.650	Oct 2013	-		2.650	Continuing	Continuing	Continuing
Sys Eng F405 Engine Program	SS/CPFF	ROLLS ROYCE:UK	25.813	1.450	Mar 2012	2.828	Jan 2013	3.975	Jan 2014	-		3.975	0.000	34.066	34.066
Sys Eng V-22 Propulsion Program	WR	NAWCAD:PAX RIVER, MD	1.800	2.100	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Sys Eng V-22 Propulsion Program	SS/FFP	Bell- Boeing:Ft. Worth, TX	3.400	0.577	Dec 2011	0.000		1.200	Jan 2014	-		1.200	0.000	5.177	5.177
Sys Eng V-22 Propulsion Program	SS/CPFF	Rolls Royce:UK	0.000	0.612	Sep 2012	0.000		0.000		-		0.000	0.000	0.612	0.612
Sys Eng Adversary J85 Engine Program	WR	NAWCAD:PAX RIVER, MD	0.000	0.252	Apr 2012	0.787	Jan 2013	0.585	Jan 2014	-		0.585	Continuing	Continuing	Continuing
Sys Eng Adversary J85 Engine Program	WR	FRC-SE:Jacksonville, FL	0.000	0.008	Jan 2012	0.000		0.000		-		0.000	0.000	0.008	
Sys Eng Adversary J85 Engine Program	SS/CPFF	GE:MASS	0.000	0.036	Mar 2012	0.000		0.000		-		0.000	0.000	0.036	0.036

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Sys Eng JSF Engine Program	WR	NAWCAD:PAX RIVER, MD	0.000	0.000		0.000		2.804	Oct 2013	-		2.804	Continuing	Continuing	Continuing
Sys Eng JSF Engine Program	SS/FFP	P&W:FLORIDA	0.000	0.000		0.000		6.300	Jan 2014	-		6.300	0.000	6.300	6.300
Sys Eng Lab Fld Activity-1.0 or more	WR	NAWCAD:PAX RIVER, MD	185.951	10.965	Oct 2011	7.006	Oct 2012	8.438	Oct 2013	-		8.438	Continuing	Continuing	Continuing
Sys Eng Other In-House Spt	Various	Various:Various	19.517	0.300	Oct 2011	0.200	Nov 2012	0.200	Nov 2013	-		0.200	Continuing	Continuing	Continuing
GFE*	Reqn	DES/DLA:Various	10.913	1.000	Dec 2011	0.200	Jan 2013	0.200	Jan 2014	-		0.200	Continuing	Continuing	Continuing
Prior Year Prod Dev costs no longer funded in the FYDP	Various	Various:Various	53.921	0.000		0.000		0.000		-		0.000	0.000	53.921	
Subtotal			736.950	60.270		60.894		70.005		0.000		70.005			

Remarks

GFE includes expected cost of fuel necessary to support engine development and qualification testing.
Total may be off due to rounding.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support	Various	Various:Various	7.623	0.310	Dec 2011	0.310	Oct 2012	0.400	Oct 2013	-		0.400	Continuing	Continuing	Continuing
Subtotal			7.623	0.310		0.310		0.400		0.000		0.400			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Test & Evaluation	Various	Various:Various	3.279	0.053	Oct 2011	0.053	Oct 2012	0.060	Oct 2013	-		0.060	Continuing	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 2269: <i>EAF Matting</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2269: <i>EAF Matting</i>	0.000	4.705	13.077	5.168	-	5.168	9.366	14.996	10.991	0.000	0.000	58.303
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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. The EAF program designs, develops and tests an Improved EAF Lighting Program (IELP) to replace the obsolete legacy EAF lighting system. This system will provide EAF Marine 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 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 2012	FY 2013	FY 2014
Title: Expeditionary Airfields Improvements	4.705	13.077	5.168
Articles:	0	0	0
Description: The EAF program designs, develops, tests and fields an Improved EAF Lighting Program (IELP) to replace the obsolete legacy EAF lighting system. This system will provide EAF Marine 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 Wing Support Squadron can support all USMC aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats.			
FY 2012 Accomplishments: Design, development and integration of Improved EAF Lighting Program to support preliminary design reviews and critical design.			
FY 2013 Plans: Continues design, development and integration of Improved EAF Lighting Program to support preliminary design reviews and critical design. Conduct engineering technical reviews in preparation for Milestone B, which is scheduled to occur 1st quarter FY 2014, and conduct source selection for the primary hardware contractor.			
FY 2014 Plans: Continues design, development and integration of Improved EAF Lighting Program to support preliminary design reviews and critical design reviews. Note: The lighting requirement title changed from Sustainment Lighting to IELP March 2012.			
Accomplishments/Planned Programs Subtotals	4.705	13.077	5.168

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 2269: <i>EAF Matting</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0204161N/4208: <i>Expeditionary Airfields.</i>	55.561	66.878	8.792		8.792	8.955	9.096	9.284	9.439	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 Improved EAF Lighting Program.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE				PROJECT						
1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						PE 0205633N: Aviation Improvements				2269: EAF Matting						
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Studies and Analysis	C/FFP	TBD:TBD	0.000	0.500	Sep 2012	0.000		0.000		-		0.000	0.000	0.500	0.500	
Systems Engineering	WR	NAWCAD:Lakehurst	0.000	2.250	Jun 2012	9.566	Nov 2012	2.479	Nov 2013	-		2.479	2.170	16.465		
Systems Engineering	WR	NAWCAD:Lakehurst	0.000	0.250	Aug 2012	0.000		0.000		-		0.000	0.000	0.250		
Primary Hardware Development	C/CPFF	TBD:TBD	0.000	0.000		0.000		2.231	Jun 2014	-		2.231	24.753	26.984	35.841	
Subtotal			0.000	3.000		9.566		4.710		0.000		4.710	26.923	44.199		
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Integrated Logistics	WR	NAWCAD:Lakehurst	0.000	0.200	Sep 2012	1.000	Nov 2012	0.203	Nov 2013	-		0.203	1.770	3.173		
Technical/Engr support	WR	NAWCAD:Lakehurst	0.000	1.015	Sep 2012	2.071	Nov 2012	0.000		-		0.000	4.797	7.883		
Subtotal			0.000	1.215		3.071		0.203		0.000		0.203	6.567	11.056		
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Test and Evaluation	WR	NAWCAD:Lakehurst	0.000	0.440	Jun 2012	0.440	Nov 2012	0.198	Nov 2013	-		0.198	1.863	2.941		
Opeval Test Support	WR	COMOPTEVFOR:Norfolk	0.000	0.050	Jun 2012	0.000		0.057	Nov 2013	-		0.057	0.000	0.107		
Subtotal			0.000	0.490		0.440		0.255		0.000		0.255	1.863	3.048		
Project Cost Totals			0.000	4.705		13.077		5.168		0.000		5.168	35.353	58.303		
Remarks																

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 2269: <i>EAF Matting</i>
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Proj 2269	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
Acquisition Milestones																													
Milestones									MS B ▲																	MS C ▲			
Systems Development																													
System Design and Development	<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">HDWRE</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">SW</div>																												
Reviews	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">SRR II ■</div> <div style="text-align: center;">PDR ■</div> <div style="text-align: center;">CDR ■</div> <div style="text-align: center;">TRR ■</div> <div style="text-align: center;">OTRR ■</div> </div>																												
Test and Evaluation																													
Formal Testing	<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px; width: 40%; margin-left: 150px;">DT&E</div> <div style="border: 1px solid black; padding: 2px; width: 10%; margin-left: 230px;">IOT&E</div>																												
Production Milestones																													
Contract Awards	<div style="text-align: center; margin-left: 100px;">SDD ●</div>																												
Deliveries																													
Deliveries	<div style="border: 1px solid black; padding: 2px; width: 10%; margin-left: 230px;">FRP</div>																												

2014PB - 0205633N - 2269

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 2269: <i>EAF Matting</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2269				
Acquisition Milestones: Milestones: Milestone B	1	2014	1	2014
Acquisition Milestones: Milestones: Milestone C	3	2018	3	2018
Systems Development: System Design and Development: Hardware Development	3	2012	2	2018
Systems Development: System Design and Development: Software Development	3	2012	2	2018
Systems Development: Reviews: Systems Requirements review	2	2015	2	2015
Systems Development: Reviews: Preliminary Design Review	3	2015	3	2015
Systems Development: Reviews: Critical Design Review	2	2016	2	2016
Systems Development: Reviews: Test Readiness Review	4	2016	4	2016
Systems Development: Reviews: Operational Test Readiness Review	3	2017	3	2017
Test and Evaluation: Formal Testing: Tech Eval/Dev T&E	2	2016	4	2016
Test and Evaluation: Formal Testing: Operational Evaluation Initial Test and Evaluation	2	2018	3	2018
Production Milestones: Contract Awards: Contract Award	3	2014	3	2014
Deliveries: Delivery: Lot 1	3	2018	3	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	13.388	1.937	3.450	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	18.775
0834: <i>LAB Fit Support</i>	13.388	1.937	3.450	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	18.775

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	1.957	3.450	3.504	-	3.504
Current President's Budget	1.937	3.450	0.000	-	0.000
Total Adjustments	-0.020	0.000	-3.504	-	-3.504
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.020	0.000			
• Program Adjustments	0.000	0.000	-0.019	-	-0.019
• Rate/Misc Adjustments	0.000	0.000	-3.485	-	-3.485

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance</i> <i>Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0834: <i>LAB Fit Support</i>	13.388	1.937	3.450	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	18.775
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: NAVAL SCIENCE ADVISOR PROGRAM	1.937	3.450	0.000
Articles:	0	0	
FY 2012 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).			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance</i> <i>Progr</i>		PROJECT 0834: <i>LAB Fit Support</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance</i> <i>Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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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.

	FY 2012	FY 2013	FY 2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance</i> <i>Progr</i>		PROJECT 0834: <i>LAB Fit Support</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>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.</p> <p>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.</p> <p>FY 2013 Plans: Continue all efforts of FY 2012, along with the following:</p> <p>Commander Fourth Fleet (C4F) SA is 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 will be 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 will work closely with SOUTHCOMS experimentation cell to integrate new technology for CTOC missions.</p>				
Accomplishments/Planned Programs Subtotals		1.937	3.450	0.000
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.				
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-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance</i> <i>Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>

FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Proj 0834	
Naval Science Advisor Program	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0834				
Naval Science Advisor Program	1	2012	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					PE 0205675N: <i>Operational Nuclear Power Sys</i>							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	82.705	86.435	116.928	-	116.928	104.764	102.848	105.120	127.445	Continuing	Continuing
1303: <i>Operational Nuclear Power System</i>	0.000	82.705	86.435	116.928	-	116.928	104.764	102.848	105.120	127.445	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	82.705	86.435	111.653	-	111.653
Current President's Budget	82.705	86.435	116.928	-	116.928
Total Adjustments	0.000	0.000	5.275	-	5.275
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	1.818	-	1.818
• Rate/Misc Adjustments	0.000	0.000	3.457	-	3.457

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	1,071.648	313.832	219.054	178.753	-	178.753	162.231	98.082	95.915	96.217	Continuing	Continuing
2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	170.433	31.905	21.119	33.019	-	33.019	28.113	26.775	24.588	24.978	Continuing	Continuing
2273: <i>Air Ops Cmd & Control (C2) Sys</i>	228.138	59.435	94.071	68.669	-	68.669	73.436	24.886	23.853	18.147	Continuing	Continuing
2274: <i>Command & Control Warfare Sys</i>	19.071	25.624	32.052	11.234	-	11.234	10.397	10.209	10.206	10.363	Continuing	Continuing
2275: <i>Joint Tactical Radio System</i>	7.426	5.280	4.413	21.923	-	21.923	5.353	2.383	3.072	6.176	Continuing	Continuing
2276: <i>Comms Switching and Control Sys</i>	24.280	4.121	8.327	15.405	-	15.405	11.114	7.767	5.083	5.171	Continuing	Continuing
2277: <i>System Engineering and Integration</i>	9.434	10.923	6.171	11.626	-	11.626	6.637	6.648	6.588	6.692	Continuing	Continuing
2278: <i>Air Defense Weapons System</i>	33.700	2.129	1.993	3.041	-	3.041	3.498	3.475	3.499	3.555	Continuing	Continuing
2510: <i>MAGTF CSSE & SE</i>	214.097	40.415	25.231	3.526	-	3.526	4.176	3.668	3.048	3.381	Continuing	Continuing
3099: <i>Radar System</i>	116.834	31.545	25.677	10.310	-	10.310	19.507	12.271	15.978	17.754	Continuing	Continuing
9C89: <i>Marine Ground-Air Radar</i>	248.235	102.455	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	350.690

MDAP/MAIS Code(s): 582

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>
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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 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	321.623	219.054	200.011	-	200.011
Current President's Budget	313.832	219.054	178.753	-	178.753
Total Adjustments	-7.791	0.000	-21.258	-	-21.258
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.331	0.000			
• SBIR/STTR Transfer	-9.121	0.000			
• Program Adjustments	0.000	0.000	-8.961	-	-8.961
• Rate/Misc Adjustments	-0.001	0.000	-12.297	-	-12.297

Change Summary Explanation

FY14 decrease due to a change in requirements for the enhanced Ground Based Operational Surveillance System (G-BOSS) system.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	170.433	31.905	21.119	33.019	-	33.019	28.113	26.775	24.588	24.978	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 - 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 war-fighter's Situational Awareness and Increasing/Maximizing the Commander's decision space.

Joint Battle Command - Platform (JBC-P) FoS - JBC-P FoS is a joint Army led ACAT II program. It is a product line made up 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 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 battlespace. While IDS-MC is not an intelligence analysis system, it does provide identification information

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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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 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 System (AFATDS) - The Advanced Field Artillery Tactical Data System (AFATDS) is an automated fire support command and control (C2) system consisting of fire support application software operating on common hardware platforms, which provides the MAGTF with the ability to rapidly integrate all supporting arms assets into maneuver plans via digital data communications links. The AFATDS program includes AFATDS software and hardware, the Effects Management Tool (EMT) (a C2PC injector), the Back-up Computer System (BUCS), and the Battery Mobile Tactical Shelter (MTS).

Target Location Designation and Handoff System (TLDHS) - TLDHS is the only Marine Corps man-portable digital fires entry system designed for the Forward Air Controllers (FACs), Forward Observers (FOs), Fire Support Teams (FSTs), Firepower Control Teams (FCTs), Tactical Air Control Parties (TACPs) and Reconnaissance Teams to quickly acquire targets in day, night and near-all-weather visibility conditions, in order to conduct precise, rapid indirect surface fire support, Naval Surface Fire Support (NSFS) and Close Air Support (CAS).

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

	FY 2012	FY 2013	FY 2014
<p>Title: *MAGTF C2: Engineering, research, and software development for MAGTF capability release</p> <p align="right">Articles:</p> <p>FY 2012 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 Service. Initiated activities to incorporate functionality from the Fires, Logistics and Intelligence communities. Initiated and built TSOA builds 3 and 4, with development of the MCTSSA hosted Application Environment and new IA services. Builds 3 and 4 introduced the enhanced Warfighter capability, and include interfaces with other Service SOA efforts, such as System of Systems Common Operating Environment (SOSCOE, Army) and Consolidated Afloat Network and Enterprise Services (CANES, Navy).</p> <p>FY 2013 Plans: Focus of effort is initiating adaptation, development and integration of entity, task and presentation services from multiple programs of record to operate with the Service. Initiate activities to incorporate functionality from the Fires, Logistics and Intelligence communities. Initiate and build 5 and 6. Builds 5 and 6 introduce enhanced collaboration and imagery functionality.</p> <p>FY 2014 Plans: Increase in FY 14 funding from FY13 supports enhancing services capability from builds 5 and 6 with the addition of user-facing applications, to include the Battle Command Display. Incorporate services which interoperate with logistics and intelligence systems and initiate builds 7 and 8.</p>	<p>12.785</p> <p>0</p>	<p>7.096</p> <p>0</p>	<p>19.070</p> <p>0</p>
Title: *MAGTF C2: Program Support. Software engineering program support	2.362	1.596	1.623

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Articles:		0	0	0
FY 2012 Accomplishments: Federally Funded Research Center (FFRDC) provided software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.				
FY 2013 Plans: Federally Funded Research Center (FFRDC) 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 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.				
Title: *JBC-P: Software Development/Integration.		0.824	0.525	2.189
Articles:		0	0	0
FY 2012 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 2013 Plans: Continue personnel integrate 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 lines merge into the JBCP FoS Line. The increase will continue personnel integration into 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				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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:		0.150 0	0.200 0	0.225 0
FY 2012 Accomplishments: Evaluated and updated existing documentation for re-use as JBC-P evolves in support of training development.				
FY 2013 Plans: Continue evaluation and updating of existing documentation for re-use as JBC-P evolves in support of training development.				
FY 2014 Plans: Will continue evaluation and updating of existing documentation for re-use as JBC-P evolves in support of training development.				
Title: *JBC-P: Developmental Test (DT)/Operational Test (OT)				
Articles:		0.605 0	0.400 0	0.400 0
FY 2012 Accomplishments: Laboratories integrated with Huntsville Software Engineering Division (SED) and Marine Corps Tactical Systems Support Activity (MCTSSA) in order to facilitate test and network integration test events. Marine Corps Operational Test and Evaluation Activity (MCOTEA) provided initial test planning support.				
FY 2013 Plans: Continue laboratories integration with Huntsville SED and MCTSSA in order to facilitate test and network integration test events. MCOTEA support for developmental test and planning/support for operational test.				
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.				
Title: JBC-P: Software Certification and Accreditation				
Articles:		0.490 0	0.400 0	0.525 0
FY 2012 Accomplishments: Information assurance efforts supported development of information assurance-related required documents.				
FY 2013 Plans: Information assurance efforts to support certification and accreditation efforts of JBC-P software.				
FY 2014 Plans:				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Information assurance efforts to support certification and accreditation efforts of JBC-P software.				
Title: *JBC-P: System Engineering, Programmatic, and Logistics Program Support				
Articles:		0.307 0	0.400 0	0.396 0
FY 2012 Accomplishments: Supported personnel and travel.				
FY 2013 Plans: Support personnel and travel.				
FY 2014 Plans: Support personnel and travel.				
Title: *BFSA: Joint Interoperability Testing				
Articles:		0.020 0	0.000	0.000
FY 2012 Accomplishments: Continued Joint interoperability certification with U.S. Army.				
Title: *BFSA: Software Development, Integration and Testing				
Articles:		2.298 0	1.913 0	0.000
FY 2012 Accomplishments: Conducted software and network developmental efforts for USMC specific requirements, software field user evaluations and associated risk reduction events.				
FY 2013 Plans: Continue software and network developmental efforts for USMC specific requirements and associated risk reduction events.				
Title: *BFSA: Software Certification and Accreditation				
Articles:		0.140 0	0.141 0	0.000
FY 2012 Accomplishments: Information assurance efforts supported certification and accreditation efforts of Joint Capability Release (JCR) software upgrades.				
FY 2013 Plans: Information assurance efforts to support certification and accreditation efforts of Joint Capability Release (JCR) software upgrades.				
Title: *TCO: System testing and integration to develop additional functional capabilities.				
		1.306	1.297	1.194

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Articles:		0	0	0
Description: Hardware upgrade solutions were researched and documented, in preparation for seamless transition to future technology and increased software capability.				
FY 2012 Accomplishments: Executed Proof of Concept /backwards compatability Registration and Orchestration Capability Modules (CM).				
FY 2013 Plans: Update Global capability as enhanced Command Operation Picture (COP) service. Integrate and test ability to exchange data with multiple Command and Control (C2) systems. Execute 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.				
Title: *TCO: Integrate software changes into new system and perform testing.		0.725	0.000	0.000
Articles:		0		
FY 2012 Accomplishments: Conducted efforts to implement newly developed concepts and technologies for proof of concept.				
Title: *TCO: Testing and validations of advanced concepts and technologies.		1.453	1.320	1.422
Articles:		0	0	0
FY 2012 Accomplishments: Continued testing and validation of advanced concepts and technologies.				
FY 2013 Plans: Continue testing and validation of advanced concepts and technologies.				
FY 2014 Plans: Continue testing and validation of advanced concepts and technologies.				
Title: *IDS: System Development and Testing		0.923	0.936	0.946
Articles:		0	0	0
FY 2012 Accomplishments:				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Provided technical support, research studies, and program development documentation in preparation for Material Development Decision.</p> <p>FY 2013 Plans: Provide system integration, testing, and technical program development documentation in preparation for Milestone C</p> <p>FY 2014 Plans: Provide system integration, software development, testing, validation and verification, systems engineering and technical program support</p>				
<p>Title: *AFATDS: AFATDS Software Development and Integration</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Limited AFATDS/BUCS software and interface enhancements. Limited interoperability testing.</p> <p>FY 2014 Plans: Development of increment II adding limited AFATDS/BUCS USMC capabilities or interface enhancements with other C2 systems. Limited interoperability testing.</p>		0.000	1.548 0	1.574 0
<p>Title: *TLDHS: Software Development</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Completed development of two software increments TLDHS software.</p> <p>FY 2013 Plans: Continue the development of the next major software release and migrate to a new operating system.</p> <p>FY 2014 Plans: Continue the development of the next major software release and early prototyping of the next operating system migration.</p>		5.123 0	1.911 0	1.950 0
<p>Title: *AFATDS: Information Assurance Support</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Information Assurance Certification and Accreditation activities to ensure confidentiality, integrity, and availability of AFATDS/BUCS S/W.</p> <p>FY 2014 Plans:</p>		0.000	0.411 0	0.423 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
				FY 2012
				FY 2013
				FY 2014
Maintain Information Assurance Certification and Accreditation activities to ensure confidentiality, integrity, and availability of AFATDS/BUCS S/W.				
Title: *TLDHS: Testing and Evaluation				
				Articles:
				2.196
				0.195
				0.205
				0
				0
				0
FY 2012 Accomplishments: Performed software interoperability testing for Strikelink version 1.1.6.x Activities included testing of Net Enabled Weapons (NEW), Theater Battle Management Core System (TBMCS) web services, tactical messaging (Link 16, VMF, DACAS Block I) for interoperability and safety compliance.				
FY 2013 Plans: Perform software interoperability testing for Strikelink version 1.2. Activities include testing of Small Diameter Bomb (SDB), Theater Battle Management Core System (TBMCS) web services, tactical messaging (Link 16, VMF, DACAS Block II) for interoperability and safety compliance.				
FY 2014 Plans: Perform software interoperability testing for the next version of software. Activities include testing of Small Diameter Bomb (SDB), Theater Battle Management Core System (TBMCS) web services, tactical messaging (Link 16, VMF, DACAS Block II) for interoperability and safety compliance.				
Title: *TLDHS: Engineering Research in Support of Software Development				
				Articles:
				0.000
				0.270
				0.280
				0
				0
FY 2013 Plans: Analysis of trade studies and market research regarding industry response to a network modem performance specification.				
FY 2014 Plans: Analysis of Alternatives (AoA) to determine viable hardware candidates capable of hosting a future TLDHS software application on an android operating system.				
Title: *TLDHS - Video Down Link Receiver Prototypes				
				Articles:
				0.000
				0.125
				0.000
				5
FY 2013 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 Interference (EMI) and Environmental Testing to support VDL procurement in FY14.				
Title: *TLDHS: Software Oversight and Information Assurance Support				
				Articles:
				0.198
				0.435
				0.597
				0
				0
				0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Renewed the authority to operate (ATO) and started the next ATO gate process. Performed TLDHS software code review prior to conduct the testing. Conducted software code review on the Gusto application to comply with Information Assurance requirements. Continues software code review prior to testing, certification and accreditation and to obtain authority to operate (ATO) .</p> <p><i>FY 2013 Plans:</i> Perform TLDHS software code review prior to testing, obtain the next ATO to the Marine Corps and Weapon System Explosives Safety certification.</p> <p><i>FY 2014 Plans:</i> Perform TLDHS software code review prior to testing, obtain the next ATO to operate on the Marine Corps Enterprise Network and conduct safety oversight Video Down-Link Receiver.</p>			
Accomplishments/Planned Programs Subtotals	31.905	21.119	33.019

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/463109: <i>AFATDS</i>	2.487	2.545	20.903		20.903	25.071	2.714	2.973	2.842	Continuing	Continuing
• PMC/463117: <i>TLDHS</i>	7.093	4.823	4.224		4.224	4.151	2.223	0.000	0.000	Continuing	Continuing
• PMC/463023: <i>GCCS/TCO MCHS</i>	9.165	1.381	2.905		2.905	1.270	1.467	3.171	3.228	Continuing	Continuing
• PMC/463100: <i>GCC/TCO</i>	17.059	8.958	9.836		9.836	11.731	8.471	8.865	9.024	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: The JBC-P is leveraging the Army's (PM Force Battle Command XXI Brigade and Below (FBCB2) development of the JBC-P software and the Marine Corps' program is contingent upon the Army's development and acquisition strategy. PM FBCB2 will fund research and development for JBC-P unless there are Service

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206313M: <i>Marine Corps Comms Systems</i>	2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

unique requirements, which the Marine Corps program office will fund. The Marine Corps' program office will participate in all design and readiness reviews and a joint operational testing events.

BFSA: The BFT FoS is leveraging an Army (PM Force Battle Command XXI Brigade and Below (FBCB2)) 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 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 done 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 off 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 and 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).

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.

TLDHS: The acquisition of components (software/hardware) for the TLDHS 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).

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MAGTF C2	C/FFP	NGMS:Herdon, VA	28.385	1.201	Nov 2012	0.000		0.000		-		0.000	0.000	29.586	
MAGTF C2	C/CPFF	SPAWAR:Charleston, SC	36.358	3.872	Jan 2012	3.573	Mar 2013	5.300	Nov 2013	-		5.300	Continuing	Continuing	Continuing
MAGTF C2	WR	NSWC:Panama City, FL	0.460	0.000		0.000		0.300	Nov 2013	-		0.300	Continuing	Continuing	Continuing
MAGTF C2	C/CPFF	GD:Scottsdale, AZ	18.160	0.000		0.000		0.000		-		0.000	0.000	18.160	
MAGTF C2	C/CPFF	Viecore:NJ	0.402	0.000		0.000		0.000		-		0.000	0.000	0.402	
MAGTF C2	C/CPFF	MCSC:Quantico, VA	12.381	2.127	Mar 2012	0.000		7.920	Dec 2013	-		7.920	Continuing	Continuing	Continuing
MAGTF C2	WR	NSWC:Dahlgren, VA	0.000	3.003	Nov 2011	0.685	Jan 2013	3.050	Jan 2014	-		3.050	Continuing	Continuing	Continuing
MAGTF C2	C/CPFF	SPAWAR:San Diego, CA	0.000	0.000		1.007	Apr 2013	1.000	Dec 2013	-		1.000	0.000	2.007	
JBC-P	WR	SPAWAR:Charleston, SC	0.992	0.762	Mar 2012	0.700	Dec 2012	2.950	Dec 2013	-		2.950	Continuing	Continuing	Continuing
JBC-P	C/FFP	MCSC:Quantico, VA	1.118	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
JBCP	C/CPFF	PM FBCB2:Aberdeen Proving Ground, MD	0.283	0.000		0.000		0.000		-		0.000	0.000	0.283	
BFSA	MIPR	PM FBCB2:Aberdeen Proving Grounds, MD	0.000	1.414	Mar 2012	0.250	Jan 2013	0.000		-		0.000	0.000	1.664	
TCO	C/CPFF	SPAWAR:Charleston, SC	0.000	2.759	Apr 2012	2.167	May 2013	2.234	May 2014	-		2.234	0.000	7.160	
IDS	MIPR	NAVSEA/PMS-408:Washington, DC	0.000	0.000		0.186	Nov 2012	0.190	Nov 2013	-		0.190	Continuing	Continuing	Continuing
AFATDS	C/CPAF	Raytheon:Fort Wayne, IN	22.958	0.000		1.548	Jan 2013	1.574	Jan 2014	-		1.574	Continuing	Continuing	Continuing
TLDHS	C/CPFF	Stauder Tech:St. Louis, MO	15.494	5.073	Mar 2012	1.911	Feb 2013	1.950	Feb 2014	-		1.950	Continuing	Continuing	Continuing
TCO	C/FFP	DISA:Fort Meade, MD	0.000	0.725	Apr 2012	0.000		0.000		-		0.000	0.000	0.725	
Subtotal			136.991	20.936		12.027		26.468		0.000		26.468			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
IDS-MC-NAVSEA/PMS408: Provide software development and engineering change proposals in support of USMC requirements.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JBC-P	C/FFP	MCSC:Quantico, VA	0.300	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
BFSA	WR	NSWC Corona:Corona, CA	0.000	0.142	Feb 2012	0.850	Dec 2012	0.000		-		0.000	0.000	0.992	
BFSA	WR	SPAWAR:Charleston, SC	0.000	0.300	Jul 2012	0.470	Dec 2012	0.000		-		0.000	0.000	0.770	
IDS	WR	NSWC CRANE:Crane, IN	0.173	0.000		0.495	Dec 2012	0.496	Dec 2013	-		0.496	0.000	1.164	
IDS	WR	NSWC Dahlgren:Dahlgren, VA	0.250	0.869	Dec 2012	0.255	Dec 2012	0.260	Dec 2013	-		0.260	0.000	1.634	
IDS	C/FFP	MCSC:Quantico, VA	0.600	0.000		0.000		0.000		-		0.000	0.000	0.600	
AFATDS	C/CPFF	MCSC:Quantico	1.935	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TLDHS	WR	NSWC Dahlgren:Dahlgren, VA	0.557	0.198	Mar 2012	0.000		0.157	Mar 2014	-		0.157	Continuing	Continuing	Continuing
MAGTF C2	C/FFP	Kalman Inc:Virginia Beach, VA	0.000	0.237	Dec 2012	0.000		0.000		-		0.000	0.000	0.237	
MAGTF C2	C/FFP	NSMA:Arlington, VA	0.000	0.523	Feb 2012	0.000		0.000		-		0.000	0.000	0.523	
IDS	C/CPFF	SPAWAR:Charleston, SC	0.000	0.054	Jan 2013	0.000		0.000		-		0.000	0.000	0.054	
MAGTF C2	C/FP	SPAWAR:Charleston, SC	0.000	0.450	Jan 2013	0.000		0.000		-		0.000	0.000	0.450	
Subtotal			3.815	2.773		2.070		0.913		0.000		0.913			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
IDS - NSWC CRANE and Dahlgren provide engineering support, research studies, validation and verification
IDS - MCSC/CEOss commence research studies, and cost analysis activities

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MAGTF C2	WR	MCOTEA:Quantico, VA	0.857	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MAGTF C2	WR	MCTSSA:Camp Pendleton, CA	4.959	0.622	Jan 2012	1.410	Dec 2012	1.500	Nov 2013	-		1.500	Continuing	Continuing	Continuing
MAGTF C2	WR	NRL:Washington, DC	0.400	0.400	Feb 2012	0.421	Jan 2013	0.000		-		0.000	0.000	1.221	
JBC-P	C/CPFF	MCOTEA:Quantico, VA	0.372	0.364	Mar 2012	0.400	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
JBC-P	WR	MCTSSA:Camp Pendleton, CA	0.048	0.048	Jan 2012	0.025	Dec 2012	0.030	Dec 2013	-		0.030	Continuing	Continuing	Continuing
JBC-P	WR	SPAWAR:Charleston, SC	0.614	0.490	Jan 2012	0.400	Dec 2012	0.425	Dec 2013	-		0.425	0.000	1.929	
JBC-P	MIPR	DISA/JITC:Ft. Huachuca, AZ	0.000	0.000		0.025	Dec 2012	0.030	Dec 2013	-		0.030	0.000	0.055	
JBCP	C/FP	MCSC:Quantico, VA	0.000	0.305	Jul 2012	0.000		0.000		-		0.000	0.000	0.305	
JBCP	MIPR	EPG:Ft. Huachuca, AZ	0.000	0.135	Jun 2012	0.000		0.000		-		0.000	0.000	0.135	
BFSA	WR	MCTSSA:Camp Pendleton, CA	0.474	0.000		0.010	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
BFSA	WR	MCOTEA:Quantico, VA	1.235	0.185	Jan 2012	0.050	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
BFSA	MIPR	DISA/JITC:Ft. Huachuca, AZ	0.070	0.025	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
BFSA	WR	SPAWAR:Charleston, SC	4.499	0.140	Mar 2012	0.141	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
TCO	C/CPFF	SPAWAR:Charleston, SC	0.000	0.000		0.325	Feb 2013	0.330	Jan 2014	-		0.330	Continuing	Continuing	Continuing
TCO	MIPR	JITC:Ft. Huachuca, AZ	0.550	0.000		0.125	Feb 2013	0.052	Feb 2014	-		0.052	0.000	0.727	
AFATDS	WR	MCTSSA:Camp Pendleton, CA	2.431	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
AFATDS	WR	SPAWAR:Charleston, SC	2.678	0.000		0.411	Dec 2012	0.423	Dec 2013	-		0.423	Continuing	Continuing	Continuing
AFATDS	WR	MCOTEA:Quantico, VA	0.580	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TLDHS	WR	MCOTEA:Quantico, VA	1.527	0.050	Jul 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TLDHS	WR	SPAWAR:Charleston, SC	0.267	1.583	Nov 2011	0.435	Dec 2012	0.440	Dec 2013	-		0.440	Continuing	Continuing	Continuing
TLDHS	WR	DISA/JITC:Ft. Huachuca, AZ	0.237	0.106	Dec 2011	0.155	Dec 2012	0.160	Dec 2013	-		0.160	Continuing	Continuing	Continuing
TLDHS	WR	NAWCD China Lake:China Lake, CA	0.139	0.014	Oct 2011	0.017	Dec 2012	0.020	Dec 2013	-		0.020	Continuing	Continuing	Continuing
TLDHS	WR	46th Test Squadron:Eglin AFB, FL	0.039	0.000		0.023	Dec 2012	0.025	Dec 2013	-		0.025	Continuing	Continuing	Continuing
TLDHS	C/CPFF	MCSC:Quantico, VA	0.000	0.000		0.125	Feb 2013	0.000		-		0.000	0.000	0.125	
TLDHS	Reqn	NSWC Crane:Crane, IN	0.678	0.493	May 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			22.654	4.960		4.498		3.435		0.000		3.435			

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

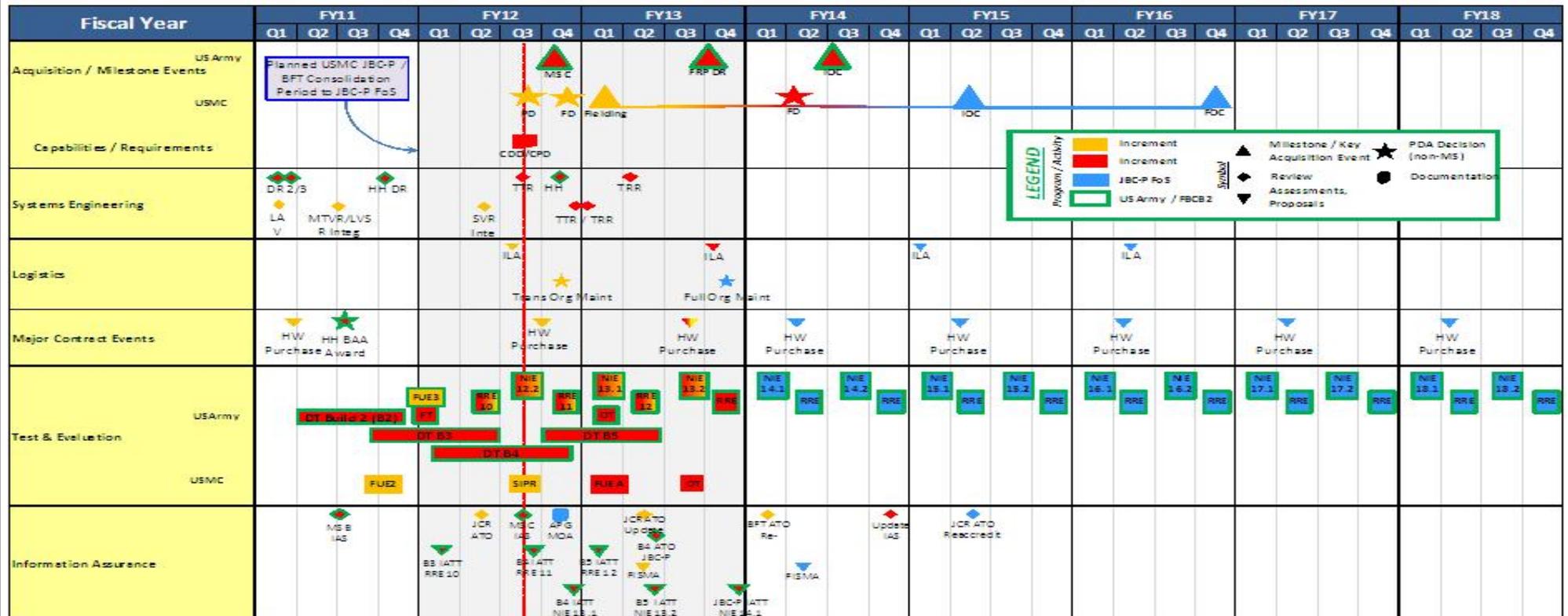
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2270: Exp Indirect Fire Gen Supt Wpn Sys

BFSA/JBCP FoS Schedule



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

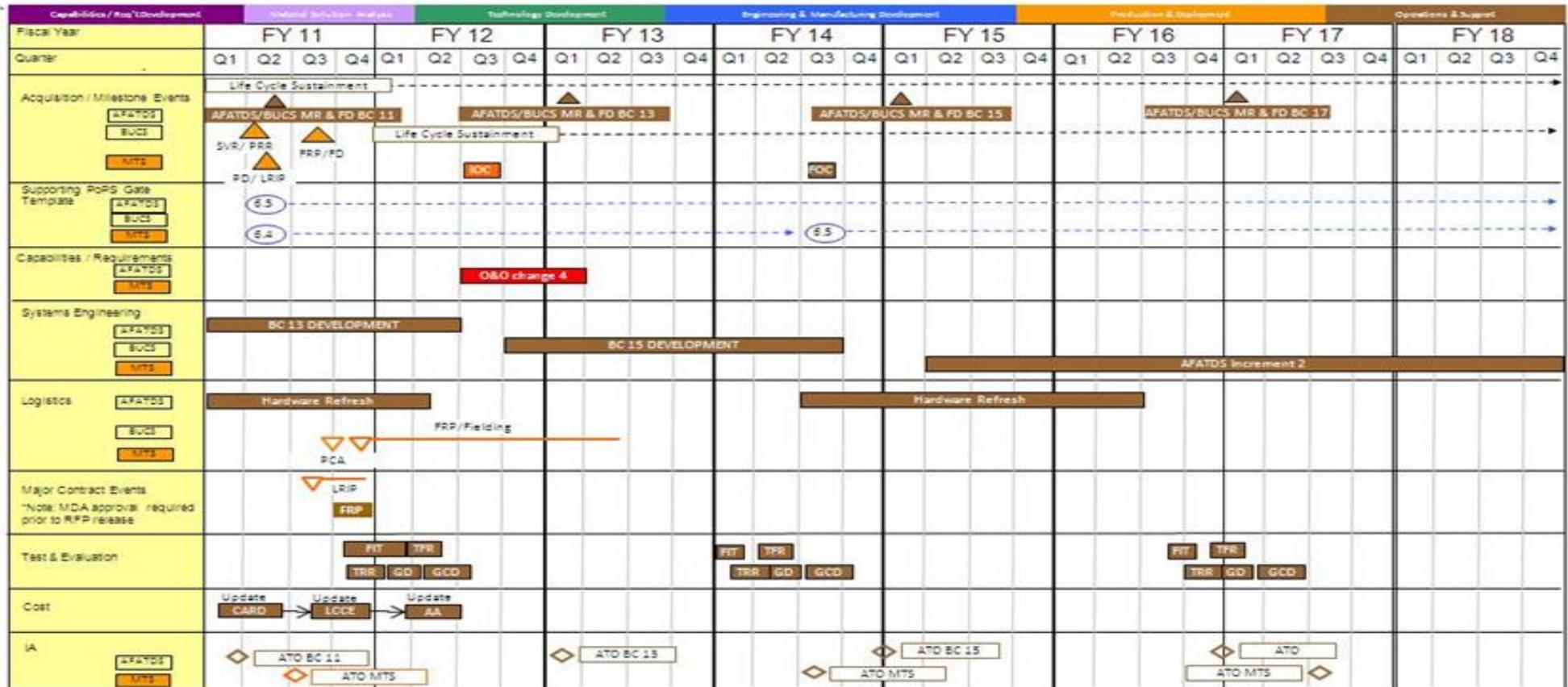
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2270: Exp Indirect Fire Gen Supt Wpn Sys

AFATDS Schedule



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

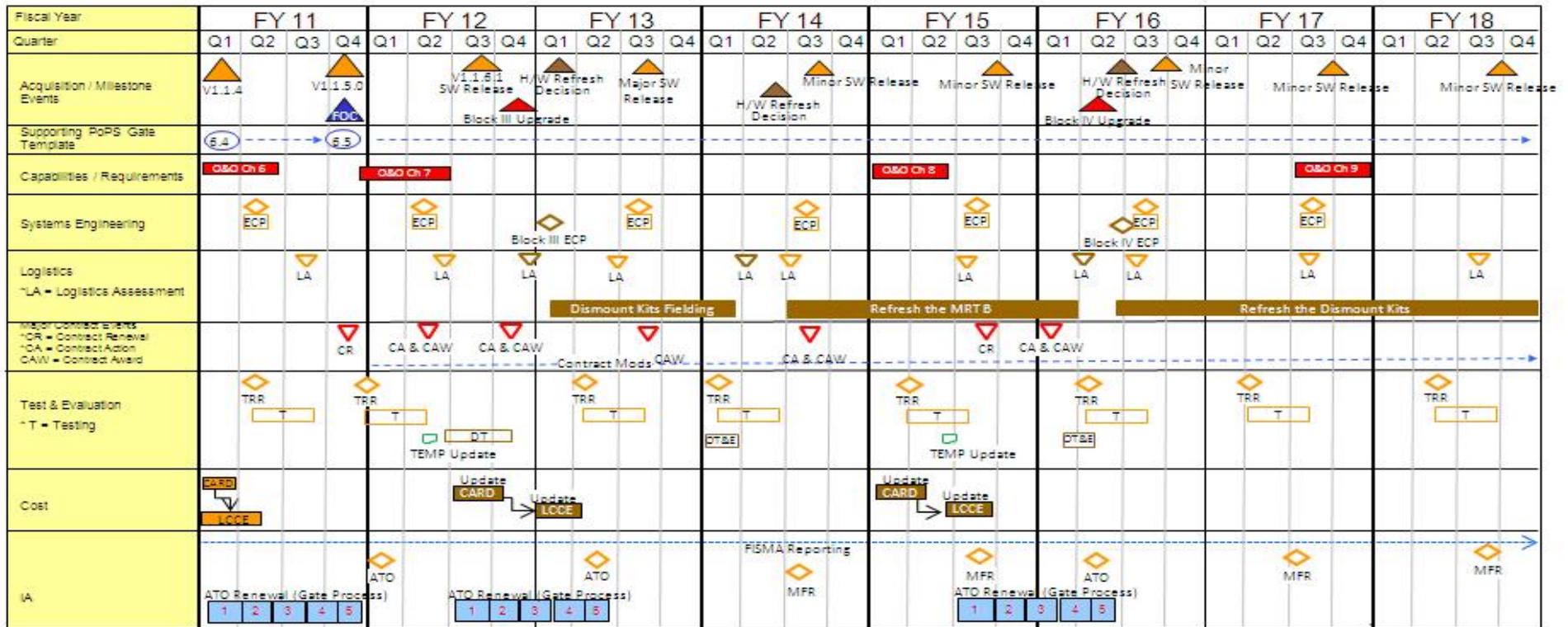
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2270: Exp Indirect Fire Gen Supt Wpn Sys

TLDHS Schedule



APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

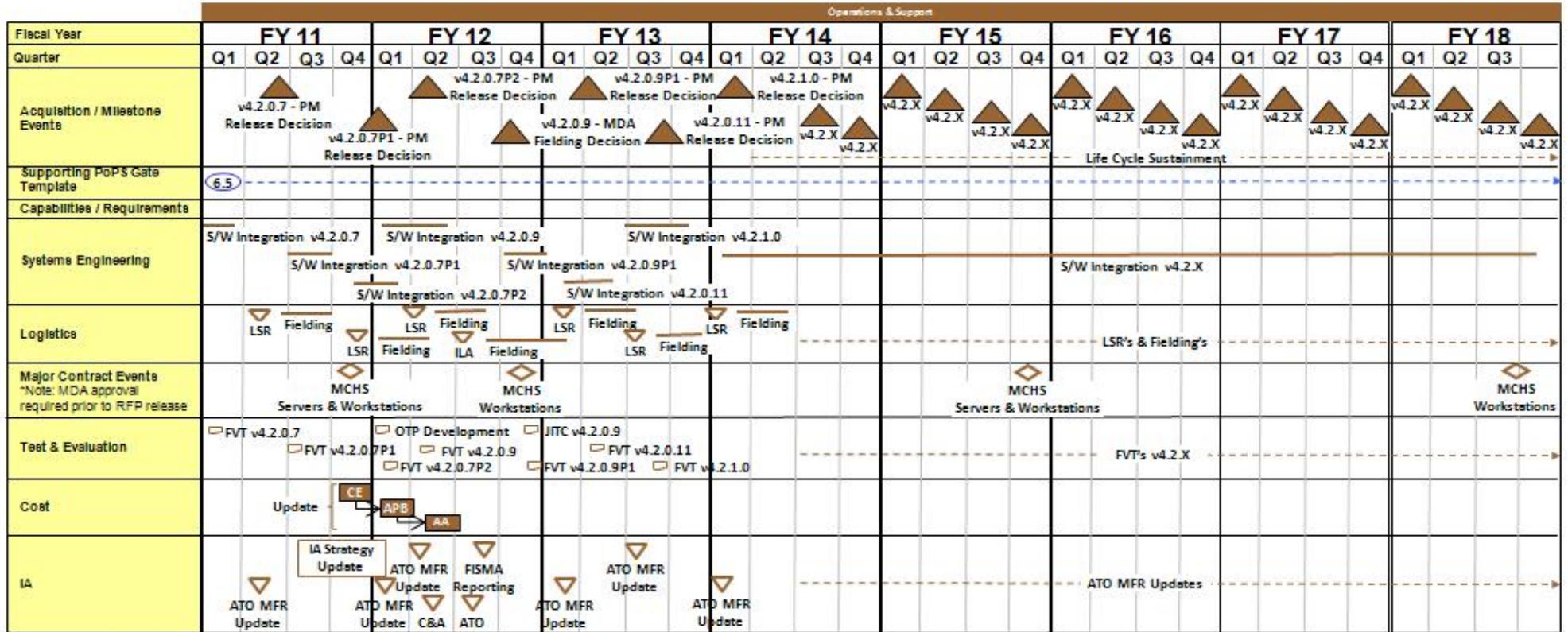
PE 0206313M: Marine Corps Comms Systems

PROJECT

2270: Exp Indirect Fire Gen Supt Wpn Sys



GCCS-TCO Program Schedule



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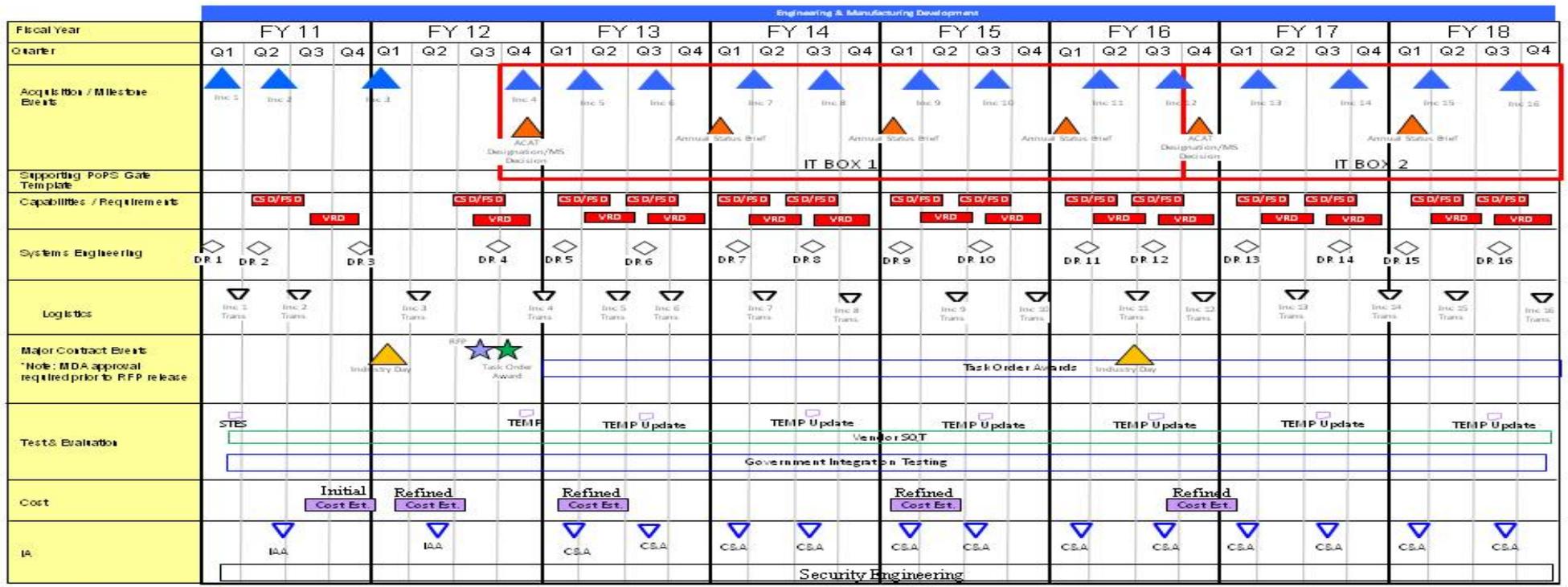
Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2270: Exp Indirect Fire Gen Supt Wpn Sys



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2270				
MAGTF C2 SA JTCW 1.1 Release	4	2012	4	2012
MAGTF C2 SA TSOA Increment 3 Release	2	2012	2	2012
MAGTF C2 SA TSOA Increment 4 Release	4	2012	4	2012
MAGTF C2 SA TSOA Increment 5 Release	2	2013	2	2013
MAGTF C2 SA TSOA Increment 6 Release	4	2013	4	2013
MAGTF C2 SA TSOA Increment 7 Release	2	2014	2	2014
MAGTF CS SA TSOA Increment 8 Release	4	2014	4	2014
JBC-P FoS Operational Test	2	2013	2	2013
JBC-P FoS Software and Handheld End User Device Fielding Decison	2	2014	2	2014
BFSA JCR Capability FRP/FD	2	2012	2	2013
TCO Fielding Decision	3	2013	3	2013
AFATDS MC13 (6.8) Software Release	2	2013	4	2013
AFATDS MC15 (6.8.1) Development/Testing	3	2012	1	2015
AFATDS Increment II Software Development	2	2015	3	2018
AFATDS MTS Fielding	1	2012	2	2013
TLDHS 1.1.6.1 S/W Release	3	2012	4	2012
TLDHS Maj S/W Release Decision for 1.2.0.x	3	2013	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2273: <i>Air Ops Cmd & Control (C2) Sys</i>	228.138	59.435	94.071	68.669	-	68.669	73.436	24.886	23.853	18.147	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Common Aviation Command and Control System (CAC2S) is 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 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).

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 lead 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) - will provide 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 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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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(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. Army and Marine Corps agreement to support closure of the Fires-On-Dismount fratricide mitigation gap and to refocus on FPCI requirements.

Combat Operations Center (COC) AN/TSQ-239 (V)2/3/4 is a deployable, self-contained, modular, scalable and centralized facility 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 warfighter with video connectivity to multiple types of aerial platforms (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.

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

	FY 2012	FY 2013	FY 2014
<p>Title: *JICO Support System: Program Management Support</p> <p align="right">Articles:</p>	0.381 0	0.000	0.000
<p>FY 2012 Accomplishments: Funding supported Program Office travel as an active participant with USAF to support Increment 2 development.</p>			
<p>Title: *JCTI-G: FPCI Programs</p> <p align="right">Articles:</p>	13.404 0	0.000	0.000
<p>FY 2012 Accomplishments: Funding supported Fielded and Planned Capability Improvements (FPCI) which contributes to Combat Identifications (CID) and fratricide mitigation. Army and Marine Corps agreement to support closure of the Fires-On-Dismount fratricide mitigation gap and to refocus on FPCI requirements.</p>			
<p>Title: *COC: Continued Capability Solution</p>	3.981	6.304	3.510

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Articles:		0	0	0
FY 2012 Accomplishments: Completed (V)1 and OTM design, documentation, and testing.				
FY 2013 Plans: Conduct analysis of technologies for integration in COC Baseline.				
FY 2014 Plans: Conduct analysis of technologies for integration in COC Baseline.				
Title: *COC: Test and Evaluation		0.000	0.149	0.185
Articles:			0	0
FY 2013 Plans: Funds MCOTEA/JTIC testing and analysis for COC.				
FY 2014 Plans: Funds MCOTEA/JTIC testing and analysis for COC.				
Title: *CTN: Engineering Development Model (EDM).		2.234	1.019	3.517
Articles:		0	0	0
FY 2012 Accomplishments: Funded Cooperative Engagement Capability (CEC) accreditation on the USS WASP, SW Maintenance Support, Baseline Development.				
FY 2013 Plans: Funds CEC WASP Support, SW Maintenance Support, Baseline Development, USG-4B Analysis/Extraction				
FY 2014 Plans: Funds SW Maintenance Support, Baseline Development, USG-4B Analysis/Extraction, WASP S/W Updates, Data Analysis, Safety, System Engineering. Antenna Trailer Development, Common Array Block - Expeditionary (CAB-E) Antenna Development. The driving factor for the increase in funding in FY14 is the CAD-E Development.				
Title: *CTN: Certification of Interfaces		3.852	1.167	3.510
Articles:		0	0	0
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Funding was expended on Data Collection and Analysis, SW Independent Validation and Verification (IV&V) in preparation for FOT&E from Sept - Oct 2012.</p> <p>FY 2013 Plans: Funds Data Collection and Analysis, CTN integration testing with Common Aviation Command and Control System (CAC2S) and Ground/Air Task Oriented Radar (G/ATOR) Testing</p> <p>FY 2014 Plans: Continue to fund Data Collection and Analysis, CTN integration testing with Common Aviation Command and Control System (CAC2S) and Ground/Air Task Oriented Radar (G/ATOR) Testing. Also funds Common Array Block (CAB) testing/verification/updates and supports an accelerated Mid-Term Inter-operability Improvement Program. Ramp up System-to-System engineering to support interface between CTN. CAC2S, and G/ATOR is the driving factor for the increase in FY14.</p>				
<p>Title: *CTN: Program Management Support.</p> <p align="right">Articles:</p>		0.400 0	1.636 0	3.691 0
<p>FY 2012 Accomplishments: Funding was expended on MCSC Travel, Technical Services Corporation (TSC) support, Operational Test support, and SW support.</p> <p>FY 2013 Plans: Funds MCSC Travel, Dahlgren engineering support, Test support, and SW support.</p> <p>FY 2014 Plans: Funds MCSC Travel, Dahlgren engineering support, test support, and S/W support. Additionally, funding will also support systems engineering and introduction of updates to the software baseline which attributes to the increase in funding from FY13 to FY14.</p>				
<p>Title: *MACCS SUSTAINMENT: TAOM, ADCP and CDLS.</p> <p align="right">Articles:</p>		6.775 0	8.988 0	4.200 0
<p>FY 2012 Accomplishments: Conducted SFT and field 4 new CDLS to each TACC; test and field ADSI v.15; integrate Mode5/S into the TAOM; monitor the DSAN Life Cycle Support (LCS) contract; and repair/replace MERWS and 3:1 shelters as required. Migrate the TAOM/MTAOM software baseline from CMS to C++. Conducted testing and field software baseline as v. 7.0</p> <p>FY 2013 Plans: Funding supports MITRE Engineering efforts; JITC Support; TAOC Life Cycle Support Contract.</p> <p>FY 2014 Plans:</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Funding continues to support MITRE Engineering efforts; JITC Support; TAOC Life Cycle Support Contract.				
<p>Title: *RVVT: Preparation of MS C and Full Rate Production and Fielding activities</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Developed a strategy to merge efforts with The Target Location Designation and Handoff System (TLDHS) to meet the fleets need of a combined capability to connect to VideoScout Systems to view video feed. Conduct development and testing efforts for Type I capable static COC VideoScout system (MC/3).</p> <p>FY 2013 Plans: Conduct pre-Milestone activities. Conduct development and testing efforts for Type I capable static COC VideoScout system (MC/3).</p> <p>FY 2014 Plans: The increase in funding from FY13 to FY14 completes pre-Milestone activities. Additionally, conducts development and testing efforts for non-static TLDHS and VideoScout merged system and the next generation of a static COC VideoScout.</p>		2.495 0	0.589 0	2.620 0
<p>Title: *TBMCS: Program management support.</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Funding was expended for Program Management support.</p> <p>FY 2013 Plans: Continue Program Management support.</p> <p>FY 2014 Plans: Continue Program Management support.</p>		0.332 0	0.500 0	0.540 0
<p>Title: *TBMCS: Test and Evaluation for TBMCS Upgrades Joint Interoperability.</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Funding was expended for Test and Evaluation for TBMCS Upgrades Joint Interoperability.</p> <p>FY 2013 Plans: Funding supports Test and Evaluation for TBMCS Upgrades Joint Interoperability.</p> <p>FY 2014 Plans:</p>		0.230 0	2.403 0	2.667 0

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue Test and Evaluation for TBMCS Upgrades Joint Interoperability.				
<p>Title: *CAC2S: Program Management Support.</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Funding will be used for program management support which includes business/financial, engineering and logistical support for Phase 1 and 2 efforts.</p> <p>FY 2014 Plans: Continue program management support which includes business/financial, engineering and logistical support for Phase 1 and 2 efforts.</p>		0.000	4.000 0	4.142 0
<p>Title: *CAC2S: Test and Evaluation and Information Assurance Certification.</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Funding was used for Information Assurance certification test scans.</p> <p>FY 2013 Plans: Funds continue to support Phase 2 Information Assurance certification test scans.</p> <p>FY 2014 Plans: Funds continue to support Phase 2 Information Assurance certification test scans. Increase in funding is due to increased phase 2 IA certification test scans to coincide with the four DT events occurring this year.</p>		2.242 0	3.265 0	4.235 0
<p>Title: *CAC2S: EDM, TR, Gov't DT</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Funding was used to award contract in August 2012 to one of the four demonstration contractors performing Phase 2 development and integration of the Sensor Data Subsystem. Funding was expended by Phase 2 SDS contractor and NSWC Crane, Dahlgren and other support activities.</p> <p>FY 2013 Plans: Continue Phase 2 development and integration of the Processing Display Subsystem and Sensor Data Subsystem continues. Four (4) Engineering and Development Models (EDM) will be built by the Phase 2 contractor this year. Funding will be expended by Phase 2 SDS contractor and NSWC Crane, Dahlgren and other support activities.</p> <p>FY 2014 Plans:</p>		4.152 0	37.824 0	18.266 0

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

Continue Phase 2 development and integration of the Processing Display Subsystem and Sensor Data Subsystem continues with developmental testing occurring using the EDM's this year. Funding will be expended by Phase 2 SDS contractor and NSWC Crane, Dahlgren and other support activities. Decrease in funding is due to the projected ramp down of the Engineering, Manufacturing and Design Phase of CAC2S Phase 2. Phase 2 production begins 1st Qtr FY15.

	FY 2012	FY 2013	FY 2014
<p>Title: *CAC2S: Software development, DT, FUE, OA.</p> <p align="right">Articles:</p>	14.436 0	22.800 0	15.215 0
<p>FY 2012 Accomplishments: Funding was expended to support Phase 2 EDM data and information fusion component hardware. Software development began with the award of the Phase 2 contract in August 2012.</p> <p>FY 2013 Plans: Continue Phase 2 EDM data and information fusion, component hardware integration and software development.</p> <p>FY 2014 Plans: Continue Phase 2 EDM data and information fusion, component hardware integration and software development. Also, four developmental testing events will be supported with this funding. Decrease in funding is due to the projected ramp down of the Engineering, Manufacturing and Design Phase, specifically software development of CAC2S Phase 2. Phase 2 production begins 1st Qtr FY15.</p>			

<p>Title: *CAC2S: Engineering, Management and Logistics Support</p> <p align="right">Articles:</p>	4.521 0	3.427 0	2.371 0
<p>FY 2012 Accomplishments: Funding was expended for Engineering, Management & Logistics Support</p> <p>FY 2013 Plans: Continue Engineering, Management & Logistics Support</p> <p>FY 2014 Plans: Continue Engineering, Management & Logistics Support</p>			

Accomplishments/Planned Programs Subtotals 59.435 94.071 68.669

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/464017: CTN	7.016	0.100	0.307		0.307	8.832	0.015	0.000	0.000	Continuing	Continuing

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/464002: <i>MACCS Sustainment</i>	17.005	23.114	10.099		10.099	2.861	0.885	0.046	0.047	Continuing	Continuing
• PMC/464003: <i>TBMCS</i>	6.580	3.585	4.465		4.465	3.852	4.685	3.721	3.788	Continuing	Continuing
• PMC/419005: <i>COC</i>	16.848	1.420	16.273		16.273	15.500	15.709	15.319	15.581	Continuing	Continuing
• PMC/464023: <i>RVVT</i>	2.923	0.001	2.195		2.195	5.775	6.952	14.647	14.859	Continuing	Continuing
• PMC/464013: <i>CAC2S</i>	15.864	0.065	0.080		0.080	18.300	26.898	54.700	49.919	Continuing	Continuing
• PMC/700000: <i>CAC2S Initial Spares</i>	0.000	0.000	0.000		0.000	1.700	2.700	3.000	3.400	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 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 ACE battle management capabilities of the 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 BMC2 requirements

Theater Battle Management Core Systems (TBMCS) - 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.

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<p>CTN - The USMC's CTN acquisition strategy is to participate in the USN's program procurement and testing, making necessary modifications to support the Marine Corps' requirement. RVVT - Program Office 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.</p> <p>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 FY14 supports continual tech refresh, technology insertion, modernization and software upgrade releases.</p> <p>E. Performance Metrics N/A</p>		

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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CTN	WR	NSWC:Crane, IN	3.736	0.000		0.000		0.044	Mar 2014	-		0.044	0.000	3.780	
CTN	C/CPFF	NAVSEA PEO IWS:Washington, DC	6.956	2.000	Jul 2012	0.754	Jan 2013	3.766	Jan 2014	-		3.766	0.000	13.476	
MACCS Sustainment	Reqn	NGES:Woodland Hills, CA	17.415	0.974	May 2012	1.000	May 2013	2.870	May 2014	-		2.870	Continuing	Continuing	Continuing
MACCS Sustainment	WR	NSWC:Crane, IN	1.664	0.447	Nov 2011	0.000		0.000		-		0.000	0.000	2.111	
MACCS Sustainment	Reqn	KATMAI:Van Nuys, CA	0.000	1.455	Apr 2012	2.126	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
MACCS Sustainment	C/FFP	ULTRA:Austin, TX	0.000	0.000		1.160	Jul 2013	0.000		-		0.000	0.000	1.160	
COC	WR	SPAWAR:Charleston, SC	11.043	0.581	Apr 2012	1.449	Feb 2013	3.510	Jan 2014	-		3.510	Continuing	Continuing	Continuing
COC	Reqn	General Dynamics:Not Specified	27.811	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
COC	Reqn	Coherent:Johnstown, PA	0.299	0.000		0.000		0.000		-		0.000	0.000	0.299	
COC	WR	NSWC:Crane, IN	0.220	0.300	Apr 2012	0.250	Dec 2012	0.000		-		0.000	0.000	0.770	
COC	C/CPIF	TBD:Not Specified	0.305	0.645	Aug 2012	1.152	Mar 2013	0.000		-		0.000	0.000	2.102	
JCTI-G	WR	NSWC:Crane, IN	1.617	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
JCTI-G Pax 1	WR	NAVAIR:Pax River, MD	0.145	0.000		0.000		0.000		-		0.000	0.000	0.145	
JCTI-G Pax 2	Reqn	NAVAIR:Pax River, MD	1.830	0.000		0.000		0.000		-		0.000	0.000	1.830	
JCTI-G FPCI Efforts	Various	Various:Various	10.479	13.404	Mar 2012	0.000		0.000		-		0.000	0.000	23.883	
CAC2S	WR	NSWC:Crane, IN	22.525	0.800	Nov 2012	0.720	Oct 2012	0.500	Nov 2013	-		0.500	0.000	24.545	
CAC2S	C/CPIF	General Dynamics:Quantico, VA	8.603	0.000		0.000		0.000		-		0.000	0.000	8.603	
CAC2S	C/FFP	Phase 2 Contractor:Quantico, VA	20.393	15.000	Sep 2012	57.931	Nov 2012	28.829	Nov 2013	-		28.829	0.000	122.153	

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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CAC2S	WR	NSWC:Dahlgren, VA	25.519	3.907	Nov 2011	5.300	Nov 2012	5.000	Nov 2013	-		5.000	0.000	39.726	
CAC2S	MIPR	NAVSEA:Washington, DC	0.000	0.656	Jan 2012	0.000		0.000		-		0.000	0.000	0.656	
COC	WR	NSWC:Dahlgren, VA	1.126	1.774	Jan 2012	1.800	Feb 2013	0.000		-		0.000	0.000	4.700	
COC	WR	NSWC:Panama City, FL	0.500	0.681	Jan 2012	0.943	Jan 2013	0.000		-		0.000	0.000	2.124	
Subtotal			162.186	42.624		74.585		44.519		0.000		44.519			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CTN	WR	NSWC:Dahlgren, VA	0.700	0.933	Jan 2012	0.571	Jan 2013	1.550	Jan 2014	-		1.550	0.000	3.754	
CTN	WR	NSWC:PHD	0.224	0.035	Feb 2012	0.000		0.412	Feb 2014	-		0.412	0.000	0.671	
CTN	WR	NSWC:Crane, IN	0.400	0.000		0.000		0.154	Feb 2014	-		0.154	0.000	0.554	
CTN	MIPR	MACS:Quantico, VA	0.140	0.000		0.000		0.000		-		0.000	0.000	0.140	
CTN	WR	NAVSEA:Wallops Island, VA	0.316	0.056	Jan 2012	0.000		0.000		-		0.000	0.000	0.372	
CTN	Various	Travel-TAD:Not Specified	0.755	0.134	Sep 2012	0.100	Sep 2013	0.243	Sep 2014	-		0.243	0.000	1.232	
CTN	WR	SPAWAR:Charleston, SC	0.435	0.000		0.000		0.000		-		0.000	0.000	0.435	
MACCS Sustainment	WR	NSWC:Crane, IN	0.089	0.000		0.949	Dec 2012	0.000		-		0.000	0.000	1.038	
MACCS Sustainment	Reqn	NGES:Woodland Hills, CA	0.000	0.800	Nov 2011	0.500	Nov 2012	0.800	Nov 2013	-		0.800	Continuing	Continuing	Continuing
COC	MIPR	NUWC:Newport, RI	0.200	0.000		0.000		0.000		-		0.000	0.000	0.200	
JCTI-G	Reqn	Tecolote:Arlington, VA	1.917	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
CAC2S	WR	Travel-TAD:Not Specified	1.000	0.030	Oct 2011	0.500	Oct 2012	0.425	Oct 2013	-		0.425	0.000	1.955	

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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CAC2S	WR	NSWC Carderock:Carderock, MD	0.250	0.000		0.000		0.000		-		0.000	0.000	0.250	
CAC2S	C/CPAF	AMSSA:APG, Mayland	0.000	0.260	Nov 2011	0.225	Nov 2012	0.225	Nov 2013	-		0.225	0.000	0.710	
CAC2S	WR	SPAWAR:Charleston, SC	0.000	0.110	Nov 2011	0.300	Nov 2012	0.300	Nov 2013	-		0.300	0.000	0.710	
RVVT	C/FFP	QNA:Stafford, VA	1.052	0.543	Mar 2012	0.589	Mar 2013	0.620	Mar 2014	-		0.620	0.000	2.804	
CAC2S	WR	JITC:Fort Huachuca, AZ	0.961	0.025	Nov 2011	0.200	Nov 2012	0.100	Nov 2013	-		0.100	0.000	1.286	
CAC2S	MIPR	MITRE:Boston, MA	4.863	0.765	Nov 2011	1.500	Nov 2012	1.500	Nov 2013	-		1.500	0.000	8.628	
CTN	C/CPFF	NAVSEA PEO IWS:Washington DC	0.000	0.000		0.243	Jan 2013	3.500	Jan 2014	-		3.500	0.000	3.743	
CAC2S	WR	MACCS-X:Camp Pendleton	1.564	0.000		0.000		0.000		-		0.000	0.000	1.564	
CAC2S	WR	MCTSSA:Camp Pendleton	2.606	0.010	Jan 2012	0.500	Nov 2012	0.100	Nov 2013	-		0.100	0.000	3.216	
CAC2S	WR	NSWC Corona:Corona, CA	2.903	0.000		1.200	Nov 2012	1.300	Nov 2013	-		1.300	0.000	5.403	
CTN	WR	NSWC Corona:Corona, CA	0.000	0.000		0.000		0.816	Mar 2014	-		0.816	0.000	0.816	
CAC2S	C/FP	BAH:Stafford, VA	2.003	0.000		0.000		0.000		-		0.000	0.000	2.003	
SIAP	C/FP	RNB Technologies:Stafford VA	5.374	0.000		0.000		0.000		-		0.000	0.000	5.374	
TBMCS	Various	Travel:Not Specified	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	
JSS	WR	MCTSSA:Camp Pendleton	0.183	0.084	Dec 2011	0.000		0.000		-		0.000	0.000	0.267	
CAC2S	C/IDIQ	SPAWAR:Pacific	0.000	0.960	Sep 2012	0.000		0.000		-		0.000	0.000	0.960	
CAC2S	C/FP	RNB Technologies:Stafford, VA	0.000	0.778	May 2012	0.000		0.000		-		0.000	0.000	0.778	

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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MACCS Sustainment	C/FFP	SPAWAR Charleston:Charleston, SC	0.000	0.963	Aug 2012	0.000		0.000		-		0.000	0.000	0.963	
CAC2S	C/FP	American Systems Corp.:Chantilly, VA	0.000	1.000	Nov 2012	0.000		0.000		-		0.000	0.000	1.000	
Subtotal			27.985	7.486		7.377		12.045		0.000		12.045			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CAC2S	WR	NSWC Port Hueneme:Port Hueneme, CA	0.000	0.139	Nov 2011	0.440	Nov 2012	0.450	Nov 2013	-		0.450	0.000	1.029	
CTN	C/BA	PHD:JITC	0.000	0.000		0.000		0.033	Feb 2014	-		0.033	0.000	0.033	
TBMCS	C/FFP	Lockheed Martin:Colorado Springs, CO	0.000	0.000		2.403	Dec 2012	2.697	Dec 2013	-		2.697	0.000	5.100	
CTN	WR	MCSC CTQ:Quantico, VA	0.025	0.000		0.000		0.000		-		0.000	0.000	0.025	
CTN	WR	PEO IWS 6:St. Petersburg, FL	4.017	2.313	Dec 2011	0.000		0.000		-		0.000	0.000	6.330	
CTN	WR	NSWC Corona:Corona, CA	1.114	0.220	Feb 2012	0.177	Nov 2012	0.000		-		0.000	0.000	1.511	
CTN	WR	NSWC DD:Dahlgren, VA	0.942	0.320	Aug 2012	0.143	Nov 2012	0.000		-		0.000	0.000	1.405	
CTN	C/CPFF	NAVSEA PEO IWS:Washington DC	0.000	0.000		0.298	Jan 2013	0.000		-		0.000	0.000	0.298	
CTN	WR	Fort Huachuca:JITC	0.008	0.035	Mar 2012	0.000		0.000		-		0.000	0.000	0.043	
CTN	WR	MCOTEA:Quantico VA	1.144	0.200	Jan 2012	0.000		0.200	Feb 2014	-		0.200	0.000	1.544	
CTN	WR	MCSC:Quantico, VA	3.876	0.000		0.000		0.000		-		0.000	0.000	3.876	

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CTN	WR	NSWC:Crane, IN	1.064	0.000		0.000		0.000		-		0.000	0.000	1.064	
MACCS Sustainment	WR	Aberdeen Test Center:Aberdeen, MD	0.273	0.211	Nov 2011	0.200	Nov 2012	0.230	Nov 2013	-		0.230	Continuing	Continuing	Continuing
MACCS Sustainment	Reqn	NGES:Woodland Hills, CA	0.914	1.008	Apr 2012	1.516	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
MACCS Sustainment	Various	MCOTEA:Quantico, VA	0.000	0.467	Dec 2011	0.000		0.000		-		0.000	0.000	0.467	
MACCS Sustainment	MIPR	DISA:Not Specified	0.000	0.200	May 2012	0.537	May 2013	0.000		-		0.000	0.000	0.737	
RVVT	WR	SSC-LANT:North Charleston, SC	0.000	1.952	Aug 2012	0.000		2.000	Oct 2013	-		2.000	0.000	3.952	
COC	MIPR	MCOTEA:Quantico, VA	0.728	0.000		0.149	Mar 2013	0.185	Mar 2014	-		0.185	0.000	1.062	
COC	MIPR	JTIC:Fort Huachuca, AZ	0.140	0.000		0.000		0.000		-		0.000	0.000	0.140	
TBMCS	WR	MCOTEA:Quantico, VA	0.560	0.000		0.150	Nov 2012	0.160	Nov 2013	-		0.160	0.000	0.870	
CAC2S	WR	MCOTEA:Quantico, VA	6.350	0.650	Nov 2011	1.000	Nov 2012	1.500	Nov 2013	-		1.500	0.000	9.500	
TBMCS	MIPR	Englin AFB:Englin AFB, FL	0.000	0.230	Jul 2012	0.000		0.000		-		0.000	0.000	0.230	
Subtotal			21.155	7.945		7.013		7.455		0.000		7.455			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CTN	WR	NSWC Dahlgren:Dahlgren, VA	0.000	0.000		1.536	Dec 2012	0.000		-		0.000	0.000	1.536	
CTN	WR	MCSC:Quantico, VA	0.882	0.240	Nov 2011	0.000		0.000	Feb 2014	-		0.000	0.000	1.122	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MACCS Sustainment	C/FFP	MCSC:Quantico, VA	0.100	0.250	Jan 2012	1.000	Jul 2013	0.300	Jul 2014	-		0.300	0.000	1.650	
COC	Reqn	MCSC:Quantico, VA	0.057	0.000		0.710	Oct 2012	0.000		-		0.000	0.000	0.767	
CAC2S	MIPR	DTIC: Fort Belvoir, VA:Fort Belvoir, VA	0.000	0.261	Dec 2012	0.000		0.000		-		0.000	0.000	0.261	
CAC2S	C/FFP	QNA: Stafford, VA:Quantico, VA	13.796	0.000		1.500	Apr 2013	4.000	Nov 2013	-		4.000	0.000	19.296	
TBMCS	C/FFP	QNA: Stafford, VA:Quantico, VA	1.977	0.332	Nov 2011	0.350	Nov 2012	0.350	Nov 2013	-		0.350	0.000	3.009	
JSS	Reqn	Travel:Quantico, VA	0.000	0.022	Oct 2011	0.000		0.000		-		0.000	0.000	0.022	
JSS	C/FFP	TASC:Quantico, VA	0.000	0.147	Nov 2011	0.000		0.000		-		0.000	0.000	0.147	
JSS	WR	SPAWAR:Charleston, SC	0.000	0.050	Dec 2011	0.000		0.000		-		0.000	0.000	0.050	
JSS	MIPR	Hanscom AFB:Hanscom AFB	0.000	0.078	Dec 2011	0.000		0.000		-		0.000	0.000	0.078	
Subtotal			16.812	1.380		5.096		4.650		0.000		4.650	0.000	27.938	
Project Cost Totals			228.138	59.435		94.071		68.669		0.000		68.669			

Remarks

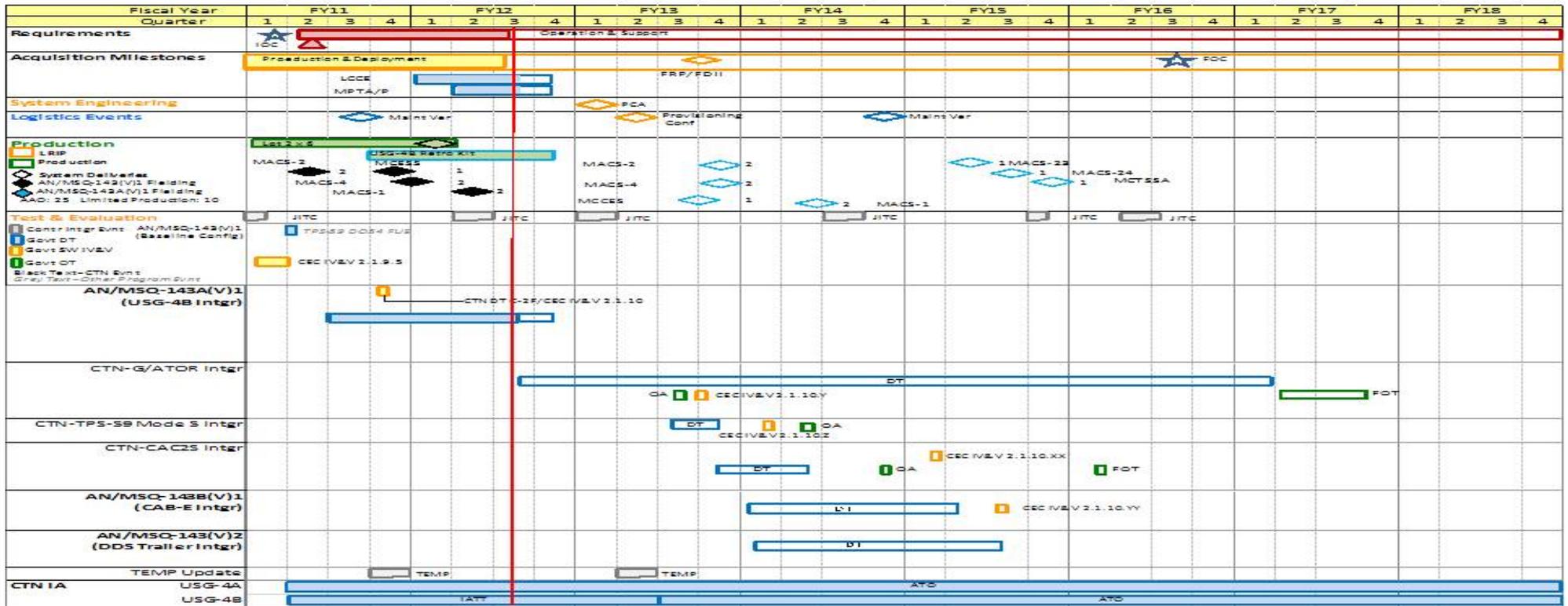
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2273: Air Ops Cmd & Control (C2) Sys



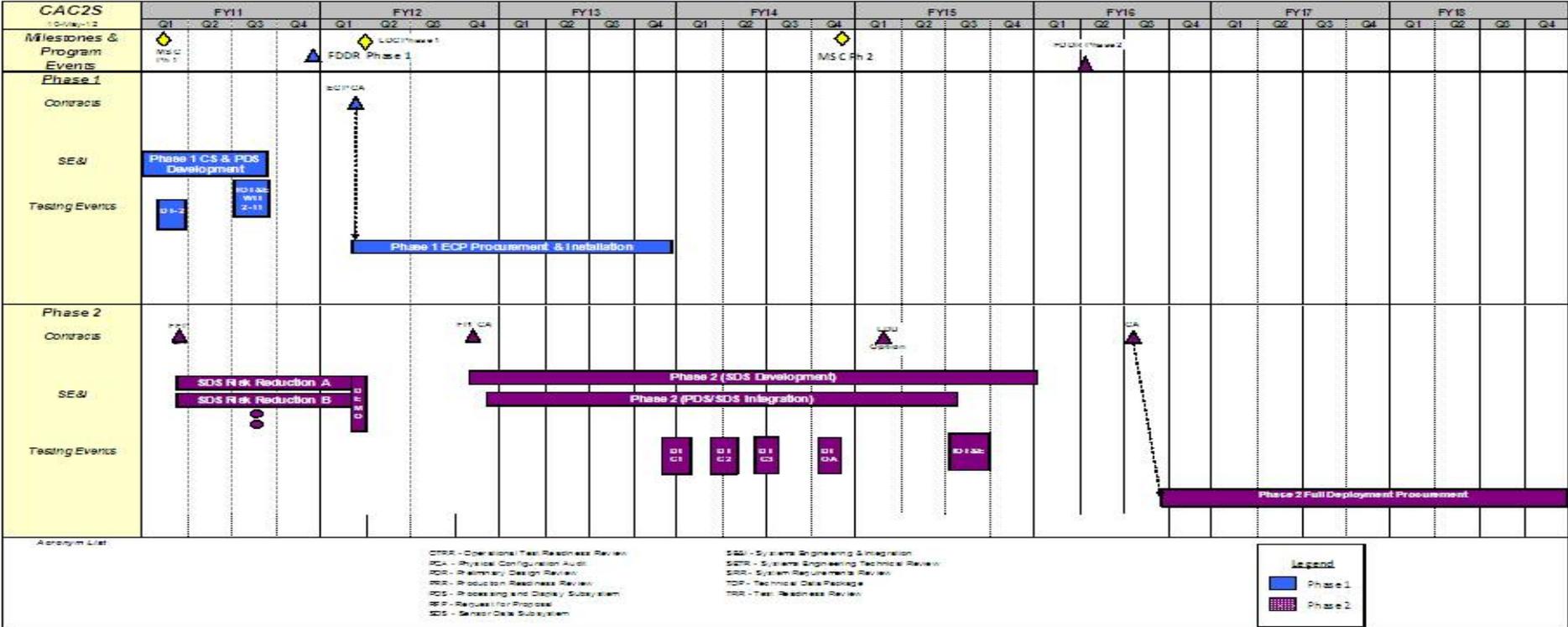
CTN - Program Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>

CAC2S Program Schedule



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

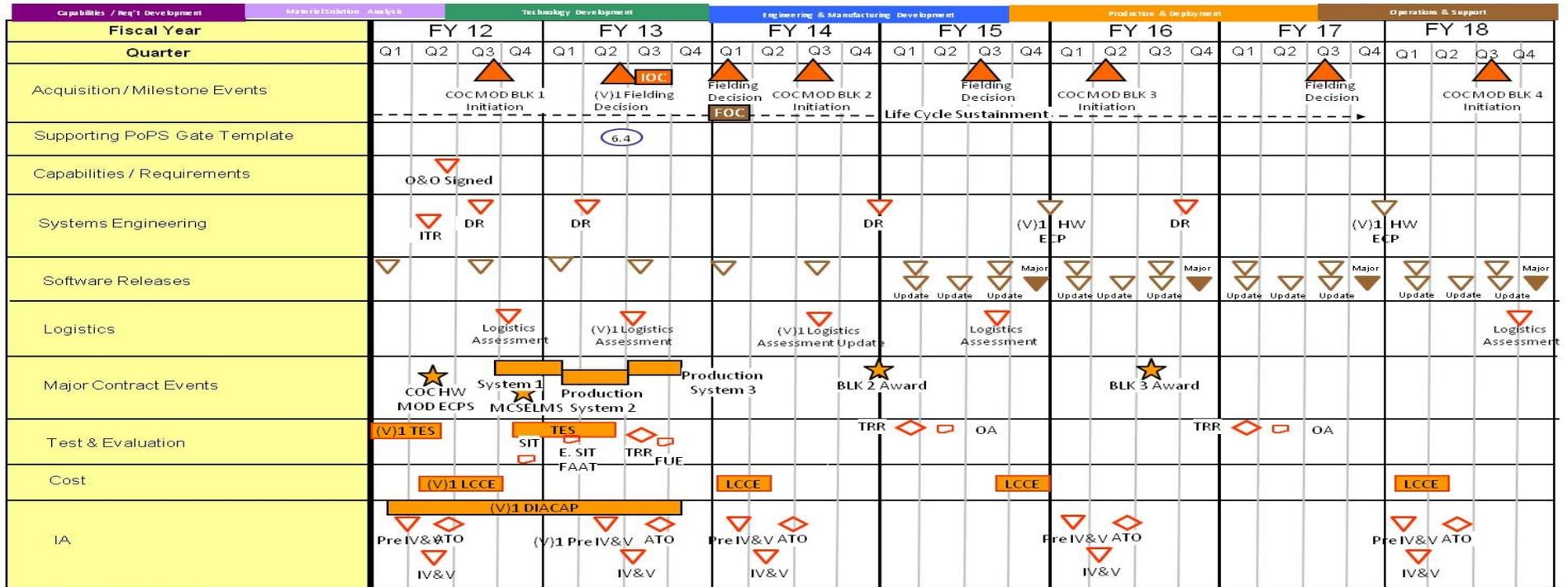
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2273: Air Ops Cmd & Control (C2) Sys

COC Program Schedule



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

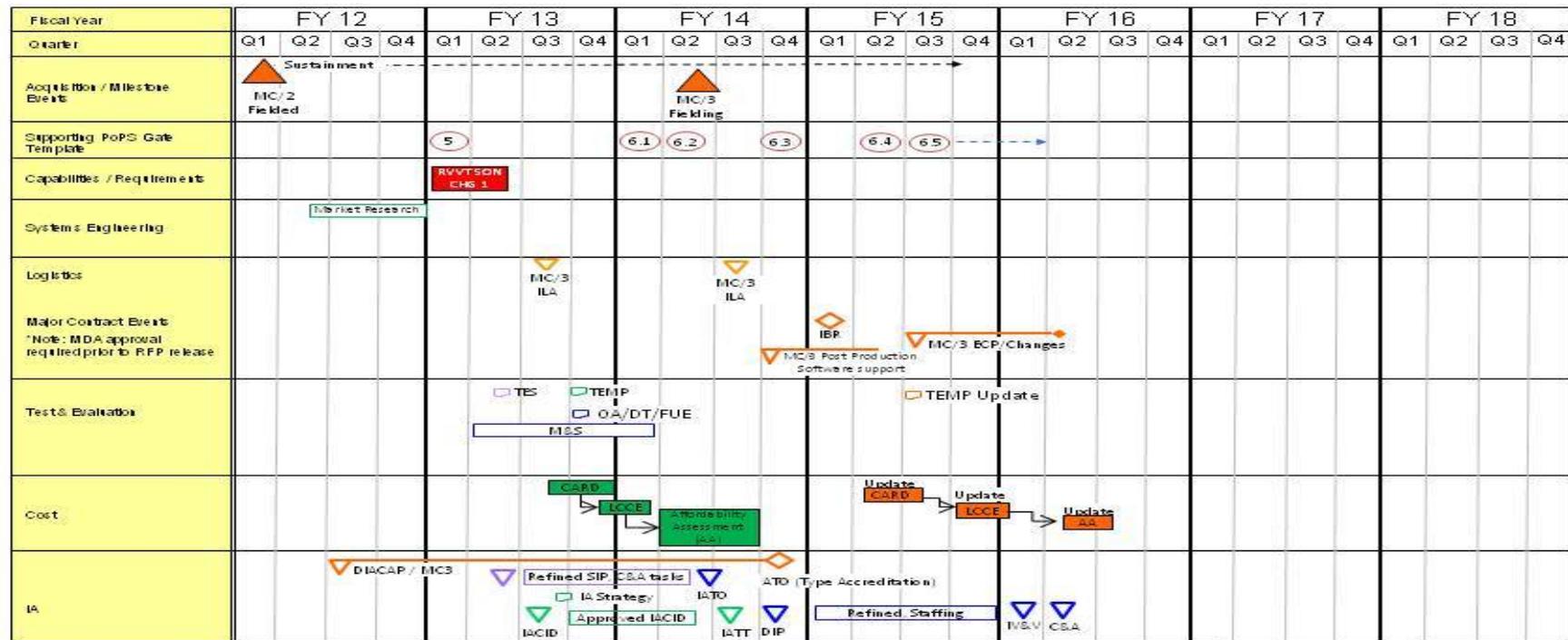
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2273: Air Ops Cmd & Control (C2) Sys

RVVT Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2273				
MACCS Sustainment	1	2012	4	2018
CTN FOC	3	2016	3	2016
CAC2S Phase 1 LDC	1	2012	1	2012
CAC2S Phase 2 IOT&E	3	2015	3	2015
CAC2S Phase 2 LDU	1	2015	1	2015
COC Life Cycle Sustainment	1	2012	4	2017
COC (V) 1 Limited Fielding Decision	2	2013	2	2013
COC (V)1 Field User Evaluation (FUE)	2	2013	2	2013
COC (V)1 IOC	2	2013	2	2013
COC (V) 1 Full Fielding Decision	1	2014	1	2014
COC (V)1 FOC	1	2014	1	2014
COC (V)2 Initiation	3	2014	3	2014
CAC2S Phase 2 Milestone C	4	2014	4	2014
RVVT MDD	1	2013	1	2013
RVVT MS B	1	2015	1	2015
RVVT DT	1	2015	1	2015
RVVT OT&E 2015	3	2015	3	2015
RVVT LRIP	2	2016	2	2017
RVVT FRP	4	2016	1	2018
RVVT MC/3 FIELDING	3	2013	3	2013
RVVT MS C	4	2015	4	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
RVVT Next Generation FRP DR	4	2016	4	2016
RVVT Next Generation Fielding	4	2017	4	2017
RVVT OT&E 2018	2	2018	2	2018
MACCS - MTAOM Fielding	1	2012	1	2012
MACCS - ARC/6100.7.5 Fielding	1	2012	1	2012
MACCS - CITRII Production Phase I	4	2012	4	2012
MACCS - CITRII Production Phase II	2	2013	2	2013
MACCS - CITR II Fielding	2	2014	2	2014
MACCS - BLOS GW 5.3.x Fielding (ADCP/MTAOM)	1	2014	1	2014
MACCS - BLOS GW 5.x.x ICP Fielding (ADCP/MTAOM)	2	2016	2	2016
CTN FRP	4	2013	4	2018
CTN DT	3	2012	3	2012
CTN AN/MSQ-142(V)1 Fielding	4	2013	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>					PROJECT 2274: <i>Command & Control Warfare Sys</i>		
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2274: <i>Command & Control Warfare Sys</i>	19.071	25.624	32.052	11.234	-	11.234	10.397	10.209	10.206	10.363	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 modular, programmable, multi-band radio-frequency jammers designed to deny enemy use of selected portions of the radio frequency spectrum to counter Radio-Controlled IEDs. CREW mounted systems are capable of being integrated into all Marine Corps Tactical Ground Vehicles. USMC CREW 2.1 CREW Vehicle Receiver/Jammer (CVRJ) mounted and 3.1 Thor III man portable systems are currently fielded to meet current threats in all theaters of operation. The 2.1 mounted systems are being upgraded to a Band C capability beginning with fielding commencing FY12. In FY12 the program will transition to the enduring requirement to support worldwide deployment of USMC CREW systems. The JCREW systems shall function as a single integrated system with common architecture that will counter the continued evolution of enemy threats. This program is an ongoing effort to develop new techniques, improve capabilities, enhance software and develop waveform load sets to counter evolving threats and prevent technology obsolescence. FY14 funding increases by \$4.53M from FY13.

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. FY14 funding reduced by \$24M from FY13 as a result of the suspension of the G-BOSS(E) program.

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

	FY 2012	FY 2013	FY 2014
Title: *USMC CREW - Product Development	2.652	2.410	2.433
Articles:	0	0	0
FY 2012 Accomplishments:			
Conducted efforts to develop waveform/load sets for the mounted CREW 2.1 CVRJ and Band C Upgrade kits; the dismantled CREW 3.1 Thor III; and the Universal Test Sets (UTS) which support each system variant (procured via Joint Improvised Explosive Device Defeat Organization (JIEDDO) and transitioned to USMC for sustainment in FY11). Continued efforts to develop vehicle installation kits for the Band C Upgrade in order to support the integration and installation of the upgrade kits into Marine			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2274: <i>Command & Control Warfare Sys</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Corps vehicle platform. Provided support for waveform/loadsets for Marine Expeditionary Unit Special Operations Capable (MEU (SOC)) systems in support of an Urgent Statement of Need dated 17 May 2011.				
FY 2013 Plans: In FY13 the USMC CREW program will continue the development of waveform/load sets for CREW Legacy systems and the UTS for current theater operations. Continue support efforts to provide loadsets for CREW systems for MEU/Marine Expeditionary Force (MEF) within a non-theater specific/non-wartime Operational TEMPO. Continue to develop vehicle installation kits for the Band C Upgrade in order to support the integration and installation of the upgrade kits into Marine Corps vehicle platform.				
FY 2014 Plans: In FY14 USMC CREW program will continue the development of waveform/load sets for CREW Legacy systems and the UTS for current theater operations. Continue support efforts to provide loadsets for CREW systems for MEU/Marine Expeditionary Force (MEF) within a non-theater specific/non-wartime Operational TEMPO. Continue to develop vehicle installation kits for the Band C Upgrade in order to support the integration and installation of the upgrade kits into Marine Corps vehicle platform.				
Title: *USMC CREW - Support		1.106	1.145	1.163
		0	0	0
Articles:				
FY 2012 Accomplishments: Conducted systems engineering and integration support required for continued system enhancements. Systems engineering activities included requirement definition, requirement allocation, requirement,traceability, system design, system testing, production support, fielding support, and system upgrade planning.				
FY 2013 Plans: Systems engineering and integration support required for continued system enhancements for CVRJ with Band C, Thor III, and support for the Universal Test Sets procured by JIEDDO and transitioned to USMC CREW in FY12.				
FY 2014 Plans: Systems engineering and integration support required for the CREW Legacy variants.				
Title: *USMC CREW - Test and Evaluation		1.698	1.189	3.285
		0	0	0
Articles:				
FY 2012 Accomplishments: Conducted efforts to include the required Marine Corps unique testing of capability enhancements to CREW 2.1 CVRJ (Band C Upgrades) and waveform loadsets for the entire USMC CREW portfolio of systems to include CREW 2.1, 3.1 and Universal Test Sets (UTS).				
FY 2013 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2274: <i>Command & Control Warfare Sys</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
FY13 efforts encompass the continued test events in support of the CREW Legacy (2.1, Band C and 3.1) systems and the Universal Test Set (UTS). FY 2014 Plans: FY14 efforts encompass continued test events in support of the CREW legacy (2.1, Band C and 3.1) systems and the UTS.				
Title: *USMC CREW - Management		3.809	2.749	4.353
		Articles: 0	0	0
FY 2012 Accomplishments: Completed program oversight, task scheduling, reports and study analysis.				
FY 2013 Plans: Program oversight, task scheduling, reports and study analysis.				
FY 2014 Plans: Program oversight, task scheduling, reports and study analysis.				
Title: *GBOSS - Product Development		14.001	22.068	0.000
		Articles: 0	0	
FY 2012 Accomplishments: Conducted Technology Readiness Assessments and certification of capability enhancements in support of the IA baseline.				
FY 2013 Plans: Continue 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.				
Title: *GBOSS - Support		0.414	0.861	0.000
		Articles: 0	0	
FY 2012 Accomplishments: Conducted Technical engineering services, analysis of alternatives, and research studies to include CARD and LCCE development. Continue the IA accreditation efforts, IA and software management, and associated engineering for incorporation of system enhancements.				
FY 2013 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Technical engineering services, analysis of alternatives, and research studies to include CARD and LCCE development. Continue the IA accreditation efforts, IA and software management, and associated engineering for incorporation as system enhancements.			
Title: *GBOSS - Test and Evaluation.			
Articles:	0.760 0	1.080 0	0.000
FY 2012 Accomplishments: Continue testing, evaluation and design verification/validation of G-BOSS version upgrades			
FY 2013 Plans: Continue testing, evaluation and design verification/validation of G-BOSS version upgrades			
Title: *GBOSS - Management.			
Articles:	1.184 0	0.550 0	0.000
FY 2012 Accomplishments: Provided design oversight, task scheduling, estimate development, reports and test support			
FY 2013 Plans: Provide design oversight, task scheduling, estimate development, reports and test support for the program office			
Accomplishments/Planned Programs Subtotals	25.624	32.052	11.234

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

<u>Line Item</u>	FY 2012	FY 2013	FY 2014 <u>Base</u>	FY 2014 <u>OCO</u>	FY 2014 <u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC 6520: <i>USMC CREW</i>	5.117	198.808	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC 6438: <i>GBOSS</i>	49.682	55.500	0.000		0.000	0.000	0.000	0.000	0.000	0.000	279.907
• PMC 7000: <i>USMC CREW SPARES</i>	0.000	1.537	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

COUNTER RADIO-CONTROLLED IMPROVISED EXPLOSIVE DEVICE (RCIED) ELECTRONIC WARFARE (USMC CREW): USMC CREW 2.1 mounted and 3.1 dismounted Legacy systems provide protection to combat elements in vehicle platforms and on foot. The 2.1 mounted systems are being upgraded to a Band C capability with fielding commencing FY12. 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,

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
<p>capability upgrades, and installation kits, integration of the enhancements/Vehicle Installation Kits (VIKs) and the tests/government studies required to support these changes.</p> <p>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.</p> <p>E. Performance Metrics Milestone Reviews</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
USMC CREW	MIPR	ARL/ MILTECH:WRIGHT-PATTERSON, OH	0.000	0.393	Feb 2012	0.000		0.000		-		0.000	0.000	0.393	
USMC CREW	C/BOA	NSWC CD:CRANE IN	0.000	0.250	Aug 2012	0.000		0.000		-		0.000	0.000	0.250	
USMC CREW	SS/FFP	NAVSEA:BALTIMORE, MD	2.800	1.789	Dec 2011	2.190	Dec 2012	2.210	Dec 2013	-		2.210	0.000	8.989	
USMC CREW	WR	SSC-A:CHARLESTON, SC	0.323	0.220	Dec 2011	0.220	May 2013	0.223	May 2014	-		0.223	0.000	0.986	
GBOSS	WR	NSWC CD:CRANE, IN	6.550	14.001	Nov 2012	7.068	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
G-BOSS	TBD	MCSC CONTRACT:QUANTICO, VA	0.000	0.000		15.000	Aug 2013	0.000		-		0.000	0.000	15.000	
Subtotal			9.673	16.653		24.478		2.433		0.000		2.433			

Remarks
 USMC CREW NAVSEA: FY12 - FY14 CREW will utilize Johns Hopkins University Applied Physics Laboratories to develop waveform load sets for all CREW systems to continue to counter the evolving RCIED Threats.
 USMC CREW SSC-A (SPAWAR, Charleston): FY12 - FY14 CREW will utilize SSC-Atlantic to develop mounting solutions in order to integrate mounted systems into all Marine Corps Vehicle platforms
 GBOSS (NSWC Crane) Systems Integration/Product Development and Systems Engineering Support

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
USMC CREW	Various	MCSC:QUANTICO, VA	1.562	1.106	Mar 2012	1.145	Mar 2013	1.163	Mar 2014	-		1.163	0.000	4.976	
G-BOSS	WR	NSWC PH:POINT HUENEME, CA	0.000	0.386	Mar 2012	0.000		0.000		-		0.000	0.000	0.386	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
G-BOSS	WR	MCTSSA:CAMP PENDLETON, CA	0.000	0.028	Apr 2012	0.000		0.000		-		0.000	0.000	0.028	
G-BOSS	C/FFP	CECOM/MITRE:STAFFORD, VA	0.861	0.000		0.861	Dec 2012	0.000		-		0.000	0.000	1.722	
Subtotal			2.423	1.520		2.006		1.163		0.000		1.163	0.000	7.112	

Remarks
 USMC CREW MCSC: CEOss Contracts for a Life Cycle cost Estimate and PM subject Matter Expertise
 USMC CREW NSWC CRANE: On and off-site direct systems engineering support, RF Modeling and Simulation, Independent Verification and Validation support for all increments
 USMC CREW NSWC Dahlgren: RADHAZ (Radio Hazard) Studies, Safety and Configuration Management Support
 G-BOSS NSWC Dahlgren: Hardware/Software engineering and System Safety Support

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
USMC CREW	WR	SSC-A:CHARLESTON, SC	0.550	0.565	Sep 2012	0.335	Dec 2012	0.340	Dec 2013	-		0.340	0.000	1.790	
USMC CREW	Various	NSWC CD:CRANE, IN	0.193	0.100	Mar 2012	0.000		0.000		-		0.000	0.000	0.293	
USMC CREW	C/CPFF	MCSC/MCOTEA:QUANTICO, VA	0.327	0.318	Mar 2012	0.324	Jul 2013	2.412	Nov 2013	-		2.412	0.000	3.381	
USMC CREW	MIPR	YPG:YUMA, AZ	0.809	0.600	May 2012	0.530	Dec 2012	0.533	Dec 2013	-		0.533	0.000	2.472	
USMC CREW	MIPR	SAF/FMBIB:WASHINGTON, DC	0.000	0.115	Sep 2012	0.000		0.000		-		0.000	0.000	0.115	
G-BOSS	MIPR	ATEC:FT. AP HILL, VA	0.010	0.000		0.000		0.000		-		0.000	0.000	0.010	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
G-BOSS	C/CPFF	MCSC/ MCOTEA:QUANTICO, VA	0.276	0.000	Mar 2012	0.350	May 2013	0.000		-		0.000	0.000	0.626	
G-BOSS	Various	NSWC CD:CRANE, IN	0.000	0.760	Jan 2012	0.000		0.000		-		0.000	0.000	0.760	
G-BOSS	WR	SSC-A:CHARLESTON, SC	0.100	0.000		0.730	Aug 2013	0.000		-		0.000	0.000	0.830	
Subtotal			2.265	2.458		2.269		3.285		0.000		3.285	0.000	10.277	

Remarks
 USMC CREW MCOTEA: Provides OT/DT oversight and support for CREW 3.3 systems
 USMC CREW YPG: Provides Test ranges and results analysis for all CREW systems
 G-BOSS MCOTEA: provides oversight support for test events
 G-BOSS NSWC CRANE: will provide testing and evaluation per GBOSS CDD requirements

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
USMC CREW	C/FFP	MCSC/ CEOSS:QUANTICO, VA	0.274	1.271	Mar 2013	0.000		0.000		-		0.000	0.000	1.545	
USMC CREW	WR	NSWC CD:CRANE, IN	0.967	2.106	Feb 2012	1.511	Nov 2012	3.095	Nov 2013	-		3.095	0.000	7.679	
USMC CREW	WR	NSWC DD:DAHLGREN, VA	0.651	0.432	Jun 2012	1.238	Dec 2012	1.258	Dec 2013	-		1.258	0.000	3.579	
G-BOSS	C/FFP	MCSC:QUANTICO, VA	2.432	0.798	Apr 2012	0.000		0.000		-		0.000	0.000	3.230	
G-BOSS	Various	NSWC DD:DAHLGREN, VA	0.386	0.386	Sep 2012	0.550	Nov 2012	0.000		-		0.000	0.000	1.322	
Subtotal			4.710	4.993		3.299		4.353		0.000		4.353	0.000	17.355	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost				

Remarks
 USMC CREW MCSC: Provides Program Management support to USMC CREW Program
 G-BOSS MCSC: Program management Support
 G-BOSS NSWC Dahlgren: Program management Support

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	19.071	25.624	32.052	11.234	0.000	11.234			

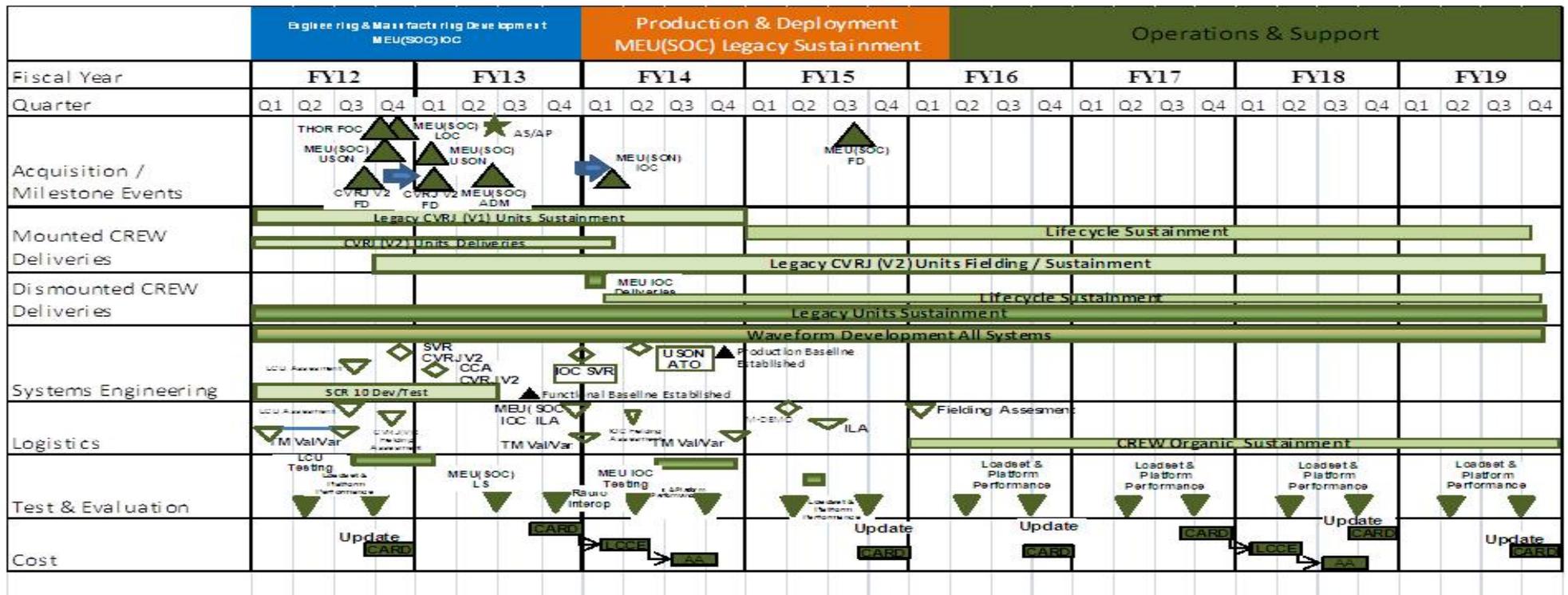
Remarks

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2274: Command & Control Warfare Sys

USMC CREW Program Schedule



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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2274: Command & Control Warfare Sys



G-BOSS PROGRAM SCHEDULE

Fiscal Year	Engineering & Manufacturing Development								Production & Deployment								Operations & Support															
	FY12				FY13				FY14				FY15				FY16				FY17				FY18							
	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								▲ 3.1 FD																								
Capabilities / Requirements			▲ 3.1 Requirements Clarification																													
ECP Long Lead/Deliveries			▭ 3.1 Procurements																													
Systems Engineering					■ 3.1 TRR				◇ 3.1 SVR								▭ G-BOSS 3.1 Lifecycle Sustainment															
Logistics									◇ 3.1 ILA	◇ 3.1 PCA																						
Major Contract Events																																
Test & Evaluation																																
Cost																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2274				
USMC CREW Waveform Development	1	2012	4	2018
USMC CREW MEU(SOC) SYSTEM ACQUISITION STRATEGY	2	2013	2	2013
USMC CREW MEU(SOC) IOC	2	2014	2	2014
G-BOSS 3.1 Requirements Clarification	3	2012	3	2012
G-BOSS 3.1 Fielding Decision	4	2013	4	2013
USMC CREW MEU(SOC) FIELDING DECISION	3	2015	3	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2275: <i>Joint Tactical Radio System</i>	7.426	5.280	4.413	21.923	-	21.923	5.353	2.383	3.072	6.176	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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) ModernizatNext generation solutions for the Warfighter due to urgent communications requirements and Joint Tactical Radio System (JTRS) schedule delays. Funding provides engineering and test support for both the Wideband Tactical Handheld Radio (THHR), AN/MRC-145B service life extension program and programmatic and technical support to complete an AOA for Terrestrial Wideband Transmission System. Increase of \$1.1M from FY13 to FY14 to purchase test articles and testing for a new requirements document for Wideband Tactical Handheld Radio. This is expected to become a new acquisition program (Wideband THHR).

(U) Networking on the Move (NOTM): Networking-on-the-Move (NOTM) provides the Marine Air-Ground Task Force (MAGTF) communications and networking capabilities On-the-Move (OTM), On-the-Halt (OTH), and the beginning capability for self-forming/self healing, ad hoc mobile networking. NOTM will enable mobile forces to collaborate and access information resources for the exchange of voice, data, and video information. This capability will allow tactical forces to maintain situational awareness by extending data network connectivity while OTM. In addition, NOTM will provide crucial network management capabilities to simplify the planning, configuring, and monitoring of the MAGTF networks, waveforms, and spectrum. FY13 to FY14 increase of \$8.7M will support the incorporation of Ka- and X-band satellite communications capabilities in addition to Network Operations Security Center (NOSC) requirements.

(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) Tactical Satellite Comm Terminal (TSCT): 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). With the signing of the SATCOM Collapse (20 May 2011) a dynamic transition will take place to consolidate (3) programs, Lightweight Multiband Satellite Terminal (LMST), Phoenix Tactical SHF Satellite Terminal (TSST), and the Very

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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Small Aperture Terminal Large (VSAT-L) into (1) requirement defined as the Universal Satellite Access Tactical Terminal (UnSATT). RDT&E funding will be utilized to research/integrate Joint IP Modems as mandated by DISA to ensure interoperability during the transition process.

(U) Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): SMART-T provides tactical users with protected data and voice via Extremely High Frequency (EHF) 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 will be 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): Increase in FY14 for Terrestrial Wideband Transmission Systems (TWTS), 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. - 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. - 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. - TEAMS is a 34-meter telescopic mast system, extending support to various organic LOS systems (AN/MRC142, EPLRS, TAOM, and TSSR) by increasing operational reach by overcoming obstacles to communications.

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

	FY 2012	FY 2013	FY 2014
<p>Title: TCM : Tactical Communications Modernization</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Provided engineering support and preliminary test support for the AN/MRC-145-B and programatic and technical support for development of an AOA for Terrestrial Wideband Transmission System (TWTS).</p> <p>FY 2013 Plans: RDTE funding is planned for the MRC 145B engineering support and test and evaluation support.</p> <p>FY 2014 Plans: RDT&E funding is planned for the engineering and test and evaluation support for the Wideband Tactical Handheld Radio.</p>	<p>1.239</p> <p>0</p>	<p>0.562</p> <p>0</p>	<p>1.734</p> <p>0</p>
<p>Title: NOTM: Product Development</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Proof of concept development.</p> <p>FY 2013 Plans:</p>	<p>0.435</p> <p>0</p>	<p>0.802</p> <p>0</p>	<p>9.544</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Proof of concept development. FY 2014 Plans: Increase in funds will provide development of A/B kits for new vehicle variants and development of Network Operations Security Center (NOSC) for remote operations of the NOTM system.				
Title: NOTM: Test and Evaluation Support Articles:		0.200 0	0.350 0	0.750 0
FY 2012 Accomplishments: Test and evaluation support of prototype systems and equipment. FY 2013 Plans: Funds will provide for engineering and program support. FY 2014 Plans: Funds will provide support for proof of concept testing for NOTM Inc 2, and development of test plans.				
Title: NOTM: Engineering Program Support Articles:		1.283 0	1.922 0	2.675 0
FY 2012 Accomplishments: Development efforts included required acquisition documentation and technical support. FY 2013 Plans: Funds will continue to support development efforts and engineering and program support. FY 2014 Plans: Funds will provide test and evaluation support from MCOTEA and MCTSSA and continued engineering and program support.				
Title: LMST: Engineering Program Support Articles:		0.992 0	0.316 0	0.312 0
FY 2012 Accomplishments: Funds for program support, MCOTEA travel to test events, and VSAT X-band development for the SATCOM collapse. FY 2013 Plans: Funds will support SATCOM collapse research and testing, MCOTEA support, and continued program engineering support. FY 2014 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Funds will continue to provide program engineering support and MCOTEA support.				
Title: VSAT: Test and Evaluation Support				
Articles:		0.939 0	0.363 0	0.374 0
FY 2012 Accomplishments: Continued Development and integration efforts, including DISA Modem Certification and engineering support for VSAT.				
FY 2013 Plans: Continue development and integration efforts, including DISA Modem Certification and engineering support at MITRE and JITC.				
FY 2014 Plans: Funds will continue to provide program engineering support at MITRE. Funds also will support testing at JITC and JSEC for ARTSTRAT.				
Title: SMART-T - Program Support				
Articles:		0.192 0	0.098 0	0.194 0
FY 2012 Accomplishments: Provided Science & Technology Engineering support for Secure, Mobile, Anti-jam, Reliable Tactical Terminal (SMART-T).				
FY 2013 Plans: Funding will support test and engineering activities through MCOTEA and MITRE.				
FY 2014 Plans: Funding will support Multi-service Operational Test and Evaluation (MOT&E) in addition to continued test and engineering support through MCOTEA and MITRE.				
Title: TWTS: Test and Evaluation Support				
Articles:		0.000	0.000	2.140 0
FY 2014 Plans: Funds will provide support for 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.				
Title: TWTS: Product Development				
Articles:		0.000	0.000	4.200 0
FY 2014 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
These funds are to support designs to mitigate the obsolescence issues and design service life extension plans for TRC-170 and MRC-142.			
Accomplishments/Planned Programs Subtotals	5.280	4.413	21.923

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/463300-1: <i>Tactical Satellite LMST</i>	1.389	6.009	1.444		1.444	1.470	1.493	1.511	1.538	0.000	22.248
• PMC/463300-3: <i>Very Small Aperture Terminal (VSAT)</i>	32.000	18.300	0.688		0.688	5.814	1.526	1.537	1.565	Continuing	Continuing
• PMC/463300-4: <i>TCM</i>	112.002	66.619	55.537		55.537	89.311	77.983	4.680	4.876	Continuing	Continuing
• PMC/463300-5: <i>SMART-T</i>	1.665	3.463	0.928		0.928	1.417	1.642	1.051	1.072	Continuing	Continuing
• PMC/463300-6: <i>TWTS</i>	0.136	3.000	7.280		7.280	5.979	7.464	9.206	9.372	Continuing	Continuing
• PMC/463100-7: <i>NOTM</i>	0.000	0.000	7.963		7.963	1.000	1.515	9.176	6.287	Continuing	Continuing
• PMC/700000-1: <i>SMART-T</i>	0.000	0.188	0.174		0.174	0.197	0.200	0.203	0.207	Continuing	Continuing

Remarks

D. Acquisition Strategy

(U) D. ACQUISITION STRATEGY:

(U) Tactical Communications Modernization (TCM): - Provides for the testing and evaluation of next generation tactical radio systems supporting the AN/MRC-145 service life extension program.

(U) Networking on the Move (NOTM): NOTM will use an evolutionary acquisition strategy and pursue a competitive firm fixed price contract that leverages Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) technology to procure, sustain and meet emerging requirements of the system. 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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(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 determination of final configuration of upgraded SATCOM terminal, program office will use the same US Army contracting vehicles to procure the approved quantity of new terminals to replace the obsolete terminals being phased out.

(U) Tactical Satellite Comm Terminal (TSCT) - LIGHTWEIGHT MULTIBAND SATELLITE TERMINAL (LMST)/PHOENIX: With the signing of the SATCOM Collapse (20 May 2011), the Marine Corps will consolidate (3) programs, Lightweight Multiband Satellite Terminal (LMST), Phoenix Tactical SHF Satellite Terminal (TSST), and the Very Small Aperture Terminal Large (VSAT-L) into (1) requirement defined as the Universal Satellite Access Tactical Terminal (UnSATT). 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 Program Manager MC3 is the Marine Corps Program Decision Authority (PDA). 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 SMART-T AEHF upgrade kits were procured in 2007. The required AN/PYQ-19 network planning tools will be procured in June 2012 and 2Q FY13. The AEHF capable SMART-Ts and planning tools will replace the legacy SMART-Ts; the AEHF SMART-T AAO will remain the same as that of the legacy system. MCLC is the Depot Level Source of Repair for SMART-T terminals as well as the warranty administrator for the AEHF upgrade kit components and the AN/PYQ-19 network planning tools. 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): - Require R&D to proceed with development of modern Beyond Line Of Sight (BLOS) system to replace the TRC-170. These funds are identified to cover system developmental activities along with different test activities to include durability (life), interoperability, performance and operational activities.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NOTM Development	C/FFP	MCSC, QinetiQ NA:Stafford, VA	0.000	0.860	Dec 2011	0.000		0.000		-		0.000	0.000	0.860	
NOTM Development	C/FFP	SPAWAR:Charleston, SC	0.000	0.000		0.450	May 2013	2.325	Dec 2013	-		2.325	0.000	2.775	
NOTM NOSC Development	TBD	TBD:TBD	0.000	0.000		0.000		7.219	Feb 2014	-		7.219	Continuing	Continuing	Continuing
TWTS (MRC-142 design)	C/FFP	SPAWAR:Charleston,SC	0.000	0.000		0.000		2.200	Jan 2014	-		2.200	0.000	2.200	
TWTS (TRC-170)	C/FFP	SPAWAR:Charleston,SC	0.000	0.000		0.000		2.000	Mar 2014	-		2.000	0.000	2.000	
Subtotal			0.000	0.860		0.450		13.744		0.000		13.744			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NOTM Engineering Support	FFRDC	US Army, MITRE:Stafford, VA	0.000	0.000		1.236	Dec 2012	1.400	Dec 2013	-		1.400	0.000	2.636	
LMST Contractor Support	C/FFP	MCSC, QinetiQ NA:Stafford, VA	0.000	0.805	Aug 2012	0.100	Apr 2013	0.100	Apr 2014	-		0.100	0.000	1.005	
VSAT Development and Integration	FFRDC	US Army, MITRE:Stafford, VA	4.337	0.270	Jan 2012	0.293	Dec 2012	0.034	Dec 2013	-		0.034	0.000	4.934	
TCM-Engineering Support	SS/UCA	US Army, MITRE:Stafford,VA	0.181	0.181	Feb 2012	0.181	Dec 2012	0.181	Dec 2013	-		0.181	0.000	0.724	
TCM Progamatic and Development Support	C/FFP	SSC- Atlantic:Charleston, SC	0.000	0.824	Oct 2012	0.000		0.000		-		0.000	0.000	0.824	
LMST Engineering Support	FFRDC	US Army, MITRE:Stafford, VA	2.606	0.000		0.166	Dec 2012	0.212	Dec 2013	-		0.212	0.000	2.984	
NOTM Contract Support	C/FFP	MCSC, QinetiQ NA:Stafford, VA	0.000	0.858	Mar 2012	0.938	Apr 2013	1.250	Apr 2014	-		1.250	0.000	3.046	
VSAT Contractor Support	C/FFP	MCSC, QinetiQ NA:Stafford, VA	0.043	0.270	Apr 2012	0.000		0.000		-		0.000	0.000	0.313	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SMART-T Contractor Support	FFRDC	US Army, MITRE:Stafford, VA	0.000	0.192	Mar 2012	0.068	Dec 2012	0.154	Dec 2013	-		0.154	0.000	0.414	
Subtotal			7.167	3.400		2.982		3.331		0.000		3.331	0.000	16.880	

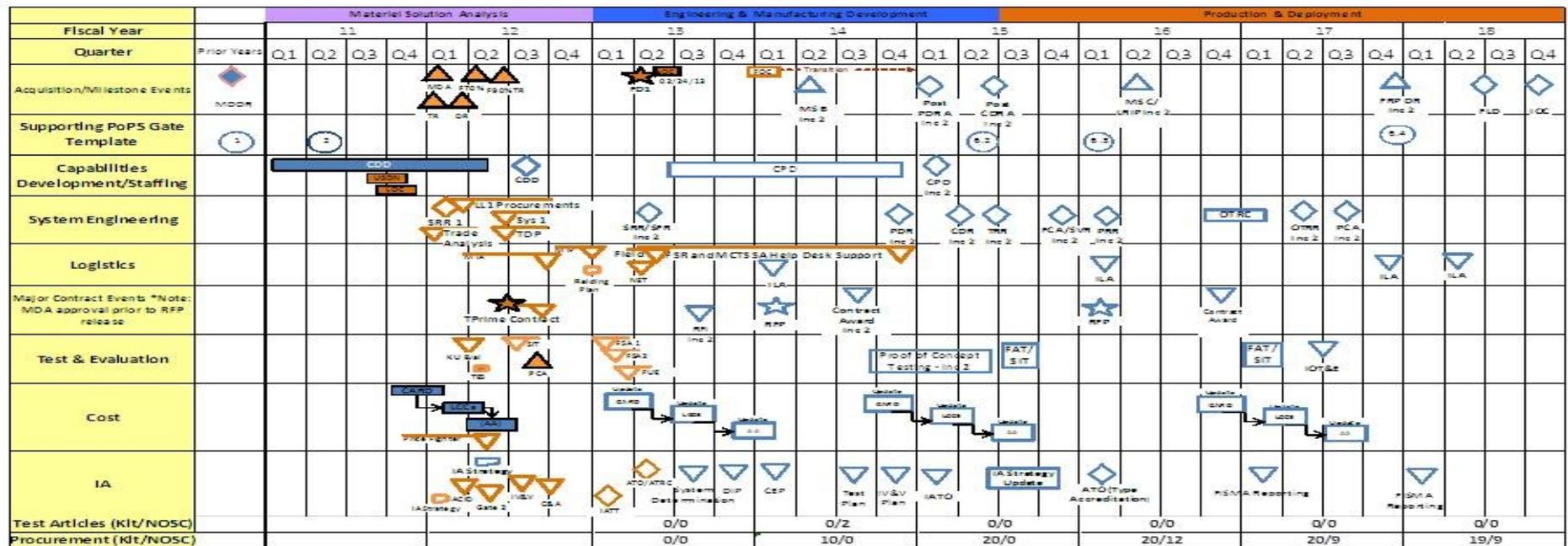
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
VSAT Test Support	MIPR	JITC:Ft. Huachuca, AZ	0.000	0.399	Mar 2012	0.070	Mar 2013	0.210	Mar 2014	-		0.210	0.000	0.679	
NOTM Test Support	Allot	MCTSSA:Camp Pendleton, CA	0.000	0.200	Dec 2011	0.450	Feb 2013	0.500	Feb 2014	-		0.500	0.000	1.150	
SMART-T	WR	MCOTEA:Quantico, VA	0.000	0.000		0.030	Nov 2012	0.020	Nov 2013	-		0.020	0.000	0.050	
SMART-T	SS/FFP	US Army, PM WIN-T:Aberdeen, MD	0.000	0.000		0.000		0.020	Feb 2014	-		0.020	0.000	0.020	
LMST	MIPR	JITC:Ft Huachuca, AZ	0.000	0.000		0.050	Aug 2013	0.000		-		0.000	0.000	0.050	
VSAT Test Support	MIPR	JSEC:APG, MD	0.000	0.000		0.000		0.130	Oct 2013	-		0.130	0.000	0.130	
NOTM	WR	MCOTEA:Quantico, VA	0.000	0.000		0.000		0.275	Nov 2013	-		0.275	0.000	0.275	
TCM WIDEBAND Handheld	TBD	TBD:TBD	0.000	0.000		0.000		1.553	Apr 2014	-		1.553	0.000	1.553	
TWTS (MRC-142)	Allot	MCTSSA:Camp Pendleton, CA	0.000	0.000		0.000		0.500	Jan 2014	-		0.500	0.000	0.500	
TWTS (MRC-142)	WR	MCOTEA:Quantico, VA	0.000	0.000		0.000		0.080	Mar 2014	-		0.080	0.000	0.080	
LMST	WR	MCOTEA:Quantico, VA	0.000	0.187	Sep 2012	0.000		0.000		-		0.000	0.000	0.187	
TWTS (MRC-142)	MIPR	JITC:Ft. Huachuca, AZ	0.000	0.000		0.000		0.546	Jul 2014	-		0.546	0.000	0.546	

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2275: Joint Tactical Radio System

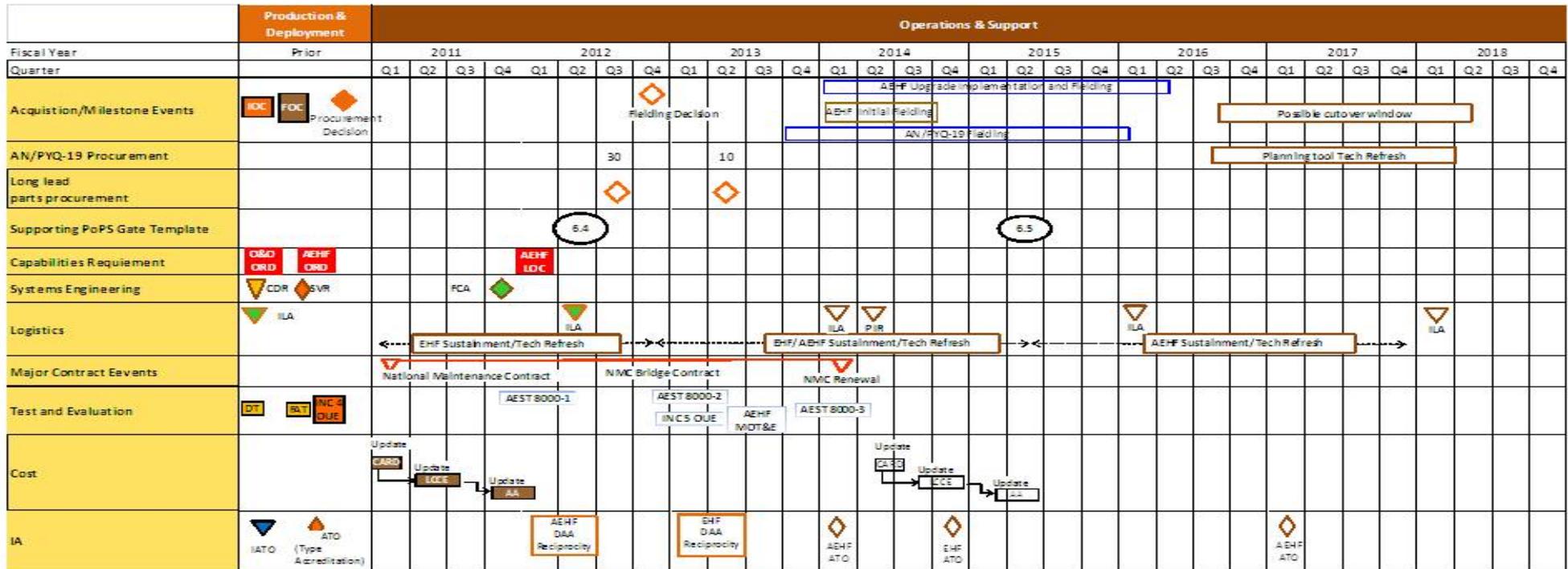
NOTM Program Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>

AEHF SMART-T SCHEDULE



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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2275: Joint Tactical Radio System

VSAT Program Schedule

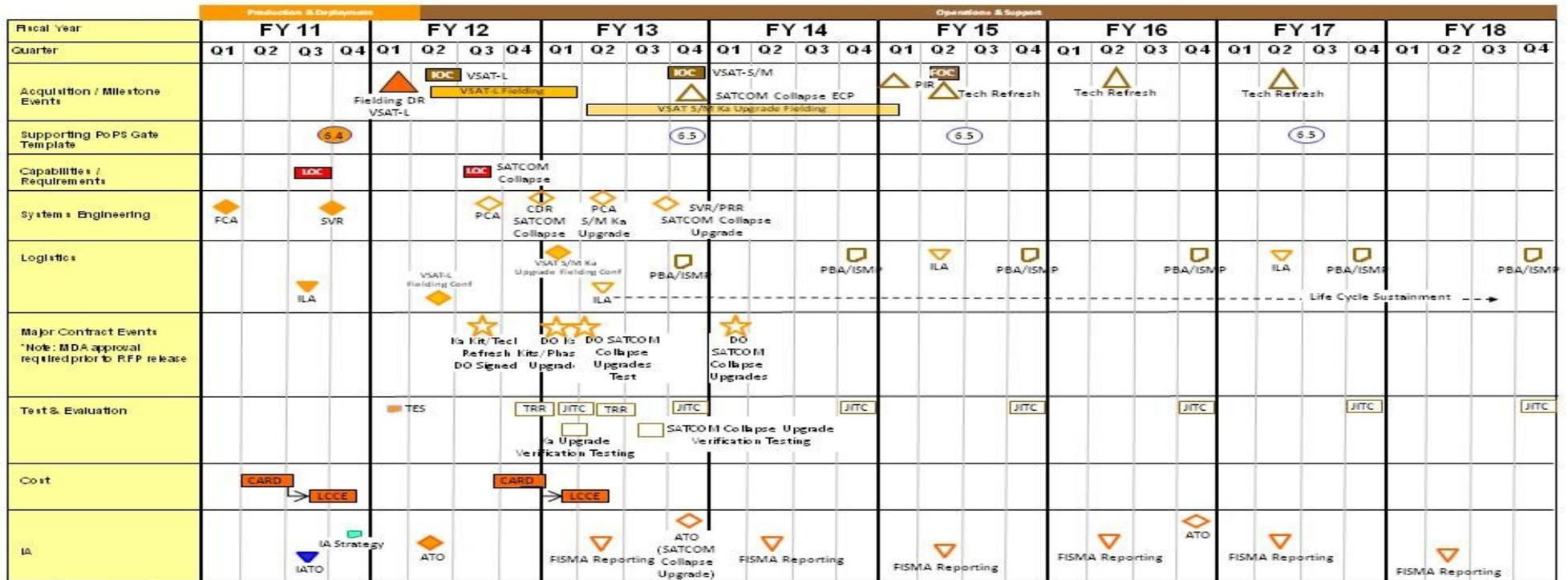


Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0206313M: Marine Corps Comms Systems

PROJECT

2275: Joint Tactical Radio System



MRC-142 Program Schedule



Fiscal Year	FY 11				FY 12				FY 13				FY 14				FY 15				FY 16				FY 17				FY 18							
	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					Out of Production Life Cycle Sustainment																															
Supporting PoPS Gate Template					6.5				6.5				6.5				6.5				6.5				6.5				6.5							
Capabilities / Requirements					PIF												PIF												PIF							
Systems Engineering					ISP Waiver EFB				EFB				EFB				ICP EFB				EFB				EFB				EFB							
Logistics	AN/MRC-142C Fielding				ISMP				LCSP								AN/MRC-142C Technical Refresh																			
Major Contract Events <i>Note: MDA approval required prior to RFP release</i>																																				
Test & Evaluation													AN/MRC-142C Integration Testing																							
Cost	CARD LCCE				Update CARD Update LCCE				Update CARD Update LCCE				Update CARD Update LCCE				Update CARD Update LCCE				Update CARD Update LCCE				Update CARD Update LCCE				Update CARD Update LCCE							
IA	SIAT AC&E Determination of Applicability				DIP CEP				ATO				FISMA Reporting				FISMA Reporting				Re-Certification ATO				FISMA Reporting				FISMA Reporting				Re-Certification ATO			

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2275: Joint Tactical Radio System



TWTS TRC-170 Program Schedule

		Operations & Support																															
Fiscal Year	Quarter	FY 11				FY 12				FY 13				FY 14				FY 15				FY 16				FY 17				FY 18			
		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	Life Cycle Sustainment																																
Supporting PoPS Gate Template																																	
Capabilities / Requirements																																	
Systems Engineering	SIAT AC&E Determination of Applicability																																
Logistics																																	
Major Contract Events																																	
Test & Evaluation																																	
Cost																																	
IA																																	

Legend	★ MDA Decision Approval (non-ED)	◆ Review	■ Documentation
	▲ Milestone / Key Acquisition Event	▼ Assessments, Proposals	

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
 PE 0206313M: *Marine Corps Comms Systems*

PROJECT
 2275: *Joint Tactical Radio System*

THHR Program Schedule

Fiscal Year	Quarter	Operations & Support																																																					
		Prior Years	FY 12				FY 13				FY 14				FY 15				FY 16				FY 17				FY 18+																												
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																																													
Acquisition/Milestone Events	IOC 2001	-----																										FOC 2010	-----																										Disposal
PoPs Gate																																																							
Capabilities/Requirements	MNS ORD	SONe UUNe																																																					
Systems Engineering																																																							
Logistics	ILA VRC-110 2008 PRC-152 2009 IOC 2010	ISMP MPTA MPTP MPTA/P Updates ILA ISMP ILA ILA																																																					
Major Contract Events	RFP Award DOs LMI RFI	LMI RFP LMI Contract Award MILSTD 810 Testing Operational Testing JITC Waiver Regression Testing																																																					
Test and Evaluation	Verification Testing	Regression Testing Regression Testing Regression Testing Regression Testing Regression Testing																																																					
Information Assurance	ATO Waivers	ATO AN/PRC-148 IAAT ATO AN/PRC-152 ATO AN/PRC-148 ATO AN/PRC-152																																																					
Cost		PLDGE BCA PLDGE																																																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2275				
TCM-WB THHR Life Cycle Sustainment	1	2012	2	2018
TCM-WB THHR SRR	1	2013	1	2013
TCM-WB THHR TRR	1	2013	1	2013
TCM-WB THHR ECP	3	2014	3	2014
TCM-WB THHR MIL-STD 810 Testing	1	2014	1	2014
TCM-WB THHR Operational Testing	3	2014	3	2014
NOTM CDD	3	2012	3	2012
NOTM CARD/LCCE/Affordability Assessment	1	2013	1	2014
NOTM Proof of Concept Testing Increment 2	3	2014	2	2015
NOTM PDR Increment 2	4	2014	4	2014
NOTM MS B Increment 2	2	2014	2	2014
NOTM EMD RFI	3	2013	3	2013
NOTM EMD RFP	1	2014	1	2014
NOTM EMD Contract Award	3	2014	3	2014
NOTM LRIP Increment 2 RFP	1	2016	1	2016
NOTM LRIP Increment 2 Contract Award	4	2016	4	2016
NOTM LRIP Increment 2 FRP	4	2017	4	2017
VSAT Large IOC	2	2012	2	2012
VSAT Large Fielding	2	2012	1	2013
VSAT S/M Ka-band FRP/Fielding	2	2013	1	2015
VSAT Small/Medium IOC	4	2013	4	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
VSAT SATCOM Collapse Upgrades Test Articles Award	2	2013	2	2013
VSAT JITC Test Event (DICE 3)	4	2013	4	2013
VSAT SATCOM Collapse Ka Kits/ Phase IV Upgrades Award	1	2013	1	2013
VSAT Ka-band FOC	2	2015	2	2015
VSAT Tech Refresh	2	2015	2	2015
VSAT SATCOM Collapse ECP Award	1	2014	1	2014
LMST SATCOM Collapse LOC	3	2012	3	2012
LMST JITC Certifications	4	2013	4	2013
LMST (Phoenix) JITC Certifications	4	2013	4	2013
LMST & Phoenix ATO	2	2015	2	2015
LMST Phase-out	1	2016	4	2017
LMST (Phoenix) Tech Refresh	1	2018	4	2018
SMART-T Inc 5 Operational User Evaluation	4	2012	2	2013
SMART-T AEST-2 Launch	4	2012	2	2013
SMART-T AEST 3 Launch	4	2013	2	2014
SMART-T AEHF Planning Tool (PYQ-19) Fielding	4	2013	1	2016
SMART-T AEHF Terminal Fielding	1	2014	2	2016
SMART-T AEHF MOT&E	2	2013	4	2013
TWTS (MRC-142) Intergration Testing	3	2014	1	2015
TWTS (MRC-142) ERB (4th qtr each year)	4	2012	4	2018
TWTS (MRC-142) ECP	1	2015	1	2015
TWTS (MRC-142) Tech Refresh	2	2015	2	2016
TWTS (MRC-142) ATO (3rd qtr every 3 years)	3	2012	3	2018
TWTS (TRC-170) PIR (3rd qtr every 3 years)	4	2012	4	2018
TWTS (TRC-170) ECP	1	2014	1	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TWTS (TRC-170) ILA	3	2014	3	2014
TWTS (TRC-170) Intergration Testing	1	2014	2	2018
TWTS (TRC-170) Obsolescence Management Techinal Refresh	1	2015	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2276: <i>Comms Switching and Control Sys</i>	24.280	4.121	8.327	15.405	-	15.405	11.114	7.767	5.083	5.171	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

(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/liason 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 can

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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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).

(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 2012	FY 2013	FY 2014
<p>Title: NPM: SPEED Development and Enhancements</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Continued future enhancements to software to maintain relevancy with emerging communication technology.</p> <p>FY 2013 Plans: Funds will support recompete of SPEED contract for software development and program support.</p> <p>FY 2014 Plans: Funds will provide additional enhancements and capabilities within the SPEED software (Spectrum 21 online), testing through MCTSSA, and research on additional software applications to be utilized within NPM.</p>	<p>0.695</p> <p>0</p>	<p>0.978</p> <p>0</p>	<p>1.940</p> <p>0</p>
<p>Title: NPM: Program Management Support</p> <p align="right">Articles:</p> <p>FY 2014 Plans: Funds provide for program support.</p>	<p>0.000</p>	<p>0.000</p>	<p>0.400</p> <p>0</p>
<p>Title: TSM: Engineering and Program Support</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments:</p>	<p>0.408</p> <p>0</p>	<p>0.317</p> <p>0</p>	<p>0.324</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2276: <i>Comms Switching and Control Sys</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Provided support for Engineer Change Proposal (ECP) integration and development testing, and continued engineering and program support efforts.</p> <p>FY 2013 Plans: Funds will provide for Information Assurance, Interoperability testing, and continued engineering and program support.</p> <p>FY 2014 Plans: Funds will provide for Voice Over IP (VoIP) testing, and continued engineering and program support.</p>				
<p>Title: ECCS: Product Development</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Funds are being used to purchase ECCS Production Representative Units for Test and Evaluation (T&E) purposes. Performing activity will be responsible for associated Information Assurance and Environmental Safety and Occupational Health (ESOH) tasks.</p> <p>FY 2013 Plans: Funds will provide for development of the Block 1 Consolidated Base Station (CBS).</p>		0.500 0	0.770 0	0.000 0
<p>Title: ECCS: Test and Evaluation Support</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Funds will support ECCS Block 1 creation of Test Plan, Procedures, and Test Reports.</p> <p>FY 2013 Plans: Funds will provide support for testing of the Block 1 Consolidated Base Station (CBS) at MCTSSA and participation in Joint Interoperability Test Center (JITC) test events.</p> <p>FY 2014 Plans: Funds will continue to provide support for testing of the Block 1 CBS and participation in Joint Interoperability Test Center (JITC) test events.</p>		0.500 0	0.409 0	0.500 0
<p>Title: ECCS: Engineering and Program Support</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Conducted engineering and program support.</p> <p>FY 2013 Plans:</p>		0.037 0	0.934 0	1.405 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Funds will support development of the Block 1 Consolidated Base Station (CBS) documentation , and continued engineering and program support. FY 2014 Plans: Funds will support integration and testing of the Block 1 CBS, and continued engineering and program support.				
Title: DDS-M: Program Engineering Support Articles:		0.514 0	0.517 0	3.732 0
FY 2012 Accomplishments: Provided program engineering support for DDS-M systems. FY 2013 Plans: Funds will support the IPV6 MCTSSA lab which provides interoperability validation of networking components within the IPV6 arena. 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) in addition to continued engineering program support.				
Title: DDS-M: Test and Evaluation Support Articles:		0.338 0	0.510 0	0.500 0
FY 2012 Accomplishments: JITC Joint Interoperability Testing and MCOTEAs participation in DT events; First Article Testing (FAT) and Systems Integration Testing (SIT) in support of independent user evaluations. FY 2013 Plans: Continue Joint Interoperability Testing Command (JITC) and MCOTEAs participation in DT events (2 DoD Interoperability Communications Exercises (DICE)). FY 2014 Plans: Funds will provide support for JITC and MCOTEAs participation in OT events, (2 DoD Interoperability Communications Exercises (DICE)).				
Title: DDS-M Program Management Support Articles:		1.128 0	1.444 0	1.300 0
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Funds will support research and development at MCTSSA for virtualization initiative Engineering Change Proposal (ECP) which includes modifications to the ASM and DSM modules of the DDS-M Core.</p> <p>FY 2013 Plans: Funds will support research at MCTSSA/MITRE on the effects of collapsing the networking capability in the VSAT and absorbing the requirement into the DDS-M. The research will include ensuring the current routers within the modules can support the increased payload required of the VSAT equipment.</p> <p>FY 2014 Plans: Funds will provide research and development at MCTSSA for concept of employment/operations for the implementation of the Edge Controller Boundary (EBC) capability within the IAM modules.</p>				
<p>Title: JECCS: Engineering and Program Support</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Funds will support development of Engineering Change Proposal (ECP) packages and continued engineering and program support.</p> <p>FY 2014 Plans: Funds will support research, development, and implementation of required crypto hardware/wiring; software regression testing; and continued engineering and program support.</p>		0.000	0.077 0	2.755 0
<p>Title: JECCS: Test and Evaluation Support</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Funds will support testing activities at MCTSSA.</p> <p>FY 2014 Plans: Funds will support participation in Joint Interoperability Testing Center (JITC) DoD Interoperability Communications Exercise (DICE) events in accordance with Joint Staff requirements and continued testing activities at MCTSSA.</p>		0.000	0.040 0	0.689 0
<p>Title: DTC: Engineering and Development Support</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Continued engineering program support efforts.</p> <p>FY 2013 Plans:</p>		0.001 0	2.180 0	1.360 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Funds will support Engineering Change Proposals (ECPs), software integration, and continued engineering 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.			
Title: DTC: Test and Evaluation Support	0.000	0.151	0.500
Articles:		0	0
FY 2013 Plans: Funds provide for Information Assurance updates and Joint Interoperability Testing.			
FY 2014 Plans: Funds will provide engineering and program support, IV&V testing, system verification review, and Authority to Operate re-accreditation.			
Accomplishments/Planned Programs Subtotals	4.121	8.327	15.405

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/4634-1: TSM	18.205	22.100	18.103		18.103	1.307	0.869	0.000	0.000	0.000	169.052
• PMC/4634-2: ECCS	0.000	0.300	4.777		4.777	12.657	4.420	3.020	2.983	0.000	38.436
• PMC/4634-5: DDS-M	98.153	32.353	12.980		12.980	73.681	63.225	44.785	47.521	0.000	372.698
• PMC/4634-6: DTC	16.695	3.295	3.656		3.656	3.329	4.519	6.591	6.709	0.000	44.794
• PMC/4634-7: JECCS	0.000	5.200	5.192		5.192	1.746	1.776	9.913	10.091	0.000	33.918
• PMC/4634-8: NPM	0.000	0.000	0.750		0.750	0.000	0.000	0.000	0.000	0.000	0.750
• PMC/4630-1: TSM/CCR	0.000	0.000	1.838		1.838	0.000	0.000	0.000	0.000	0.000	1.838

Remarks

D. Acquisition Strategy

(U) Network Planning and Management (NPM), formerly Joint Network Management Systems (JNMS): The NPM acquisition strategy emphasizes the use of Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) products. The USMC GOTS SPEED acquisition strategy is for incremental development with the goal of releasing one new version of software annually. The SPEED contract method is through a sole source Blanket Purchase Agreement (BPA) using Fixed Price Task Orders based on the developer's GSA schedule for man-hours. FY13 to FY14 increase will support the award of a new contract and incorporation of additional capabilities and functionality into the SPEED software in accordance with user requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
<p>(U) Transition Switch Module (TSM): TSM calls for the identification, integration, and testing of commercial switching technologies of sufficient maturity to improve system performance or meet emerging user requirements. Seeks commercial solutions that are fully compatible and interoperable with other Communication Networking Systems (CNS) programs that are fielded and/or being fielded e.g., DTC, TDN, Joint Enhanced Core Communication System (JECCS) etc.</p> <p>(U) Expeditionary Command and Control Suite (ECCS): ECCS will use an evolutionary acquisition strategy and pursue a competitive firm fixed price contract. Major focus will be on interoperability and compatibility with existing systems and components. R&D effort will focus on integrating and testing 'miniaturized' versions of existing components. Emerging technologies such as VoIP and Secure Wireless will also be addressed in the out year R&D effort.</p> <p>(U) TDN Data Distribution System - Modular (DDS-M): DDS-M is an evolutionary acquisition strategy that will modify existing and legacy programs to add emerging capabilities for interoperability. The tenets of the WFN-T acquisition strategy are Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS), firm fixed-price competitive contracts for material solutions to meet emerging requirements. WFN-T may reuse other Services' development and ride external contracts that satisfy requirements and analysis of alternatives. FY13 to FY14 increase will support Edge Boundary Controller initiative which supports information assurance concerns when implementing voice-over-ip (VoIP) solutions. In addition, funds will be used to research technology obsolescence replacement end items.</p> <p>(U) Joint Enhanced Core Communications System-Refresh (JECCS-R): The JECCS-R acquisition strategy is based upon an evolutionary acquisition where most components are Commercial Off-the-Shelf (COTS). As an evolutionary acquisition, the JECCS will continue to be upgraded and improved as technology advances. Software version upgrades will be included. COTS and GOTS will be used to the maximum extent possible. The task order recipient will be responsible for updating the JECCS-R system operations and maintenance manual, which provides an integrated view of the equipment and interoperation of all components. FY13 to FY14 increase will support the Windows 7 and laptop upgrades, system integration testing, crypto testing and upgrades, fiber optic modem testing and enhancements, and server hardware/software testing and upgrades.</p> <p>(U) Digital Technical Control (DTC): DTC uses an an evolutionary acquisition strategy. As new products and industry standards are produced, they are to be tested and integrated into DTC equipment. 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 developing and integrating improved versions of existing components, while working toward the end-state of IPV6.</p> <p>E. Performance Metrics N/A</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NPM (SPEED S/W Development)	C/FFP	MCSC, Northrop Grumman:VA, FL	7.329	0.695	Mar 2012	0.928	Jan 2013	1.773	Nov 2013	-		1.773	Continuing	Continuing	Continuing
ECCS Block 1 Integration	RO	NSWC:Panama City, FL	7.231	0.500	Oct 2012	0.000		0.000		-		0.000	0.000	7.731	
ECCS IA Certifications	WR	MCOTEA:Quantico, VA	6.412	0.000		0.215	Dec 2012	0.215	Mar 2014	-		0.215	0.000	6.842	
JECCS	C/FFP	SPAWAR:Charleston, SC	0.000	0.000		0.000		1.551	Feb 2014	-		1.551	0.000	1.551	
Subtotal			20.972	1.195		1.143		3.539		0.000		3.539			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TSM Engineering Support	FFRDC	US Army, MITRE:Stafford, VA	0.526	0.108	Jan 2012	0.100	Dec 2012	0.100	Dec 2013	-		0.100	0.000	0.834	
ECCS Engineering Support	FFRDC	US Army, MITRE:Stafford, VA	0.000	0.037	Jan 2012	0.734	Dec 2012	0.430	Dec 2013	-		0.430	Continuing	Continuing	Continuing
ECCS Engineering Support	Allot	MCTSSA:Camp Pendleton, CA	0.000	0.000		0.100	Dec 2012	0.000		-		0.000	0.000	0.100	
DDS-M Engineering Support	Allot	MCTSSA:Camp Pendleton, CA	0.000	0.000		0.300	Feb 2013	0.250	Feb 2014	-		0.250	0.000	0.550	
DDS-M Engineering Support	TBD	TBD:TBD	0.000	0.000		0.000		3.306	Mar 2014	-		3.306	Continuing	Continuing	Continuing
DDS-M Engineering Support	C/FFP	SPAWAR:Charleston, SC	0.000	1.355	Sep 2012	0.217	Dec 2012	0.250	Dec 2013	-		0.250	0.000	1.822	
DTC Engineering Support	FFRDC	US Army, MITRE:Stafford, VA	0.000	0.001	Jan 2012	2.180	Dec 2012	1.490	Dec 2013	-		1.490	0.000	3.671	
WFN-T Engineering Support	FFRDC	US Army, MITRE:Stafford, VA	1.882	0.000		0.000		0.000		-		0.000	0.000	1.882	
Subtotal			2.408	1.501		3.631		5.826		0.000		5.826			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NPM T&E	Allot	MCTSSA:Camp Pendleton, CA	0.000	0.000		0.050	Mar 2013	0.200	Mar 2014	-		0.200	Continuing	Continuing	Continuing
TSM	C/FFP	SPAWAR:Charleston, SC	0.000	0.000		0.217	Mar 2013	0.224	Mar 2014	-		0.224	0.000	0.441	
ECCS T&E	WR	MCOTEVA:VA	0.000	0.000		0.315	Jan 2013	0.280	Jan 2014	-		0.280	0.000	0.595	
ECCS T&E	MIPR	JITC:Ft. Huachuca, AZ	0.000	0.000		0.094	Jan 2013	0.080	Mar 2014	-		0.080	0.000	0.174	
DDS-M T&E	WR	MCOTEVA:VA	0.000	0.000	Mar 2012	0.100	Mar 2013	0.100	Mar 2014	-		0.100	0.000	0.200	
DDS-M T&E	MIPR	JITC:Ft. Huachuca, AZ	0.000	0.080	May 2012	0.410	Mar 2013	0.400	Mar 2014	-		0.400	0.000	0.890	
JECCS	Allot	MCTSSA:Camp Pendleton, CA	0.000	0.000		0.047	Jan 2013	0.308	Jan 2014	-		0.308	0.000	0.355	
JECCS	MIPR	JITC:Ft. Huachuca, AZ	0.000	0.000		0.000		0.100	Feb 2014	-		0.100	0.000	0.100	
DTC	WR	MCOTEVA:Quantico, VA	0.000	0.000		0.051	Mar 2013	0.170	Mar 2014	-		0.170	0.000	0.221	
DTC T&E	MIPR	JITC:Ft. Huachuca, AZ	0.000	0.000		0.100	May 2013	0.100	May 2014	-		0.100	0.000	0.200	
DTC	Allot	MCTSSA:Camp Pendleton, CA	0.000	0.000		0.000		0.100	Feb 2014	-		0.100	0.000	0.100	
WFN-T T&E	MIPR	JITC:Ft. Huachuca, AZ	0.900	0.000		0.000		0.000		-		0.000	0.000	0.900	
ECCS T&E	WR	NSWC:Panama City, FL	0.000	0.500	Oct 2012	0.000		0.000		-		0.000	0.000	0.500	
Subtotal			0.900	0.580		1.384		2.062		0.000		2.062			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NPM Program Support	C/FFP	MCSC, QinetiQ:VA	0.000	0.000		0.000		0.367	Apr 2014	-		0.367	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>

JECCS Schedule

Fiscal Year	Operations & Support																																																															
	FY 11				FY 12				FY 13				FY 14				FY 15				FY 16				FY 17				FY 18																																			
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	Q1	Q2	Q3	Q4																												
Acquisition / Milestone Events	Life Cycle Sustainment								PIR																	PIR																																						
Supporting PoPS Gate Template									6.5																	6.5																	6.5																					
Capabilities / Requirements																																																																
Systems Engineering	ECP				ECP				SRR / SFR				ECP				ZDR / SVR								SRR / SFR				ECP				CDR				SVR																											
Logistics					ILA				THI				ECP				ECP				ECP				ECP				ECP				ECP				ECP																											
Major Contract Events																																																																
Test & Evaluation																																																																
Cost	CAB				LOCE				AA								Update				Update				Update				Update				Update				Update				Update																							
IA	ATO				INS.V				FSMA				FSMA				Gate 1				Gate 2				Gate 3				INS.V				ATO				FSMA				FSMA				Gate 1				Gate 2				Gate 3				INS.V				ATO			

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

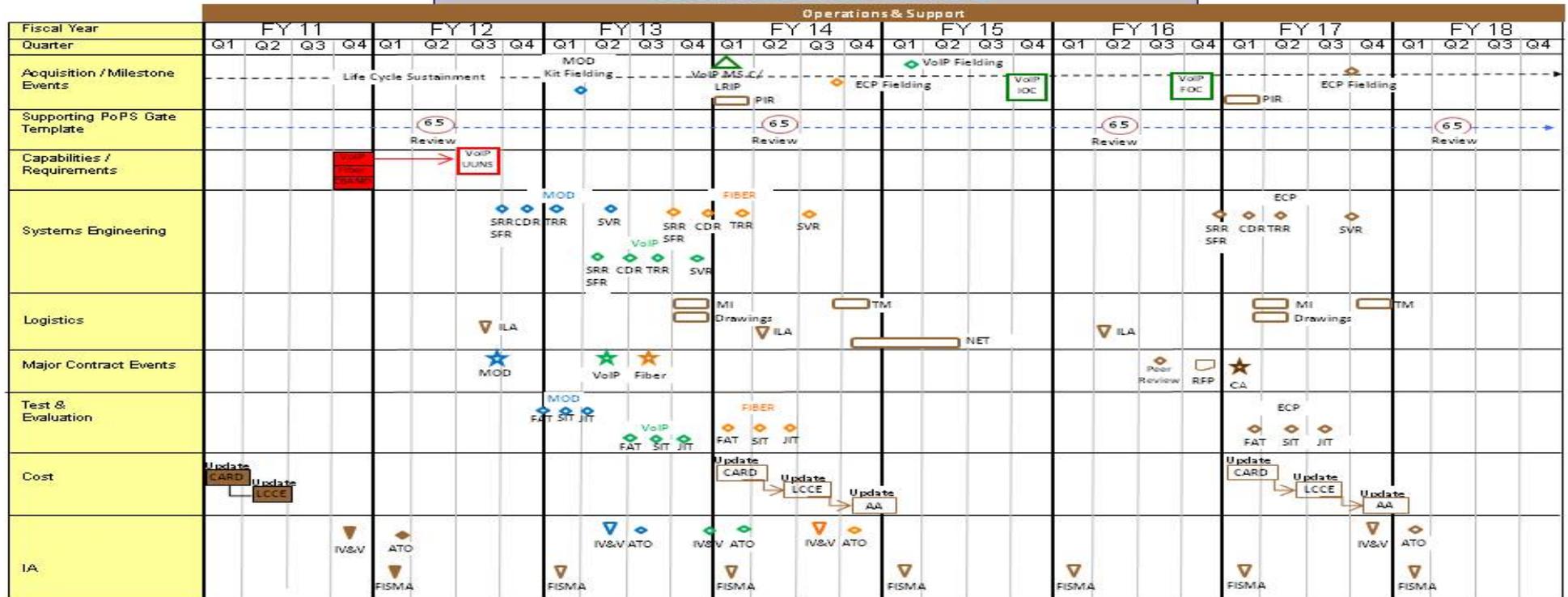
R-1 ITEM NOMENCLATURE

PE 0206313M: Marine Corps Comms Systems

PROJECT

2276: Comms Switching and Control Sys

TSM Schedule



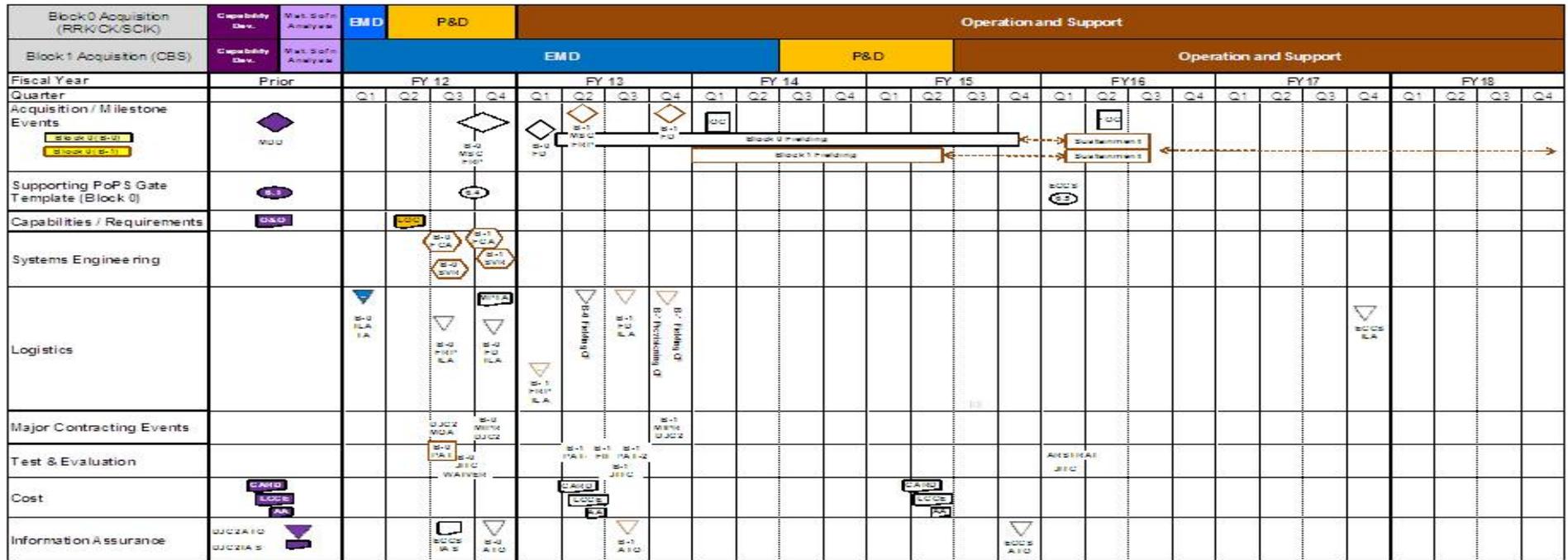
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2276: Comms Switching and Control Sys

*As of 4 May 2012

ECCS Program Schedule



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

DATE: April 2013

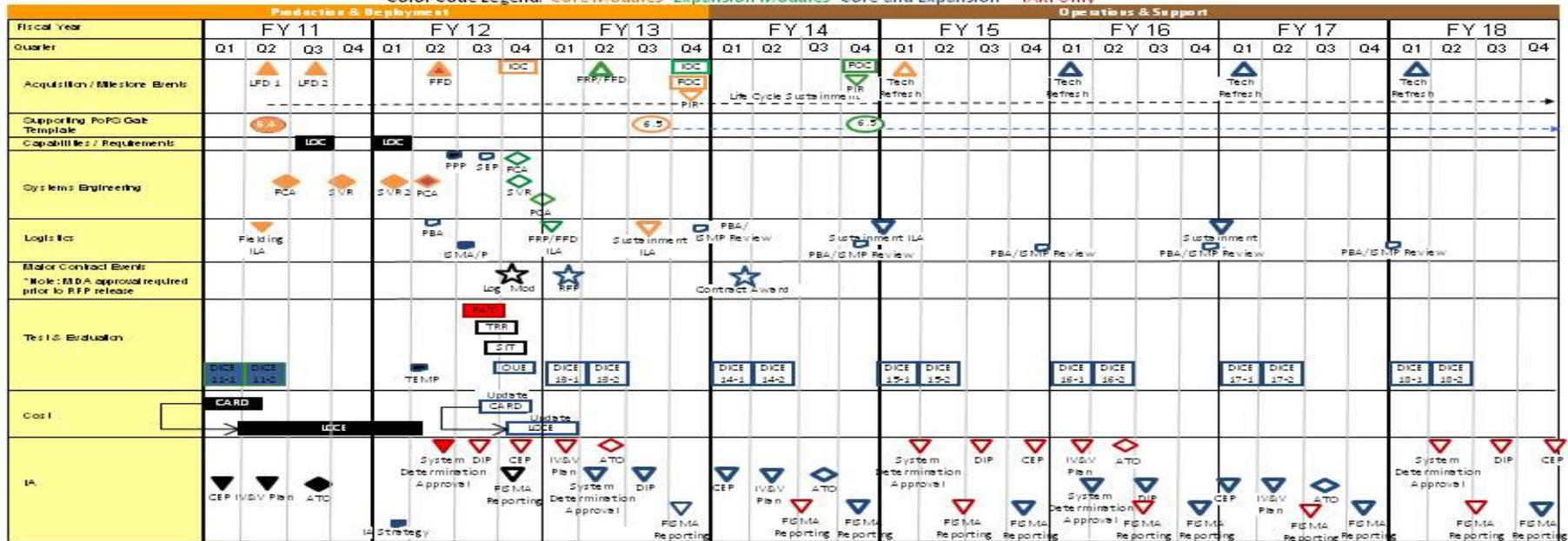
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2276: Comms Switching and Control Sys

TDN DDS Program Schedule

* Color Code Legend: Core Modules Expansion Modules Core and Expansion IAM Only



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

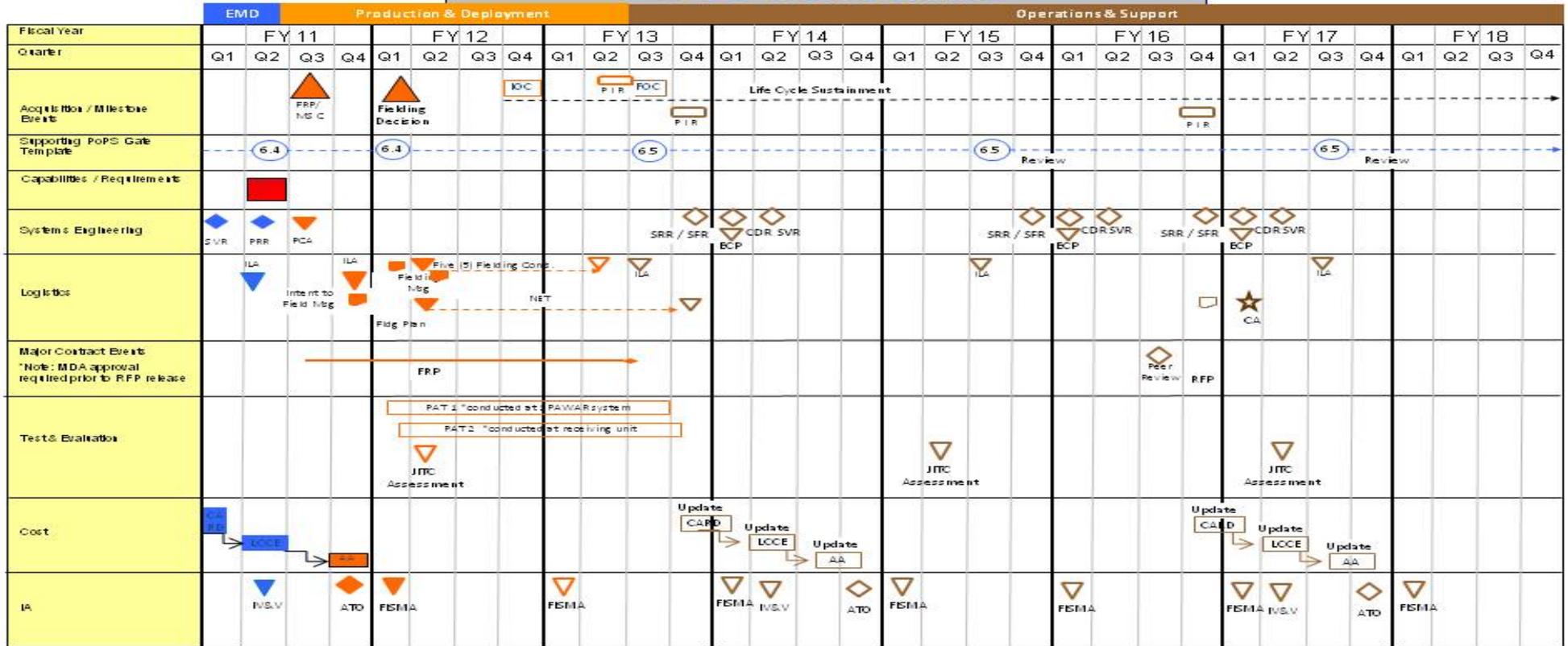
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2276: Comms Switching and Control Sys

DTC Schedule



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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2276: Comms Switching and Control Sys

NPM Program Schedule

	Production & Deployment																Operations & Support																			
	FY 11				FY 12				FY 13				FY 14				FY 15				FY 16				FY 17				FY 18							
	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	Q1	Q2	Q3	Q4
Acquisition / Milestone Events	IPR																																			
Supporting PoPC/Gab Template	6.5																																			
Capabilities / Requirements																																				
Systems Engineering (Rapid Technology Transition Anti-Jam B208)	Code Hardening, Code Integration and Regression Testing, Code Model Test Deployment, Operate and Maintain																																			
Logistics	Fielding V.1.0, Fielding V.11.1.0, Fielding V.11.1.1, Fielding V.11.x, Fielding V.11.x, Fielding V.11.x, Fielding V.11.x																																			
Major Contract Events <small>*Note: MDA approval required prior to RFP release</small>	DO, DO, RFP, DO, Award, DO, DO, DO, DO, DO, DO, DO																																			
Test & Evaluation	PAT V.11.0, PAT V.11.1.0, PAT V.11.1.1, PAT V.X.X, PAT V.X.X																																			
Cost	CARD, NONE																																			
IA	Approved IACID, IV&V Plan, ATO 11.0, ATO Update 11.1.1, Annual ISMA Review, IV&V, ATO, Annual ISMA Review, Annual ISMA Review, IV&V Plan, ATO, IV&V Plan																																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2276				
NPM/SPEED IPR (one per quarter)	1	2012	4	2018
NPM/SPEED Fielding - Ver 11.1.1	2	2013	2	2013
NPM/SPEED Fielding - Ver 11.X (one new version per FY)	2	2014	2	2018
NPM/SPEED RFP	3	2012	3	2012
NPM/SPEED Contract Award	4	2013	4	2013
NPM/SPEED Developmental Test - PAT (4th QTR each FY)	4	2012	4	2018
NPM/SPEED Operational Test - FAT 1 (1st QTR each FY)	4	2012	4	2018
NPM/SPEED ATO for 11.1.1	3	2012	3	2012
TSM SRR/SFR VoIP	2	2013	2	2013
TSM CDR VoIP	3	2013	3	2013
TSM Contract Award VoIP	2	2013	2	2013
TSM FAT/SIT/JITC VoIP	3	2013	4	2013
TSM SVR VoIP	4	2013	4	2013
TSM MSC VoIP	1	2014	1	2014
TSM Contract Award Fiber	3	2013	3	2013
TSM SRR/SFR Fiber	4	2013	4	2013
TSM CDR Fiber	4	2013	4	2013
TSM FAT/SIT/JITC Technology Fiber	1	2014	2	2014
TSM SVR Fiber	3	2014	3	2014
ECCS Block 0 MS C/FRP	4	2012	4	2012
ECCS Block 0 Fielding Decision	1	2013	1	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ECCS Block 0 SVR	4	2012	4	2012
ECCS Block 0 ATO	4	2012	1	2017
ECCS Block 1 MS C/FRP	2	2013	2	2013
ECCS Block 1 Fielding Decision	4	2013	4	2013
ECCS Block 1 ATO	3	2013	3	2013
ECCS IOC	1	2014	1	2014
ECCS FOC	2	2016	2	2016
TDN DDS-M Core Modules - IOC	4	2012	4	2012
TDN DDS-M - Core Modules - FOC	4	2013	4	2013
TDN DDS-M - Recompete RFP	1	2013	1	2013
TDN DDS-M - Contract Award	1	2014	1	2014
TDN DDS-M - Core Module Tech Refresh/Fielding	1	2015	1	2015
DDS-M Expansion Module Production Decision	2	2013	2	2013
DDS-M Expansion Module Fielding Decision	2	2013	2	2013
DDS-M Expansion Module IOC	4	2013	4	2013
DDS-M Expansion Module FOC	4	2014	4	2014
JECCS ECP (laptop upgrades)	2	2012	2	2012
JECCS SRR	1	2014	1	2014
JECCS CDR	2	2014	2	2014
JECCS SVR	3	2014	3	2014
JECCS ECP (promina 800 software upgrades)	2	2014	2	2014
DTC NET	4	2012	1	2013
DTC IOC	4	2012	4	2012
DTC FOC	3	2013	3	2013
DTC PIR OPFOR	2	2013	2	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
DTC CDR	1	2014	1	2014
DTC ECP	1	2014	1	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2277: <i>System Engineering and Integration</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
<i>2277: System Engineering and Integration</i>	9.434	10.923	6.171	11.626	-	11.626	6.637	6.648	6.588	6.692	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2277: <i>System Engineering and Integration</i>
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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.

Marine Civil Information Management (MARCIM) is a discipline of information management comprised of people, process, and technology. Civil information managers leverage the process of Planning, Collection, Consolidation, Analysis, Production, and Sharing of civil information with technology to support the visualization and understanding of the civil environment to the military commander's decision making process. This program is a new start in FY14.

Joint Distributed Engineering Plant (JDEP) directly supports DoD mandated directive CJCSI 6212.01F, to evaluate the interoperability of the holistic Marine Air Ground Task Force (MAGTF) Command Control Communications Intelligence (C4I) Capability produced by Marine Corps Systems Command (MARCORSYSCOM). This evaluation will be accomplished via the MAGTF C4I Capability Certification (MC3) process. Using MC3, composite capabilities are evaluated for their collective interoperability with joint forces; support integration of emergent systems with systems already fielded, and to conduct critical engineering analysis capable of isolating and correcting capability deficiencies and optimize system of systems performance.

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

	FY 2012	FY 2013	FY 2014
<p>Title: Expeditionary Energy Office (E2O)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: This funding directly supported execution of 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. FY12 major funding activities included the design, integration, and fabrication of the MTRV Auxiliary Power Unit (APU) and heating, ventilation, and air conditioning (HVAC). FY12 funding activities also included the experimentation, development, and demonstration of the Mobile Power Solar (MSP) system, follow-on technology support for ExFOB , and the Analysis of Alternatives (AoA) for MAGTF Expeditionary Hybrid Power Systems (MeHPS).</p> <p>FY 2013 Plans: FY13 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.</p> <p>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</p>	<p>2.583</p> <p>0</p>	<p>2.448</p> <p>0</p>	<p>2.128</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2277: <i>System Engineering and Integration</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
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 2012
				FY 2013
				FY 2014
Title: JINTACCS: JCS and OASD/NII Data Links Testing.				
				1.049
				1.007
				1.056
Articles:				0
				0
				0
FY 2012 Accomplishments:				
JINTACCS: DC SIAT and MCTSSA completed the review and update of all IT Standards applicable to the USMC and maintained the data environment to ensure all developed solution architectures associated the appropriate technical IT standards in their DODAF Standards View. DC SIAT led the Army - Marine Corps C2 interoperability Systems Engineering IPT to align the use of JVMF and VMF messaging standards to create interoperability between the DoD ground force systems (FBCB2 (VMF), JTCW (JVMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links. DC SIAT also led the development of a data model converter application to create interoperability between the NATO JC3IEDM data model to theC2PC (VMF) system allowing coalition interoperability at the dismounted level.				
FY 2013 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 JVMF and VMF messaging standards to create interoperability between the DoD ground force systems (FBCB2 (VMF), JTCW (JVMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links. 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 C2PC (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 JVMF and VMF messaging standards to create interoperability between the DoD ground force systems (FBCB2 (VMF), JTCW (JVMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links. 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				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2277: <i>System Engineering and Integration</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
development of data model converter applications to create Standard Agreement 4677 on interoperability between the NATO JC3IEDM data model to the C2PC (VMF) system allowing coalition interoperability at the dismounted level.				
Title: SEIC: Engineering and Technical Support		5.634	2.716	7.617
		Articles: 0	0	0
FY 2012 Accomplishments: MAGTF SEI&C: Mode 5/S - Coordinated across multiple stakeholders to include CD&I (C2ID, FPID), DC/Aviation, PEO-LS, PG-11, NAVAIR, etc. to define a Service-wide engineering strategy to deliver mode 5/S capability for the Marine Corps. Products included study analysis paper and briefings. Programs affected included: TPS-59, G/ATOR, CTN, CAC2S, MACCS Sustainment, ATNAVICS, etc. MOWASP (Mechanization of Warehousing and Storage Procedures)- MOWASP is an IBM 370 hosted application. Based on LOGCOM claims that an emerging IBM operation system upgrade would render the program inoperable unless critical changes were made with an estimated cost of ~\$5M, the LCE War Room technical team investigated the impact of the operating system upgrade and determined that no impact would result, and provided actionable decision-quality data to support a coordinated SES position between LOGCOM, I&L and MCSC. MOWASP was determined to be viable until the capabilities it provides are replaced by GCSS-MC Increment II. MAGTF Chat- The divergence of Chat applications across the Marine Corps enterprise was becoming epidemic with obvious cost, interoperability and IA implications: there are over a dozen duplicative instantiations across MCSC programs. The GCE War Room coordinated across the Marine Corps enterprise to neck down to a single application that met IA requirements and reduced cost throughout. 2011 MAGTF C2 Road Map- Provided foundational support and technical leadership necessary to initiate and publish the HQMC's CD&I C2 Road Map in concert with C2ID. Based upon the interdependency analysis, the MAGTF C2 baseline, and other cross-syscom products provided by SE&IC, the roadmap successfully advocated a system of systems perspective and positively influenced key funding decisions across the warfighting PEB for POM 14. CAC2S-MACCS Sustainment- Based on C2ID initiative to maintain the MACCS Family of Systems to 2025 and cancel CAC2S Increment I, Phase 2 as an affordability measure. The ACE War Room led the analysis to determine the feasibility of maintaining the software and refreshing the hardware configuration out to 2025. Independent Cost Analysis of sustaining and upgrading MACCS is on-going. Results briefed to DC/Aviation and ASN-RDA.				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2277: <i>System Engineering and Integration</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
<p>Deploying Group System Integration Test (DGSIT)- Coordinated across programs/systems to provide SMEs and technical expertise directly to MEUs, and in some cases the MEFs, during their pre-deployment work-ups to ensure their fielded Tier 1 and Tier 2 systems are fully functional/interoperable. These efforts support either 7 or 8 pre-deployments exercises per year and have successfully indentified, isolated and resolved several hundred technical integration/interoperable issues that would have potentially been discovered during real-world operations. DGSIT coordinators and SMEs routinely receive accolades by MEF/ MEU commanders or their staffs for not only resolving interoperability issues but also for the intrinsic training benefits associated with working through the issues.</p> <p>GCSS-MC- Based on MROC tasking to define off ramps for GCSS-MC R1.2, The LCE War Room identified a series of potential solutions to achieve R1.2 functionality with much less risk. Cost analysis of potential solutions is ongoing as detailed configurations their system architectures are documented.</p> <p>FY 2013 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. FY13 level of funding is needed to accomplish the technical objectives for integration and interoperability between MAGTF systems and systems of systems. Provide 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 will extend to Naval and Joint processes and will reinforce existing capability development processes via systems engineering, operational architecture, requirements transition, and knowledge management methodologies.</p> <p>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. FY 14 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.</p>		FY 2012	FY 2013	FY 2014
<p>Title: MARCIM: Marine Civil Information Management</p> <p>FY 2014 Plans:</p>		0.000	0.000	0.825 0
		Articles:		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2277: <i>System Engineering and Integration</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Develop new technology through various research efforts at the MAGTF Experimentation Center.			
Title: JDEP: Develop Certifications and Conduct MAGTF C4I Capability	1.657	0.000	0.000
Articles:	0		
FY 2012 Accomplishments: JDEP: Conducted development of the MAGTF C4I Capability Certification process which involved the creation of capability based test threads. Additionally, created Joint Test Threads and participated in a JFCOM sponsored joint distributed test event.			
Accomplishments/Planned Programs Subtotals	10.923	6.171	11.626

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 462000: <i>MARCIM</i>	0.000	0.256	0.499		0.499	0.256	0.264	0.264	0.268	0.000	1.807

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2277: <i>System Engineering and Integration</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MARCIM	WR	MEC:HI	0.000	0.000		0.000		0.825	Oct 2013	-		0.825	0.000	0.825	
Experimental Forward Operating Base	WR	NSWC:Various	1.300	1.654	Aug 2012	1.280	Oct 2012	1.182	Oct 2013	-		1.182	Continuing	Continuing	Continuing
Experimental Forward Operating Base	WR	NRL:Wash, DC	0.270	0.250	Aug 2012	0.265	Jan 2013	0.224	Jan 2014	-		0.224	Continuing	Continuing	Continuing
JINTACCS	C/FP	NSWC:Dahlgren, VA	0.070	0.000		0.000		0.000		-		0.000	0.000	0.070	
Subtotal			1.640	1.904		1.545		2.231		0.000		2.231			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JINTACCS	C/FFP	NSWC:Dahlgren, VA	0.000	0.000		0.557	Apr 2013	0.571	Apr 2014	-		0.571	Continuing	Continuing	Continuing
MAGTF SEI&C	C/FP	SPAWAR:Charleston, SC	0.000	0.500	Aug 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MAGTF SEI&C	C/FP	QNA:Stafford, VA	3.680	0.000		1.313	Apr 2013	4.600	Apr 2014	-		4.600	Continuing	Continuing	Continuing
MAGTF SEI&C	C/FP	MCSC:Quantico, VA	0.800	0.000	Apr 2012	0.440	Apr 2013	1.600	Apr 2014	-		1.600	Continuing	Continuing	Continuing
MAGTF SEI&C	WR	NSWC:Dahlgren, VA	0.449	0.835	Apr 2012	0.413	Apr 2013	1.417	Apr 2014	-		1.417	Continuing	Continuing	Continuing
JDEP	C/FP	NSWC:Dahlgren, VA	1.152	0.813	Apr 2012	0.000		0.000		-		0.000	0.000	1.965	
JDEP	C/FP	OSEC:Carlsbad, CA	0.300	0.000	Apr 2012	0.000		0.000		-		0.000	0.000	0.300	
JINTACCS	C/FP	MCTSSA:Cmp Pendlton CA	0.513	0.709	Apr 2012	0.450	Apr 2013	0.485	Apr 2014	-		0.485	Continuing	Continuing	Continuing
Subtotal			6.894	2.857		3.173		8.673		0.000		8.673			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JINTACCS	WR	SPAWAR:Charleston, SC	0.000	0.340	Jul 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2278: <i>Air Defense Weapons System</i>	33.700	2.129	1.993	3.041	-	3.041	3.498	3.475	3.499	3.555	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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; 2) fielding of the Advanced Man-Portable Air Defense System (A-MANPADS) that replaces the Avenger Weapon System and existing MANPADS vehicles; 3) replacing the Remote Terminal Unit (RTU), an effort that replaces an 18 pound laptop computer that provides Situational Awareness and Command and Control to the Stinger and A-MANPAD teams. The RTU replacement will interface 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 MACCS.

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

	FY 2012	FY 2013	FY 2014
Title: *GBAD TRANSFORMATION: Program Management Services	1.063	0.705	0.398
Articles:	0	0	0
FY 2012 Accomplishments: Continued Information Assurance and research into Optics.			
FY 2013 Plans: Complete Information Assurance and research into Optics.			
FY 2014 Plans: N/A			
Title: *GBAD TRANSFORMATION: Product Development	0.075	0.297	2.400
Articles:	0	0	0
FY 2012 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Researched advanced Identification Friend or Foe Identification. FY 2013 Plans: Research into follow on weapon system. FY 2014 Plans: Research and demonstration of follow on weapon system.			
Title: *GBAD TRANSFORMATION: Integration Development (Missile Integration) FY 2012 Accomplishments: Multiple vendor and Government participation in a Government sponsored GBAD capabilities demonstration. FY 2013 Plans: Develop ECP's for A-MANPADS Increment I hardware/software upgrades. Develop Mounted Optics replacement.	0.791 Articles: 0	0.791 0	0.000
Title: *GBAD TRANSFORMATION: Support Costs (MCTSSA/MCCDC/Crane/Dahlgren support) FY 2012 Accomplishments: GBAD-T conducted Health Assesments at the LAAD Battalions and the Stinger School house, ensuring Operational Readiness is maintained. FY 2013 Plans: GBAD-T will continue Health Assessments at the LAAD Battalions and the Stinger School house, ensuring Operational Readiness is maintained. FY 2014 Plans: GBAD-T will continue Health Assessments at the LAAD Battalions and the Stinger School house, ensuring Operational Readiness is maintained.	0.200 Articles: 0	0.200 0	0.243 0
Accomplishments/Planned Programs Subtotals	2.129	1.993	3.041

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/300600: GBAD-T	12.287	11.054	15.713		15.713	25.723	11.580	10.481	10.666	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

GBAD TRANSFORMATION: A-MANPADS Increment I is an Abbreviated Acquisition Program (AAP), GBAD-T affects 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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GBAD-T	WR	NSWC:Crane.IN	3.424	0.000		0.000		0.000		-		0.000	0.000	3.424	
GBAD-T	MIPR	Army:AMRDEC	4.991	0.000		0.000		0.500	Dec 2013	-		0.500	Continuing	Continuing	Continuing
GBAD-T	MIPR	PMA-259:China Lake	2.375	0.000		0.000		0.000		-		0.000	0.000	2.375	
GBAD-T	Various	VARIOUS:VARIOUS	5.548	0.000		0.000		0.000		-		0.000	0.000	5.548	
GBAD-T	WR	NSWC:Crane,IN (PAS-13 HW)	1.469	0.000		0.000		0.000		-		0.000	0.000	1.469	
GBAD-T	C/FP	EG&G:Stafford, VA	0.489	0.000		0.000		0.000		-		0.000	0.000	0.489	
GBAD-T	C/FP	DRS Tech:Palm Bay, FL	0.215	0.000		0.000		0.000		-		0.000	0.000	0.215	
GBAD-T	C/FP	Raytheon:San Diego, CA	3.700	0.000		0.000		0.000		-		0.000	0.000	3.700	
GBAD-T	C/FP	GDIT:Stafford, VA	0.539	0.075	Nov 2011	0.297	Nov 2012	1.900	Dec 2013	-		1.900	Continuing	Continuing	Continuing
GBAD-T	C/FP	L3:San Diego, CA	1.473	0.000		0.000		0.000		-		0.000	0.000	1.473	
Subtotal			24.223	0.075		0.297		2.400		0.000		2.400			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GBAD-T	WR	NSWC:Crane, IN	0.726	0.200	Jan 2012	0.200	Jan 2013	0.243	Dec 2013	-		0.243	Continuing	Continuing	Continuing
GBAD-T	C/FP	MCCDC:Quantico, VA	1.910	0.000		0.000		0.000		-		0.000	0.000	1.910	
GBAD-T	WR	MCTSSA:Camp Pendleton, CA	0.220	0.000		0.000		0.000		-		0.000	0.000	0.220	
GBAD-T	WR	MCSC:Quantico, VA	0.128	0.000		0.000		0.000		-		0.000	0.000	0.128	
GBAD-T	C/FP	MCOTEA:Quantico, VA	0.257	0.000		0.000		0.000		-		0.000	0.000	0.257	
JFIIT	SS/FP	RNB:Stafford, VA	1.425	0.000		0.000		0.000		-		0.000	0.000	1.425	
JFIIT	WR	MCSC:Quantico, VA	0.130	0.000		0.000		0.000		-		0.000	0.000	0.130	
Subtotal			4.796	0.200		0.200		0.243		0.000		0.243			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GBAD-T	C/FFP	MCSC:Quantico, Va	0.791	0.791	Oct 2011	0.791	Dec 2012	0.000		-		0.000	0.000	2.373	
GBAD-T	MIPR	WSMR:NM	0.872	0.000		0.000		0.000		-		0.000	0.000	0.872	
GBAD-T	MIPR	Not Specified:Aberdeen, MD	0.047	0.000		0.000		0.000		-		0.000	0.000	0.047	
GBAD-T	C/FP	MCOTEA:Quantico, VA	0.672	0.000		0.000		0.000		-		0.000	0.000	0.672	
GBAD-T	MIPR	NATC:NM	0.710	0.000		0.000		0.000		-		0.000	0.000	0.710	
Subtotal			3.092	0.791		0.791		0.000		0.000		0.000	0.000	4.674	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GBAD-T	C/FFP	SPAWAR:Charleston SC	0.659	0.659	Oct 2011	0.320	Dec 2012	0.200	Dec 2013	-		0.200	Continuing	Continuing	Continuing
GBAD-T	C/FP	MCSC:Quantico, VA	0.930	0.404	Oct 2011	0.385	Dec 2012	0.198	Dec 2013	-		0.198	Continuing	Continuing	Continuing
Subtotal			1.589	1.063		0.705		0.398		0.000		0.398			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	33.700	2.129	1.993	3.041	0.000	3.041			

Remarks

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2278: Air Defense Weapons System

MARINE CORPS SYSTEMS COMMAND
EQUIPPING THE WARFIGHTER TO WIN



**Ground Base Air Defense-Transformation (GBAD-T)
 Acquisition Schedule**

Fiscal Year	Production & Deployment												Operations & Support																							
	FY 12				FY 13				FY 14				FY 15				FY 16				FY 17				FY 18											
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4								
Acquisition / Milestone Events	A-MANPADS Inc I Fielding								Life Cycle Sustainment								Optics Fielding / Life Cycle Sustainment																			
Test & Evaluation	JIT				Black Dart Test Event				Black Dart Test Event																											
Systems Engineering									Optics Proof of Concept				Initial Technical review																							
Logistics	Fielding IIA				A-MANPADS Inc I CDS				A-MANPADS Tech Refresh																											
Major Contract Events	SLEP Contract Award								Optics Contract Award				SLEP Delivery																							
Information Assistance									Refined SIP, CSA tasks				Mc/3 DIACAP Updates								IA Strategy								Approved IACID							
	Optics Delivery																																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2278				
AMANPADS FIELDING	1	2012	4	2013
SLEP CONTRACT AWARD	1	2013	1	2013
OPTICS PROOF OF CONCEPT	2	2013	2	2013
AMANDPADS TECH REFRESH	1	2014	3	2014
BLACK DART JOINT TEST EVENT FY13	4	2013	4	2013
OPTICS CONTRACT AWARD	1	2014	1	2014
OPTICS DELIVERY	2	2014	4	2018
BLACK DART JOINT TEST EVENT FY14	4	2014	4	2014
SLEP DELIVERY	1	2015	3	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2510: <i>MAGTF CSSE & SE</i>	214.097	40.415	25.231	3.526	-	3.526	4.176	3.668	3.048	3.381	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

MARINE CORPS COMMON HARDWARE SUITE (MCHS) provides Commercial-Off-The-Shelf (COTS) workstations (desktop/laptop), servers and other IT hardware to support the Operating Force and other non-Navy Marine Corps Intranet (NMCI) Marine Corps customers. MCHS provides support for two principal groups: 1) Approximately 50 United States Marine Corps (USMC) Tactical and Functional Programs of Record that use COTS IT hardware as part of their fielded systems; and 2) Tactical and other Marine Corps customers not supported by NMCI such as Marine Corps Forces, Europe/Marine Corps Forces, Korea and stand-alone Marine Corps units and schoolhouses. The goal of the program is to enhance overall IT system interoperability and lower the total cost of ownership by centralizing procurement of COTS IT hardware, reducing the number of different configurations of computers, and providing worldwide integrated logistics support for all fielded MCHS hardware. Rapid technology insertion provides ability to develop, test, and evaluate COTS hardware and software configurations for rapid fielding purposes.

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 is procuring capabilities by increments. GCSS-MC/LCM Increment 1 is a subset of the total requirement that focuses on Logistics Management and Execution with Logistics Command and Control requirements necessary to perform those functions in a deployed environment. GCSS-MC/LCM Increment 1 is global in scope and it can be deployed under any circumstances, during peace or war, independent of geographical location. The GCSS-MC/LCM Increment 1 Capability Development Document (CDD), dated 25 May 2005 and approved in December 2005, establishes the requirements for the entire GCSS-MC

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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portfolio. Key objectives of the CDD include the following: (1) Deliver integrated functionality across supply, maintenance, transportation, finance, engineering, health, acquisition and manpower systems in accordance with the Marine Corps Logistics Operational Architecture; (2) Provide timely information to Marine Corps operational and CSS commanders, CCs and Joint JTF commanders and their staffs and other authorized users; (3) Allow Operating Forces (OPFORS) commanders to base decisions on complete logistics information and make decisions in concert with specific operational tasks; and (4) Provide users and operators of logistics processes access to information and applications across the spectrum of conflict regardless of location.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP) supports the various ongoing and continuing efforts to modernize legacy USMC logistics systems including joint interoperability testing and certification and development to ensure compliance with information assurance testing and certification requirements. Legacy systems include joint programs supporting deployment and sustainment of theater assets as well as existing USMC legacy systems. Joint interoperability testing and certification is an ongoing and continuous requirement that is critical to ensuring all TSP applications are interoperable with other Department of Defense and Joint Services systems. There are also ongoing and continuing efforts to ensure that the legacy TSP applications comply with the latest information assurance requirements. TSP applications are continually updating their security posture through software enhancements based upon the latest cyber threats. Also, mandatory DOD compliance with software patches ensure TSP systems are in compliance with new information assurance vulnerability assessments and ensure data integrity, confidentiality and availability.

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.

PUBLIC KEY INFRASTRUCTURE (PKI) provides security objects and mechanisms used by Public Key (PK)-enabled systems and applications. The primary products of PKI are PK certificates and other certified objects used in conjunction with PK certificates. In addition to PK certificates, PKI provides on-line services (e.g. on-line certificate status checking), and supplies authenticated attributes in PK certificates and/or attribute certificates. PKI is one of a number of security solutions used to protect information and provide attributes to enable critical resources in the Global Information Grid, and is used concurrently with other solutions (e.g. in-line network encryptors to implement the defense-in-depth concept). In conjunction with PK-enabled applications, PKI is used for identification, authentication, data confidentiality and integrity, and non-repudiation security services. Additionally, PKI functionally will be expanded to the Secret Internet Protocol Router Network (SIPRNET).

AUTOMATED IDENTIFICATION TECHNOLOGY (AIT) conducts research and development capabilities testing to expand and enhance options necessary to provide today's Commanders accurate information that allows better communication, coordinating, synchronization, and real-time logistics data transfer capabilities to programs that influence Warfighting evolutions. AIT devices, hardware and software's are continually evolving and RDT&E provides the necessary modernization progression to ensure that technologies deployed today meet the demands of the Commander's by providing faster, more reliable, increase data reliability and expedited logistics'

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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architecture for Marine Corps-unique transportation, distribution and supply systems/software and applications. AIT forecast and plans to focus Web-basing, Web-enablement and Web Services software technology [i.e., machine-to-machine information exchanges between, our customers in the Military Services and Defense agencies, and the Defense industry, based upon the open-standard Extensible Markup Language (XML), Simple Object Access Protocol (SOAP), Military-Standard (MIL-STD) formatted protocols]. There are three primary reasons why AIT is pursuing this direction:

1. Web-based applications dramatically reduce the costs associated with fielding new software mission capabilities. (Only a limited handful of central servers need to be updated rather than thousands of local implementations.)
2. Web-basing and Web Services make AITs software applications much more adaptable to the ongoing and future changes in the Marine Corps procurement and financial management systems that are being implemented in accordance with the Department's Business Enterprise Architecture.
3. A centralized infrastructure will allow for greater data sharing, allowing one AIT data read to be re-used multiple times to support multiple Automated Information Systems (AIS).

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.

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

	FY 2012	FY 2013	FY 2014
Title: BASE TELECOM (BTI)	0.445	0.460	0.473
Articles:	0	0	0
FY 2012 Accomplishments:			
Provided 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 provided			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2510: <i>MAGTF CSSE & SE</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
designs for telecommunications systems modification and solutions to complex problems, calculations, and research standards in support of system modernization. FY 2013 Plans: Continue 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 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 Joint Interoperability Test Command (JITC), successfully evaluated products will be placed on the DISA Approved Products List (APL).				
Title: MARINE CORPS COMMON HARDWARE SUITE (MCHS) FY 2012 Accomplishments: Conducted trend analysis on reported failures of fielded COTS hardware and rapid technology insertion. Developed, tested and evaluated COTS hardware and software configurations for rapid fielding purposes.		Articles: 1.578 0	0.000	0.000
Title: GCSS-MC LOGISTICS CHAIN MANAGEMENT (GCSS-MC) FY 2012 Accomplishments: Completed Increment 1, Deployed Release 1.2 SIDT&E, Government Development Test & Evaluation (GDT&E) and FOT&E. Began the start of the GCSS-MC baseline upgrade from Oracle eBusiness Suite Release 11 to Release 12. FY 2013 Plans: 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 Development and Operational Test (D&OT) events required to validate the automated Task Organization and Data Synchronization functionalities of the deployed capability were not successful. The critical change team kickoff meeting occurred on 29 Jan 2013 and the evaluation is ongoing.		Articles: 33.743 0	21.326 0	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue the GCSS-MC baseline upgrade from Oracle eBusiness Suite Release 11 to Release 12 with the award of the system integrator contract.				
Title: TRANSPORTATION SYSTEMS PORTFOLIO (TSP) FY 2012 Accomplishments: Validated the force deployment planning and execution requirements based on a letter of clarification received from CD&I; drafted a performance work statement for a consolidated support contract. Started a business case analysis for the consolidated contract strategy to be awarded by 2ndqtr FY13.		Articles: 1.112 0	0.000	0.000
Title: JOINT FORCES REQUIREMENT GENERATION II (JFRG II) FY 2012 Accomplishments: FY12 funds supported JFRG Engineering Change Proposals (ECP) development. Contract planned to award by AUG 2013. FY 2013 Plans: FY13 funds will be utilized to implement Global Force Management Data Initiatives (GFMDI) FY 2014 Plans: FY14 funds will continue the GFMDI efforts.		Articles: 0.255 0	0.175 0	0.185 0
Title: PUBLIC KEY INFRASTRUCTURE (PKI) FY 2012 Accomplishments: FY12 funding provided for continued testing, correction of deficiencies, and implementation of PKI requirements for tactical applications as well as MCEITS and SIPRNET capabilities. FY 2013 Plans: FY13 funding will provide for continued testing, correction of deficiencies, and implementation of PKI requirements for tactical applications as well as MCEITS and SIPRNET capabilities FY 2014 Plans: FY14 funding will provide for continued testing, correction of deficiencies, and implementation of PKI requirements for tactical applications as well as MCEITS and SIPRNET capabilities		Articles: 1.517 0	1.214 0	0.262 0
Title: AUTOMATED IDENTIFICATION TECHNOLOGY (AIT)		1.765	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Articles:	0		
<i>FY 2012 Accomplishments:</i> During FY12 AIT upgraded the aRFID consolidated server infrastructure to be able to demonstrate the receipt and processing of passive RFID (pRFID) reader input, as well as implemented a dashboard capability to monitor the devices on the edge and produce metrics and reports.			
<i>Title:</i> ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS)	0.000	2.056 0	2.606 0
Articles:			
<i>FY 2013 Plans:</i> Commence Research and Development for the Block II version of the Electronic Maintenance Support Systems to include all subcomponents. The program office will conduct studies and initiate the transition to the Block II using a Pre-Planned Product Improvement (P3I) version of EMSS. Focus areas will be deployed wireless capability, advanced diagnostics software applications, and IETM software development.			
<i>FY 2014 Plans:</i> Will 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. Focus areas will be deployed wireless capability, advanced diagnostics software applications, and IETM software development.			
Accomplishments/Planned Programs Subtotals	40.415	25.231	3.526

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/BLI 463000 MCHS: <i>MCHS</i>	9.072	19.570	2.288		2.288	2.079	2.166	2.245	2.285	Continuing	Continuing
• PMC/BLI 461700 GCSS: <i>GCSS-MC</i>	13.897	24.034	0.541		0.541	3.228	16.565	7.519	7.654	Continuing	Continuing
• PMC/BLI 463000 PKI: <i>PKI</i>	0.001	0.001	0.000		0.000	0.000	0.428	0.000	0.000	Continuing	Continuing
• PMC/BLI 461700 AIT: <i>AIT</i>	3.990	0.157	0.163		0.163	0.351	0.163	0.246	0.250	Continuing	Continuing
• PMC/BLI 463500 BTI: <i>BTI</i>	21.151	22.135	14.593		14.593	25.231	23.947	20.467	20.591	Continuing	Continuing
• PMC/BLI 418100: <i>EMSS</i>	1.915	7.425	5.974		5.974	4.696	4.604	4.367	4.446	Continuing	Continuing
• PMC/BLI 463500 PKI: <i>PKI</i>	0.392	1.318	1.304		1.304	1.450	1.494	1.607	1.636	Continuing	Continuing
• PMC/BLI 463000 TSP: <i>TSP</i>	0.873	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
Remarks											

D. Acquisition Strategy

MARINE CORPS HARDWARE SUITE (MCHS) ensures computer hardware in the Operating Forces keeps pace with industry computer hardware technical improvements. Analyses of technical alternatives are periodically required in order to determine how to best meet emerging customer requirements.

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.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP) conducts research and development currently executed under multiple contracts ending at various times across the FYDP. These contracts support the testing of the joint deployment and sustainment systems along with the USMC legacy systems.

JOINT FORCES REQUIREMENT GENERATOR II (JFRG II) conducts research and development currently executed under a three-year contract ending November 2013.

PUBLIC KEY INFRASTRUCTURE (PKI) is a DOD ACAT IAM Program. At the service level, the USMC PKI program is being managed as an Abbreviated Acquisition Program. Based on an Assistant Secretary of Defense Acquisition Decision Memorandum, DOD PKI development will be conducted through a series of block upgrades. The functional enhancement, changes will result in increased capability and functionality for PKI and increase the levels of security and assurance which affects mitigation of identified risks. There are thirteen functional and five assurance enhancements. Additionally, PKI functionality will be expanded to the SIPRNET.

AUTOMATED IDENTIFICATION TECHNOLOGY (AIT) hardware in the Operating Forces keeps pace with industry computer hardware technical improvements. AIT will support all aspects of active Radio Frequency Identification (aRFID) and passive RFID (pRFID). AIT evaluates emerging technologies, new equipment, and performs integration analysis and testing.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
<p>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).</p> <p>ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS) will conduct technology development, market research, and prototype product improvement capability to support additional MOS requirements.</p> <p>E. Performance Metrics N/A</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technology Development (EMSS)	TBD	TBD:TBD	0.000	0.000		0.500	Jul 2013	0.000		-		0.000	Continuing	Continuing	Continuing
JFRG II	C/FFP	TBD:TBD	0.000	0.255	Aug 2013	0.175	Mar 2014	0.185	Mar 2014	-		0.185	0.000	0.615	
Research and Development (EMSS)	TBD	TBD:TBD	0.000	0.000		0.000		2.106	Feb 2014	-		2.106	0.000	2.106	
GCSS LCM Increment 1 Application	C/T&M	Oracle USA:Reston, VA	178.985	15.118	Oct 2011	0.000		0.000		-		0.000	0.000	194.103	
GCSS LCM Increment 1 Training Development	C/FP	EDO:Stafford, VA	2.500	0.000		0.000		0.000		-		0.000	0.000	2.500	
PKI	C/FFP	Various:Various	6.815	1.517	Aug 2012	1.214	Sep 2013	0.262	Sep 2014	-		0.262	Continuing	Continuing	Continuing
AIT	C/FFP	Northrop Grumman IT:Williamsburg, VA	6.983	1.765	Aug 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
VAR	Various	Various:Various	17.601	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
GCSS LCM Oracle eBusiness Suite Release 12 Upgrade	C/FP	SPAWAR:Charleston, SC	0.000	17.700	Sep 2012	21.326	Jul 2013	0.000		-		0.000	0.000	39.026	
Subtotal			212.884	36.355		23.215		2.553		0.000		2.553			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Software Support (EMSS)	WR	NSWC, Crane:Crane, Indiana	0.000	0.000		0.563	Jul 2013	0.500	Dec 2013	-		0.500	Continuing	Continuing	Continuing
Various Studies (EMSS)	Various	Various:Various	0.000	0.000		0.993	Jul 2013	0.000		-		0.000	Continuing	Continuing	Continuing
VAR (TSP)	Various	Various:Various	1.213	1.112	Mar 2013	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			1.213	1.112		1.556		0.500		0.000		0.500			

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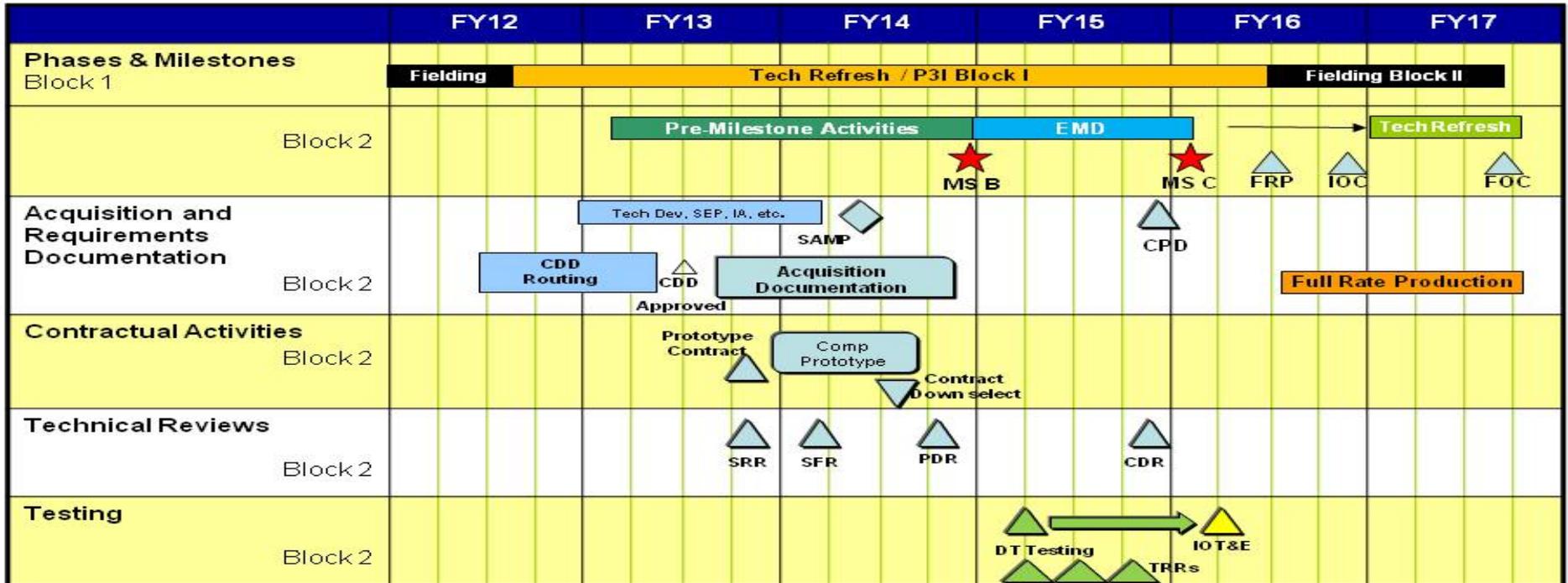
Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2510: MAGTF CSSE & SE



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2510				
Milestone B	4	2014	4	2014
Milestone C	1	2016	1	2016
Full Rate Production Decision	2	2016	2	2016
Initial Operational Capability (IOC)	4	2016	4	2016
Full Operational Capability (FOC)	3	2017	3	2017
Developmental Testing	1	2015	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3099: <i>Radar System</i>	116.834	31.545	25.677	10.310	-	10.310	19.507	12.271	15.978	17.754	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 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 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.

Virtual Warfare Center (VWC) Support - The project team conducts fully interactive simulated wargames 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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 3099: <i>Radar System</i>
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 2012	FY 2013	FY 2014
Title: AN/TPS-59 : Develop Engineering Change Proposals		9.721	9.786	1.687
Articles:		0	0	0
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 Agencies/Navy Labs. The AN/TPS-59 modification will address DMSMS and the DOD mandated Mode 5 Implementation of the AN/TPS-59 Radar System.				
FY 2012 Accomplishments: Continued development of IFF Mode 5, 1A5 Antenna Power Cabinet Engineering Change Proposals, Software Integration, and initiated Ops Console Study.				
FY 2013 Plans: Will continue software integration, studies, and efforts to address obsolescence and DMSMS issues.				
FY 2014 Plans: Will continue software integration, studies, and efforts to address obsolescence and DMSMS issues. The reduction from FY13 to FY14 is a result of fewer DMSMS initiatives scheduled in FY14.				
Title: AN/TPS-59 : Management Service Support		4.131	2.700	0.000
Articles:		0	0	
FY 2012 Accomplishments: Provided program management and technical support for Long Range Radar efforts.				
FY 2013 Plans: Continuing program management and technical support for Long Range Radar efforts. Reduction from FY 2012 to FY 2013 due to decrease in requirements.				
Title: AN/TPS-59: Test and Evaluation		0.485	0.160	0.000
Articles:		0	0	
FY 2012 Accomplishments: MCOTEA- Mode 5 and Software Maintenance Testing Events, NAWCAD - Mode 5 Testing Support including CAS Flight Support, Civil Air Patrol (CAP) - Testing Support.				
FY 2013 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 3099: <i>Radar System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
NAWCAD - Mode 5 Testing Support including CAS Flight Support, Civil Air Patrol (CAP) - Testing Support.				
Title: AN/TPS-59 : Engineering and Technical Support				
Articles:		8.714 0	7.109 0	5.594 0
FY 2012 Accomplishments: MITRE/NSWC Dahlgren - Engineering Support, NSWC Crane - Sustainment Support, NSWC Crane/Dahlgren/Port Hueneme - Independent Assessment Study, SPAWAR - IA Support, MCCDC CD&I - Requirements Support, MCSC - Program Office Travel, Lockheed Martin - Post Production Services and Support.				
FY 2013 Plans: MITRE/NSWC Dahlgren/NSWC Crane - 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/NSWC Crane - Engineering Support, SPAWAR - Engineering Support, MCCDC CD&I - Requirements Support, MCSC - Program Office Travel, Lockheed Martin - Post Production Services and Support.				
Title: SHORAD: Engineering and Technical Support				
Articles:		0.201 0	0.489 0	0.187 0
Description: Provide configuration management to the current systems by on-site visits and field configuration surveys. Continuing development effort to resolve ongoing DMSMS and obsolescence issues.				
FY 2012 Accomplishments: NSWC Dahlgren/Crane - Engineering Support. Continued development of solutions for DMSMS and obsolescence issues based on results of Baseline/Life Extension Study.				
FY 2013 Plans: NSWC Dahlgren/Crane - Engineering Support. Continue to develop solutions for DMSMS and obsolescence issues based on results of Baseline/Life Extension Study.				
FY 2014 Plans: NSWC Dahlgren/Crane - Engineering Support. Address outstanding ECP issues.				
Title: FTAS: Engineering and Technical Support				
Articles:		1.571 0	0.646 0	0.582 0
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>NSWC Dahlgren - Engineering Support for the FTAS supported Sensor Management and Collaboration Tool (SMACT) Development, and Government liason with Fires Software Engineering Directorate (FSED) Ft. Sill. Aberdeen Proving Ground (APG)- M116A3 MOD Trailer Capabilities Validation. Tobyhanna Army Depot (TYAD)- AN/TPQ-46 MILTOPE Computer Refresh Engineering Change Proposal (ECP).</p> <p>FY 2013 Plans: Tobyhanna Army Depot (TYAD)- ECP development on the AN/TSQ-267. NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems, and Government liason with Fires Software Engineering Directorate (FSED) Ft. Sill. 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.</p> <p>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.</p>				
<p>Title: 3DELRR: Management Service Support</p> <p align="right">Articles:</p> <p>Description: Provides for programmatic and technical support to U.S. Air Force 3DELRR Program.</p> <p>FY 2012 Accomplishments: Provided program management and technical support to U.S. Air Force 3DELRR Program.</p> <p>FY 2013 Plans: Continuing program management and technical support to U.S. Air Force 3DELRR Program.</p>		1.985 0	1.851 0	0.000
<p>Title: VWC: Testing Support</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Conducted fully interactive simulated wargames (Nimble Fire) 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. Delivering USMC IFC architecture Phase II products. Conducted systems integration of IFC related systems in analysis venues. Conducted systems engineering of IFC related C2, sensors, networks, and weapons. Transitioning technical workspace to new facility as part of the BRAC. VWC was a new start in FY12.</p> <p>FY 2013 Plans:</p>		4.737 0	2.936 0	2.260 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continuation of simulated wargames 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.			
<i>FY 2014 Plans:</i> Continuation of simulated wargames 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	31.545	25.677	10.310

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/465003: <i>AN/TPS-59</i>	49.706	38.916	10.009		10.009	13.426	30.996	21.796	20.668	Continuing	Continuing
• PMC/465005: <i>FTAS</i>	5.388	3.145	3.004		3.004	2.228	2.284	2.609	2.374	Continuing	Continuing
• PMC/465007: <i>SHORAD (AN/TPS-63)</i>	7.425	3.685	1.713		1.713	0.976	1.421	0.728	0.741	Continuing	Continuing
• PMC/463000: <i>AN/TPS-59 MCHS</i>	0.124	0.100	0.107		0.107	0.098	0.121	0.143	0.146	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 (OGA) 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 wargames 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.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AN/TPS-59	C/CPFF	LOCKHEED MARTIN:SYRACUSE, NY	61.938	9.721	May 2012	1.867	May 2013	0.000		-		0.000	0.000	73.526	
AN/TPS-59	WR	TBD:TBD	0.000	0.000		2.625	Jul 2013	0.000		-		0.000	0.000	2.625	
AN/TPS-59	WR	NSWC:CRANE, IN	0.000	0.000		5.294	Feb 2013	1.687	Feb 2014	-		1.687	Continuing	Continuing	Continuing
AN/TPS-63	C/CPFF	NORTHROP GRUMMAN:WARNER ROBINS, GA	1.444	0.201	May 2012	0.000		0.000		-		0.000	0.000	1.645	
Subtotal			63.382	9.922		9.786		1.687		0.000		1.687			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AN/TPS-59	C/CPFF	MCCDC CDI:QUANTICO, VA	0.788	0.355	May 2012	0.450	May 2013	0.400	May 2014	-		0.400	0.000	1.993	
AN/TPS-59	WR	NSWC:DAHLGEN, VA	4.100	2.743	Mar 2012	1.370	Jan 2013	1.378	Apr 2014	-		1.378	Continuing	Continuing	Continuing
AN/TPS-59	Various	SPAWAR:CHARLESTON, SC	3.244	0.563	Dec 2012	0.222	Dec 2012	0.500	Oct 2013	-		0.500	Continuing	Continuing	Continuing
AN/TPS-59	MIPR	MITRE:BEDFORD, MA	2.925	0.757	Dec 2011	0.932	Dec 2012	0.850	Dec 2013	-		0.850	Continuing	Continuing	Continuing
AN/TPS-59	Various	MCSC:QUANTICO, VA	1.000	0.084	Oct 2011	0.125	Oct 2012	0.250	Oct 2013	-		0.250	Continuing	Continuing	Continuing
AN/TPS-59	C/CPFF	LOCKHEED MARTIN:SYRACUSE, NY	6.000	2.137	Apr 2012	2.419	Apr 2013	1.425	Apr 2014	-		1.425	Continuing	Continuing	Continuing
AN/TPS-59	C/CPFF	MCSC COMP:QUANTICO, VA	3.142	1.362	Mar 2012	1.591	Mar 2013	0.791	Mar 2014	-		0.791	Continuing	Continuing	Continuing
AN/TPS-59	WR	NSWC:CRANE, IN	1.536	0.696	May 2012	0.000		0.000		-		0.000	0.000	2.232	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AN/TPS-59	WR	NSWC:PHD VA BEACH DETACHMENT, VA	0.000	0.017	Mar 2012	0.000		0.000		-		0.000	0.000	0.017	
FTAS	WR	NSWC:DAHLGREN, VA	6.163	1.036	Jan 2012	0.250	Apr 2013	0.206	Jan 2014	-		0.206	Continuing	Continuing	Continuing
FTAS	MIPR	APG:ABERDEEN, MD	2.418	0.262	Apr 2012	0.000		0.000		-		0.000	0.000	2.680	
FTAS	MIPR	TYAD:TOBYHANNA, PA	0.000	0.219	Dec 2012	0.346	Apr 2013	0.326	Jan 2014	-		0.326	Continuing	Continuing	Continuing
FTAS	WR	NSWC:CRANE, IN	1.850	0.000		0.000		0.000		-		0.000	0.000	1.850	
FTAS	Various	MCSC:QUANTICO, VA	2.024	0.054	Oct 2011	0.050	Oct 2012	0.050	Oct 2013	-		0.050	0.000	2.178	
AN/TPS-63	WR	NSWC:CRANE, IN	0.209	0.000		0.150	Jun 2013	0.000		-		0.000	0.000	0.359	
VWC	C/CPFF	MCSC:ONR; ST LOUIS, MO	0.000	4.737	Oct 2011	2.936	Dec 2012	2.260	Dec 2013	-		2.260	0.000	9.933	
AN/TPS-63	WR	NSWC:DAHLGREN, VA	0.775	0.000		0.075	Jan 2013	0.000		-		0.000	0.000	0.850	
AN/TPS-63	MIPR	USA:TOBYHANNA, PA	0.150	0.000		0.164	Mar 2013	0.187	Mar 2014	-		0.187	Continuing	Continuing	Continuing
AN/TPS-63	WR	NAVAIR:NAWCAD: PAXTUXENT RIVER, MD	0.000	0.000		0.100	Dec 2012	0.000		-		0.000	0.000	0.100	
Subtotal			36.324	15.022		11.180		8.623		0.000		8.623			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AN/TPS-59	C/CPFF	MCSC:MCOTEA QUANTICO VA	0.690	0.346	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
AN/TPS-59	MIPR	USAF:MAXWELL AFB AL	0.000	0.017	Jun 2012	0.020	Dec 2012	0.000		-		0.000	0.000	0.037	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AN/TPS-59	WR	NAWCAD:PAX RIVER MD	0.000	0.061	Aug 2012	0.140	Mar 2013	0.000		-		0.000	0.000	0.201	
AN/TPS-59	WR	NAVAIR:PAX RIVER MD	0.000	0.061	Apr 2012	0.000		0.000		-		0.000	0.000	0.061	
Subtotal			0.690	0.485		0.160		0.000		0.000		0.000			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AN/TPS-59	C/CPFF	MCSC:GENERAL DYNAMICS QUANTICO VA	13.654	4.131	Jun 2012	2.700	Jun 2013	0.000		-		0.000	0.000	20.485	
AN/TPS-59 (3 DELRR)	C/CPFF	MCSC:GENERAL DYNAMICS QUANTICO VA	2.000	0.000		0.000		0.000		-		0.000	0.000	2.000	
FTAS	WR	MCSC:QUANTICO VA	0.504	0.000		0.000		0.000		-		0.000	0.000	0.504	
3DELRR	C/CPFF	MCSC:GENERAL DYNAMICS QUANTICO VA	0.280	1.985	Jun 2012	1.851	Jun 2013	0.000		-		0.000	0.000	4.116	
Subtotal			16.438	6.116		4.551		0.000		0.000		0.000	0.000	27.105	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	116.834	31.545	25.677	10.310	0.000	10.310			

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3099				
AN/TPS-59 PPM II MS-C/Fielding Decision	3	2014	3	2014
AN/TPS-59 PPM II IOC	4	2014	4	2014
AN/TPS-59 PPM II FOC	1	2016	1	2016
AN/TPS-59 PPM II Life Cycle Sustainment	2	2015	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9C89: <i>Marine Ground-Air Radar</i>	248.235	102.455	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	350.690
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

Note
 Program Element change in FY13 from 0206313M to 0204460M

A. Mission Description and Budget Item Justification
 The Ground/Air Task Oriented Radar (G/ATOR) is multi-role, ground-based, expeditionary radar that replaces five legacy radar systems for the Marine Air Ground Task Force. It satisfies the Marine Air Command and Control System and the Ground Counter Fire/Counter Battery capabilities. The G/ATOR replaces the AN/TPS-63 and complements the AN/TPS-59 long range radar and will provide mobile, multi-functional, three-dimensional surveillance of air breathing targets, detection of cruise missiles and 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. Funding for this effort was moved to PE 0204460M in FY13 and beyond.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Title: *G/ATOR: Contractor Technical, Development Engineering/EDM</p> <p align="right">Articles:</p>	78.305 0	0.000	0.000
<p>FY 2012 Accomplishments: Finished System I&T, conducted Environmental Qualification Test (EQT), finished PQT, delivered Engineering Development Model (EDM) to the Government (DD250 sign off), started Anti-Tamper (AT) planning, assisted the government in development of the LRIP configuration in support of Transition to LRIP, conducted Production Readiness Review (PRR) and began producibility enhancement efforts to include design, prototype development and integration/regression testing of Gallium Nitride (GaN) based Transmit/Receive (T/R) modules and associated technology insertion efforts.</p>			
<p>Title: *G/ATOR: Test and Evaluation</p> <p align="right">Articles:</p>	3.769 0	0.000	0.000
<p>FY 2012 Accomplishments:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Finished System I&T, conducted Environmental Qualification Test (EQT), finished PQT, provided support for the beginning of Developmental Testing 1B (DT1B).			
Title: *G/ATOR: Program Office Management & Travel Costs Articles:	6.113 0	0.000	0.000
FY 2012 Accomplishments: Continued Program Office Support and travel efforts in support of system development and test.			
Title: *G/ATOR: Government Technical Support Articles:	10.741 0	0.000	0.000
FY 2012 Accomplishments: Continued support from these activities to enable program execution: MITRE, NSWC Dahlgren, NSWC Crane, NSWC PHD, MARCORSSYSCOM and MCOTEA			
Title: *G/ATOR: Engineering, Management, & Logistics Support Articles:	3.527 0	0.000	0.000
FY 2012 Accomplishments: Finished engineering, management & logistics program office support under existing contract with GDIT. Awarded new contract and continued engineering, management & logistics program office support with new contract vehicle.			
Accomplishments/Planned Programs Subtotals	102.455	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014	FY 2014	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Cost To	Total Cost
			Base	OCO	Total					Complete	
• PMC/465000: <i>GRND/AIR TASK ORIENTED RADAR</i>	4.246	90.348	99.325		99.325	74.830	236.165	237.381	229.000	0.000	971.295
• RDTE/0604504N: <i>Air C: MATCAL S</i>	0.000	0.000	3.000		3.000	0.000	0.000	0.000	0.000	0.000	3.000
• RDTE/0204460M: <i>GRND/AIR TASK ORIENTED RADAR</i>	0.000	75.088	78.208		78.208	77.413	74.653	49.969	19.968	0.000	375.299
• PMC/700000: <i>SPARES - G/ATOR</i>	0.000	0.000	7.500		7.500	6.800	18.900	21.200	26.300	0.000	80.700
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>

D. Acquisition Strategy

The Ground/Air Task Oriented Radar (G/ATOR) is multi-role, ground-based, expeditionary radar replacing five legacy radar systems and provides the USMC Air Defense and Air Surveillance (AD/AS), Counterfire/Targeting, and Air Traffic Control capability. The AD/AS development effort, competitively awarded in 2007, is scheduled for Milestone C in the 4th Qtr of FY13. Development of the Counterfire/Targeting capability was initiated in FY 10 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. Consequently, the J&A has been submitted reflecting the results of the BCA, and the contract award is scheduled for the first Qtr of FY 14. In FY13, a BCA will be performed to determine the optimum strategy for development of the Air Traffic Control mission with a targeted development contract to be awarded in FY 15.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY						R-1 ITEM NOMENCLATURE				PROJECT					
1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						PE 0206313M: Marine Corps Comms Systems				9C89: Marine Ground-Air Radar					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	C/CPIF	NORTHROP GRUMMAN SYSTEMS CORPORATION: LINTHICUM HEIGHTS, MD	195.803	78.305	Dec 2011	0.000		0.000		-		0.000	0.000	274.108	
Subtotal			195.803	78.305		0.000		0.000		0.000		0.000	0.000	274.108	
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	MIPR	MITRE: BOSTON, MA	3.055	1.402	Dec 2011	0.000		0.000		-		0.000	0.000	4.457	
G/ATOR	WR	NSWC-DAHLGREN: DAHLGREN, VA	21.319	10.741	Dec 2011	0.000		0.000		-		0.000	0.000	32.060	
G/ATOR	WR	NSWC-CRANE: CRANE, IN	1.474	0.250	Dec 2011	0.000		0.000		-		0.000	0.000	1.724	
G/ATOR	C/FP	MCSC: QUANTICO, VA	0.414	0.300	Dec 2011	0.000		0.000		-		0.000	0.000	0.714	
G/ATOR	WR	NSWC-PHD: DAM NECK, VA	0.569	1.575	Dec 2011	0.000		0.000		-		0.000	0.000	2.144	
Subtotal			26.831	14.268		0.000		0.000		0.000		0.000	0.000	41.099	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	C/CPIF	MCOTE: QUANTICO, VA	1.372	0.536	Dec 2011	0.000		0.000		-		0.000	0.000	1.908	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
G/ATOR	C/FP	GENERAL DYNAMICS:STAFFORD, VA	1.550	0.600	Dec 2011	0.000		0.000		-		0.000	0.000	2.150	
G/ATOR	WR	NSWC-CORONA:CORONA, CA	0.718	0.612	Dec 2011	0.000		0.000		-		0.000	0.000	1.330	
G/ATOR	MIPR	US ARMY ABERDEEN:PROVING GROUND, MD	2.050	1.600	Dec 2011	0.000		0.000		-		0.000	0.000	3.650	
G/ATOR	MIPR	NAVAL SURFACE WEAPONS COMBAT CNTR:WALLOPS ISLAND, VA	1.600	0.421	Dec 2011	0.000		0.000		-		0.000	0.000	2.021	
Subtotal			7.290	3.769		0.000		0.000		0.000		0.000	0.000	11.059	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
G/ATOR	C/FP	MCSC:MCSC-QUANTICO, VA	4.151	0.346	Dec 2011	0.000		0.000		-		0.000	0.000	4.497	
G/ATOR	Various	MCSC:QUANTICO, VA	0.724	0.424	Sep 2012	0.000		0.000		-		0.000	0.000	1.148	
G/ATOR	C/FP	GENERAL DYNAMICS:STAFFORD, VA	12.587	4.905	May 2012	0.000		0.000		-		0.000	0.000	17.492	
G/ATOR	C/FP	MCSC:QUANTICO, VA	0.849	0.438	Dec 2011	0.000		0.000		-		0.000	0.000	1.287	
Subtotal			18.311	6.113		0.000		0.000		0.000		0.000	0.000	24.424	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	248.235	102.455	0.000	0.000	0.000	0.000	0.000	350.690	

Remarks

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

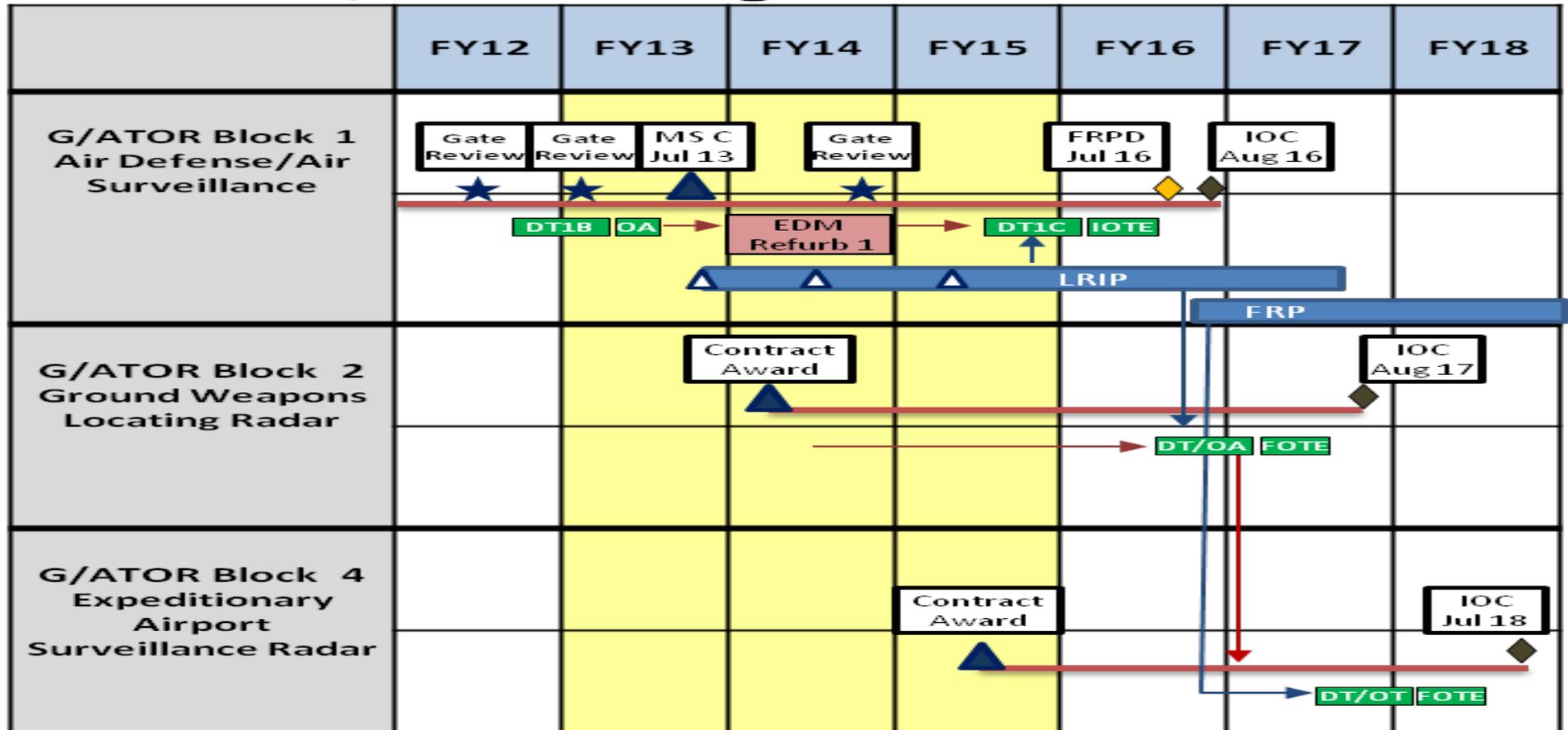
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 9C89: Marine Ground-Air Radar

G/ATOR Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C89				
Defense/Air Surveillance AS/AD Capability System Demonstration (DT)(1B)	4	2012	2	2013
Defense/Air Surveillance AS/AD Capability System Demonstration (DT/OT)(1C)	3	2015	1	2016
Defense/Air Surveillance AS/AD Capability Operational Assessment (OA)	2	2013	3	2013
Defense/Air Surveillance AS/AD Capability Low Rate Initial Production (LRIP)	4	2013	3	2017
Defense/Air Surveillance AS/AD Capability Milestone C	4	2013	4	2013
Defense/Air Surveillance AS/AD Capability (IOT&E)	2	2016	2	2016
Defense/Air Surveillance AS/AD Capability (IOC)	4	2016	4	2016
Defense/Air Surveillance AS/AD Capability Full Rate Production Decision	4	2016	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	366.315	153.435	181.693	139.594	-	139.594	179.167	152.757	121.516	123.494	Continuing	Continuing
0021: <i>Assault Amphibious Vehicle 7A1</i>	76.072	24.522	37.160	34.638	-	34.638	39.060	14.541	6.152	6.260	Continuing	Continuing
1555: <i>Lt Armored Vehicle Prog</i>	18.127	39.173	35.859	23.754	-	23.754	16.482	15.373	9.088	9.247	Continuing	Continuing
1901: <i>MC Grnd Wpnry Prod Improvement</i>	23.280	9.215	12.737	14.481	-	14.481	9.521	7.133	5.874	5.979	Continuing	Continuing
2086: <i>Soldier/Marine Enhancement</i>	16.667	5.220	3.041	6.146	-	6.146	5.234	5.353	5.425	5.521	Continuing	Continuing
2112: <i>Lightweight 155mm Howitzer</i>	0.000	0.000	0.000	0.200	-	0.200	0.202	0.204	0.000	0.000	0.000	0.606
2237: <i>Amphibious Vehicle Test</i>	0.000	0.934	0.933	0.949	-	0.949	0.965	0.981	0.994	1.012	Continuing	Continuing
2315: <i>Training Devices/ Simulators</i>	65.871	14.355	19.492	9.697	-	9.697	12.453	11.124	9.729	9.880	Continuing	Continuing
2503: <i>Initial Issue</i>	43.121	6.811	8.244	9.142	-	9.142	7.905	7.943	8.199	8.341	Continuing	Continuing
2513: <i>Body Armor</i>	28.886	4.501	3.692	0.572	-	0.572	4.838	4.916	5.037	5.126	Continuing	Continuing
2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	11.339	1.850	2.353	2.391	-	2.391	2.448	2.487	2.550	2.594	Continuing	Continuing
3098: <i>Fire Support System</i>	69.576	26.745	17.785	16.221	-	16.221	14.575	9.013	6.619	6.735	Continuing	Continuing
4002: <i>Family of Raid Reconnaissance</i>	3.167	1.436	0.668	0.528	-	0.528	0.540	0.552	0.563	0.572	Continuing	Continuing
9C85: <i>Marine Personnel Carrier (MPC)</i>	10.209	18.673	39.729	20.875	-	20.875	64.944	73.137	61.286	62.227	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>
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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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	159.396	181.693	234.948	-	234.948
Current President's Budget	153.435	181.693	139.594	-	139.594
Total Adjustments	-5.961	0.000	-95.354	-	-95.354
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.001	0.000			
• SBIR/STTR Transfer	-3.960	0.000			
• Program Adjustments	0.000	0.000	-77.171	-	-77.171
• Rate/Misc Adjustments	0.000	0.000	-18.183	-	-18.183

Change Summary Explanation

FY14 decreases are due to schedule adjustments in both the EFSS and MPC programs.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0021: <i>Assault Amphibious Vehicle 7A1</i>	76.072	24.522	37.160	34.638	-	34.638	39.060	14.541	6.152	6.260	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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, and improve fleet readiness. 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.

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

	FY 2012	FY 2013	FY 2014
Title: Product Development	24.468	12.280	24.222
Articles:	0	0	0
Description: AAV Upgrade will improve the legacy AAV and extend its service life until its replacement is fielded. 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 2012 Accomplishments: The FY12 National Defense Authorization Act (NDAA) language established report requirements for this program. FY12 funds will not be executed until the requirements have been met.			
FY 2013 Plans: Initiate design, development, and support activities for AAV upgrade. Perform automotive and suspension improvements, RAM baseline testing, and AAV mobility technical demonstration testing. Award AAV Upgrade Engineering, Manufacturing, and Design (EMD) and prototype contract.			
FY 2014 Plans: Continue EMD design, development and support activities. Initiate and support developmental testing of EMD prototypes.			
Title: Test and Evaluation	0.043	0.948	4.257
Articles:	0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Description: AAV Operations Support: Evaluation and testing of safety improvements that include, but are not limited to upgraded intercoms and radio and fact-of-life changes to maintain the AAV Family of Vehicles (FOV).</p> <p>FY 2012 Accomplishments: The FY12 National Defense Authorization Act (NDAA) language established report requirements for this program. FY12 funds will not be executed until the requirements have been met.</p> <p>FY 2013 Plans: Evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles (FOV).</p> <p>FY 2014 Plans: Continue evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles (FOV). Perform developmental testing of upgraded prototype vehicles.</p>				
<p>Title: Contract Advisory & Assistance Service (A&AS)</p> <p align="right">Articles:</p> <p>Description: Contract management support and engineering services for human system integration, digital integration facility support, and related equipment procurements associated with these efforts.</p> <p>FY 2013 Plans: Provide technical and engineering services in support of digital architecture design, development, and analysis. Provide technical, engineering, and program management services in support of survivability upgrades design and development.</p> <p>FY 2014 Plans: Continue to provide technical and engineering services in support of digital architecture design, development, and analysis. Provide technical, engineering, and program management services in support of survivability upgrades design and development. Support developmental testing of prototype vehicles.</p>		0.000	18.265 0	2.620 0
<p>Title: Program Support</p> <p align="right">Articles:</p> <p>Description: Program Support provides program management support for engineering support services, human system integration and digital integration facility and travel associated with these efforts.</p> <p>FY 2012 Accomplishments:</p>		0.011 0	5.667 0	3.539 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>The FY12 National Defense Authorization Act (NDAA) language established report requirements for this program. FY12 funds will not be executed until the requirements have been met.</p> <p>FY 2013 Plans: Provide program management support for engineering support services, human system integration and digital integration facility and travel associated with these efforts.</p> <p>FY 2014 Plans: Continue program management support for engineering support services, human system integration and digital integration facility and travel associated with these efforts.</p>			
Accomplishments/Planned Programs Subtotals	24.522	37.160	34.638

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/2021: <i>AAV Product Improvement Program</i>	9.931	16.089	32.360		32.360	53.807	83.984	104.204	106.068	475.860	1,784.385

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 the survivability and Marine force protection capabilities. To support the required capabilities, the 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). When possible, these mature systems and components will be procured as part of a larger multi-service and multi-platform procurement that leverages economy of scale, commonality, and reduced life cycle costs. The acquisition strategy seeks to minimize cost and schedule while maximizing 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 MSB in FY 13 followed by EMD and production. IOC is currently scheduled for FY17.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Syst Design & Dev/ EMD	C/CPFF	TBD:MCSC - Quantico, VA	37.749	24.468	Sep 2013	12.280	Mar 2014	24.222	Mar 2014	-		24.222	Continuing	Continuing	Continuing
Subtotal			37.749	24.468		12.280		24.222		0.000		24.222			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	Various	ATC/AVTB:APG, MD; Camp Pendleton, CA	1.033	0.043	Oct 2012	0.948	Mar 2013	4.257	Aug 2014	-		4.257	Continuing	Continuing	Continuing
Subtotal			1.033	0.043		0.948		4.257		0.000		4.257			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	Various	MCSC:Quantico, VA	0.000	0.011	Oct 2011	0.237	Oct 2012	0.370	Oct 2013	-		0.370	Continuing	Continuing	Continuing
In House Technical Spt	Various	Various:Not Specified	0.018	0.000		5.430	Nov 2012	3.169	Nov 2013	-		3.169	Continuing	Continuing	Continuing
Program Management Spt	Various	Various:Not Specified	2.145	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Engineering and Technical Svcs (contract advisory/ asst svcs)	Various	SPAWAR:Charleston, SC	30.112	0.000		9.465	Mar 2013	1.020	Mar 2014	-		1.020	Continuing	Continuing	Continuing
Management Support Svcs	C/FFP	MCSC:Quantico, VA	5.015	0.000		8.800	Mar 2013	1.600	Mar 2014	-		1.600	Continuing	Continuing	Continuing
Subtotal			37.290	0.011		23.932		6.159		0.000		6.159			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		76.072	24.522	37.160	34.638	0.000	34.638		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>			PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>				
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0206623M: MC Ground Cmbt Spt Arms Sys

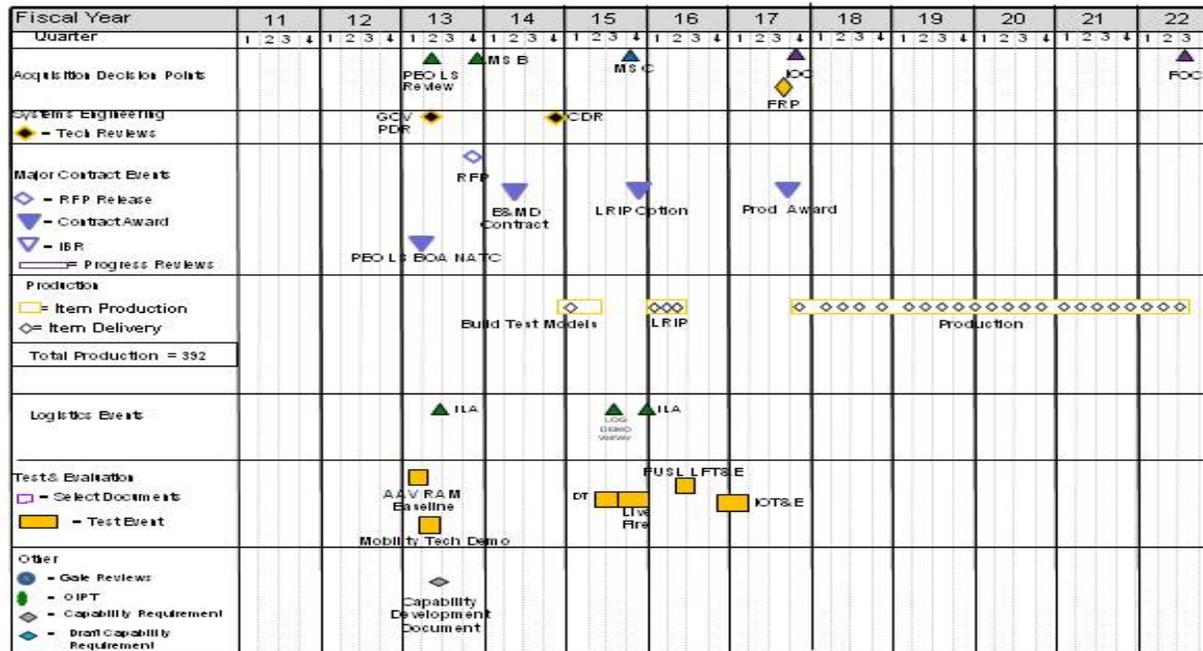
PROJECT

0021: Assault Amphibious Vehicle 7A1



ASSAULT AMPHIBIOUS VEHICLE (AAV)

AAV INTEGRATED PROGRAM PLAN PB-14 SCHEDULE



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0021				
CDD	2	2013	2	2013
MS B	4	2013	4	2013
EMD CONTRACT AWARD	2	2014	2	2014
EMD DESIGN/BUILD	2	2014	2	2015
CDR	4	2014	4	2014
MS C (LRIP)	4	2015	4	2015
LRIP	4	2015	2	2016
DEVELOPMENTAL TEST & EVALUATION	2	2015	4	2015
IOT&E	4	2016	1	2017
Full Rate Production	4	2017	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1555: <i>Lt Armored Vehicle Prog</i>	18.127	39.173	35.859	23.754	-	23.754	16.482	15.373	9.088	9.247	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 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 the development and testing of modifications of three programs; the LAV Modification Program, the LAV Anti-Tank System 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.

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

	FY 2012	FY 2013	FY 2014
Title: LAV MODIFICATIONS	8.151	7.495	15.204
Articles:	0	0	0
FY 2012 Accomplishments: Conducted research, development and testing of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase 4/Armored Mounts/Recovery Flood Lamps/Self Recovery Winch.			
FY 2013 Plans: Continue research, development and testing of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase IV Testing/Armored Mounts/Vehicle Commander Blast Shields/Corrosion Resistance/Electrical Upgrade Technical Data Package Revision/Source Selection Evaluation Board Prep.			
FY 2014 Plans: Will continue research, development and testing of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Part 2 to include final design, integration and test/Larger Turret Hatches/ITSS Recording Device. Funding increase in FY14 is for the final design, integration and testing of the Electrical System Upgrade.			
Title: LAV ANTI-TANK SYSTEM	21.747	9.602	1.921
Articles:	4	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> LAV-AT - Continued Engineering & Manufacturing Development (EMD) contract (4 Prototypes & Vehicle Integration), Preliminary Design Review (PDR), Critical Design Review (CDR), Interfaces and Integration, Contractor Testing, Developmental Testing Planning and Technical Readiness Review, System Readiness Review #2.</p> <p><i>FY 2013 Plans:</i> LAV-AT - Complete design interface and prototype development, Developmental Testing, Technical Manual Updates, begin Operational Test planning and prepare MS-C documentation.</p> <p><i>FY 2014 Plans:</i> LAV-AT - Complete Technical Manual Updates, prepare ILA pre-brief, ILA Assessment and ILA Certification, IOT&E Testing and the following Technical Reviews (Functional Configuration Audit, System Verification Review, Operational Test Readiness Review & Operational Test Readiness Review Board).</p>				
<p><i>Title:</i> LAV SURVIVABILITY UPGRADES</p> <p align="right"><i>Articles:</i></p> <p><i>FY 2012 Accomplishments:</i> LAV SURV UPGRADES - Power Pack - ECP Development and integration. Advanced Suspension - System Readiness Review, MS B document preparation, and begin ILA documentation.</p> <p><i>FY 2013 Plans:</i> LAV SURV UPGRADES - Power Pack - Continue ECP Development and integration, RAM Testing. Advanced Suspension - Material Development Decision, , Complete ILA documentation, TEMP Development, Draft RFP.</p> <p><i>FY 2014 Plans:</i> LAV SURV UPGRADES - Power Pack - Complete ECP Development and integration, RAM Testing. Advanced Suspension - MS B, EMD RFP Release, EMD contract award, Developmental Testing planning, Technical Reviews, Preliminary Design Review and Critical Design Review.</p>		9.177 0	18.762 11	6.629 0
<p><i>Title:</i> LAV Indirect Fire Modernization</p> <p align="right"><i>Articles:</i></p> <p><i>FY 2012 Accomplishments:</i> LAV Indirect Fire Modernization - Conducted a Market Survey. Program cancelled and the remaining resources redirected to fund higher MC priorities.</p>		0.098 0	0.000	0.000
Accomplishments/Planned Programs Subtotals		39.173	35.859	23.754

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/2038: <i>LAV</i>	171.013	196.216	6.003		6.003	247.578	138.829	165.903	222.837	Continuing	Continuing
• PMC/7000: <i>Spares</i>	0.000	0.000	0.000		0.000	6.300	2.400	2.400	3.500	0.000	14.600

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. Funding increase in FY14 is for the final design, integration and testing of the Electrical System Upgrade.

The LAV Anti-Tank System program will focus on integrating a new turret into the LAV-AT variant with options for production. The LAV-AT is a replacement for the obsolete M901A1 turret to correct operational and readiness deficiencies. It will be capable of firing the current family of 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 MS-B based on the technical maturity of the capabilities required, schedule, and budget. Milestone B approval was achieved in Mar 2011 and the Engineering & Manufacturing Development (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 tailored Production and Deployment Phase and Operations and Support Phase.

The LAV Survivability Upgrade program (Advanced Suspension Upgrades and Power Pack Replacement) will focus on full and open competition to integrate a new Advanced Suspension System into the Family of Light Armored Vehicles (FOLAV) with options for production. This program will further enhance the FOLAV survivability by improving the stand-off distance between the LAV and the ground while maintaining high mobility and automotive performance both on and off road. The Power Pack effort will require ECP development, integration and testing of the new OEM recommended power pack replacement that will be used in the FOLAV. The current power pack will be obsolete and must be replaced in the LAV fleet.

The Indirect Fire Modernization program was to acquire and integrate an NDI Mortar system (ordnance and fire control system) into the refurbished existing LAV-Mortar variant chassis. This program has been cancelled and the resources redirected to higher MC priorities.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SYS DEV/PROTOTYPES (Surv Upgrades)	C/CPFF	GDLS:London, Ont. Canada	0.000	8.098	Sep 2012	8.359	Jun 2013	1.331	Dec 2013	-		1.331	0.000	17.788	
ILS DATA DEV. (MOD)	C/CPFF	TBD:TBD	0.000	0.000		0.450	Jun 2013	1.381	Jun 2014	-		1.381	0.000	1.831	
ILS DATA DEV. (SURV UPGRADES)	C/CPFF	GDLS:London, Ont. Canada	0.000	0.000		6.667	Jun 2013	0.000		-		0.000	0.000	6.667	
PRODUCT DEV. (MOD)	C/CPFF	UEC:Charleston, SC	6.648	6.744	Sep 2012	2.150	Mar 2013	7.000	Mar 2014	-		7.000	Continuing	Continuing	Continuing
SYS DEV/ PROTOTYPES(Anti-Tank)	C/CPFF	Raytheon:McKinney, TX	5.306	12.129	Apr 2012	1.755	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ILS DATA DEVELOPMENT (Anti-Tank)	C/CPFF	Raytheon:McKinney, TX	0.000	1.178	Apr 2012	0.415	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			11.954	28.149		19.796		9.712		0.000		9.712			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Mgmt(SURV Upgrades)	MIPR	TACOM:Warren, MI	0.000	0.643	Nov 2011	2.509	Dec 2012	1.197	Dec 2013	-		1.197	Continuing	Continuing	Continuing
Program Mgmt(Indirect Fire)	MIPR	TACOM:Warren, MI	0.000	0.098	Nov 2011	0.000		0.000		-		0.000	0.000	0.098	
Program Mgmt(MOD)	MIPR	TACOM:Warren, MI	0.292	0.591	Jan 2012	1.611	Dec 2012	2.385	Dec 2013	-		2.385	Continuing	Continuing	Continuing
Program Mgmt(Anti-Tank)	MIPR	TACOM:Warren, MI	2.587	2.559	Aug 2012	1.479	Dec 2012	0.294	Dec 2013	-		0.294	0.000	6.919	
Subtotal			2.879	3.891		5.599		3.876		0.000		3.876			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Devl/Oper. T&E(SURV Upgrades)	MIPR	TBD:TBD	0.000	0.000		0.000		3.034	Jan 2014	-		3.034	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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LAV Anti-Tank System	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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LAV Survivability Upgrades (Advanced Suspension)	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>LAV Anti-Tank System</i>				
IOC	3	2017	3	2017
Developmental Testing	4	2013	3	2014
Operational Testing	4	2014	2	2015
MS-C	2	2015	2	2015
Production Contract Award	3	2015	3	2015
<i>LAV Survivability Upgrades (Advanced Suspension)</i>				
Production Contract Award	4	2016	4	2016
Operational Testing	3	2016	1	2017
Developmental Testing	2	2015	2	2016
MS-C	4	2016	4	2016
MS-B	3	2013	3	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1901: <i>MC Grnd Wpnry Prod Improvement</i>	23.280	9.215	12.737	14.481	-	14.481	9.521	7.133	5.874	5.979	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Disable Point Target project is a new start in FY13.

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.

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

	FY 2012	FY 2013	FY 2014
<p>Title: Company and Battalion Mortars.</p> <p align="right">Articles:</p> <p>Description: This funding is used to provide system development and demonstration, pre-Milestone C activities, and purchasing Non-developmental Items (NDI) for testing and evaluation of candidate systems and modifications for Company and Battalion Mortars.</p> <p>FY 2012 Accomplishments: Conducted efforts for development and demonstration of Mortar Ballistic Computer software applications on Android hardware platforms.</p>	0.441 0	0.000	0.000
<p>Title: Infantry Weapons Modifications</p> <p align="right">Articles:</p> <p>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 funding line.</p>	0.818 0	1.257 0	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Conducted efforts to test collapsible buttstocks and floating barrels on various rifles used by Infantry Marines to evaluate their performance as compared to requirements. Also evaluated performance of various types of ammunition currently under development.</p> <p><i>FY 2013 Plans:</i> Conduct 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, and the XM205 Lightweight Tripod which is used with the M2 machine gun and the Mk 19 grenade launcher. Continue to evaluate performance of various types of ammunition currently under development. Continue efforts to analyze, design, develop, and field modifications.</p>				
<p><i>Title:</i> Mission Payload Module (MPM).</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> The Mission Payload Module (MPM) is a new weapon system that 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.</p> <p><i>FY 2012 Accomplishments:</i> Completed all statutory and regulatory acquisition documentation to receive a favorable Milestone B decision and permission to release the RFP for the Engineering and Manufacturing Development (EMD) Phase. FY 2012 accomplishments also included, but are not limited to, a System Requirement Review, and a Technology Readiness Review of the weapon system and munitions which resulted in a Technology Readiness Level of six (TRL-6).</p> <p><i>FY 2013 Plans:</i> Work with industry to finalize system design and conduct pre-developmental test activities to determine system readiness for developmental testing. Pre-developmental test activities will include system and subsystems level testing, Early User Evaluation (EUE), and proof of principle demonstration by the contractor. In conjunction with finalizing system design, conduct a Preliminary Design Review and Critical Design Review, develop draft operator and maintenance manuals, and conduct Instructor & Key Personnel Training (I&KPT) in support of EUE.</p> <p><i>FY 2014 Plans:</i> Complete the developmental testing activities, conduct Functional Configuration Audit (FCA) and System Verification Review, and Operational Assessment (OA) to prepare for the Initial Operational Testing and Evaluation following a favorable Milestone C.</p>		1.882 0	4.606 0	5.891 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Complete preliminary Level of Repair Analysis (LORA) and Supportability Demonstration and prepare all statutory and regulatory acquisition documentation for Milestone C to execute the Low Rate Initial Production option on the EMD Contract.				
<p>Title: Night Vision Mod Line. (NVM)</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2012 Accomplishments: Funded the development of an un-cooled Shortwave Infrared (SWIR) of SWIR Imagers. Developed prototype modification kits to convert stand-alone AN/PAS-13D Thermal Weapon Sights to an in-line configuration that can be used with magnified day optics. Conducted an analysis of alternatives to determine variable solutions for an improved eye-piece for the AN/PAS-28 Medium Range Thermal Biocular which would correct a deficiency that caused solar damage.</p> <p>FY 2013 Plans: Continue development and conduct testing of the conversion to in-line modification kits for the AN/PAS-13D Thermal Weapon Sights. 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. Development of mount interface between in-line night vision devices and the host weapons, M249 and M240B. Conduct Size, Weight and Power (SWAP) reduction study for AN/PEQ-15 and AN/PEQ-16A.</p>		2.315 0	2.392 0	0.000
<p>Title: Escalation of Force-Equipment (EoF-E)</p> <p align="right">Articles:</p> <p>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).</p> <p>FY 2012 Accomplishments:</p>		0.053 0	0.300 0	0.252 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Evaluated Light Emitting Diode (LED) light sets to greatly enhance the Vehicle Check Point (VCP) capability within the EoF-MM. This new capability will better illuminate the inspection area within a VCP which will greatly increase 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).</p> <p>FY 2013 Plans: Assess upgrades to the EoF-MM, NL/TLMS, and LA-9/P Lasers to sustain/support equipment and capabilities.</p> <p>FY 2014 Plans: Assess upgrades to the EoF-MM, NL/TLMS, and LA-9/P Lasers to sustain/support equipment and capabilities.</p>				
<p>Title: Ocular Interruption (OI).</p> <p align="right">Articles:</p> <p>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 will be a 'non-damaging' dazzling system that will be used in Escalation of Force Missions.</p> <p>FY 2012 Accomplishments: Funded system intergration, test and evaluation, and Human Effects Center of Excellence support.</p> <p>FY 2013 Plans: Execute Indefinite Delivery Indefinite Quantity (IDIQ) contract to provide competitive system verification testing and follow on procurement.</p> <p>FY 2014 Plans: Prep for MS C and continue to fund MCOTEAs for operational testing.</p>		2.455 0	0.938 0	1.063 0
<p>Title: Sniper System Capability Set (SSCS).</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2012 Accomplishments:</p>		0.002 0	0.315 0	0.323 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Procured ammunition in support of M40 Modular Stock testing. FY 2013 Plans: Test 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.				
Title: Disable Point Target (DPT) Articles: Description: The Disable Point Target (DPT) will be a Non-Lethal System(s) that will accurately engage/incapacitate a single individual/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 will provide the Marine with an increased standoff distance during crowd control/human shield situations while simultaneously keeping Marines beyond the reach of a hostile threat. New start in FY13. FY 2013 Plans: Enter into a Milestone A, Technology Development Phase and conduct TD Phase activities. FY 2014 Plans: Continue to work TD Phase activities and develop all documentation to obtain into a Milestone B decision in 4th Quarter, FY15.		0.000	1.298 0	1.310 0
Title: Family of Optical Systems and Modification (FOSAM) 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., hand-held and weapon-mounted) optical and laser systems. Additionally this line supports the procurement of over 600,000 magnified day optics, thermal imagers, image intensifying, lasers, and illuminators principle end items (PEI) due to combat losses, wash-outs, and increases in Approved		1.249 0	1.631 0	4.116 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Acquisition Objectives. Sustainment efforts include sustainment of optics capabilities and/or improvements to the performance, maintainability, supportability, service life, ergonomics, and safety enhancements.				
FY 2012 Accomplishments: Conducted an Electro-Optical Countermeasure (EOCM) study. Conducted an image enhancement study, with the objective identifying methods and technologies to improve component performance in all systems in the portfolio.				
FY 2013 Plans: Conduct a Benefits of Fusion Assessment. Conclude the EOCM study. Conduct an assessment to determine the benefits of head-mounted thermal systems and to compare various technological solutions. Conduct Human Systems Integration of Display Systems Study.				
FY 2014 Plans: Conduct Joint participation and Marine Corps unique activities for evaluation of safety, lethality, weight reduction and technology improvements for Marine Corps Small Arms night vision devices. Support improvements on the technology that is currently used and develop enabling technology to be used in future optical systems. Research efforts will continue to evaluate the possibility of combining/integrating disparate sensor technologies to increase the overall capability. FY14 increase reflects funding combined from the NVM line.				
Title: Family of Infantry Weapons Systems (FIWS)		0.000	0.000	1.526 0
Description: Family of Infantry Weapons Systems (FIWS) is not a new start, but 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 2014 Plans: Conduct 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, and the XM205 Lightweight Tripod which is used with the M2 machine gun and the Mk 19 grenade launcher. 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		9.215	12.737	14.481

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RD TEN/0603851M/2319A: <i>JNLWS - Non Lethal Weapons</i>	4.664	2.134	2.624		2.624	3.047	0.000	0.000	0.000	0.000	19.315
• PMC/220837: <i>Escalation of Force - Equip (EoF-E)</i>	1.372	1.661	1.119		1.119	0.321	1.602	1.505	1.532	Continuing	Continuing
• PMC/493000: <i>Night Vision Equipment (NVE)</i>	16.876	48.736	6.171		6.171	13.849	11.616	11.815	12.027	Continuing	Continuing
• PMC/220801: <i>Mission Payload Module (MPM)</i>	0.000	0.000	0.000		0.000	15.039	7.152	7.279	7.427	Continuing	Continuing
• PMC/220802: <i>Ocular Interruption (OI)</i>	0.000	0.000	2.302		2.302	13.166	6.021	4.620	4.684	Continuing	Continuing
• PMC/222001: <i>Company and Battalion Mortars</i>	1.226	1.309	0.838		0.838	0.991	1.249	0.000	0.000	0.000	14.915
• PMC/222002: <i>Infantry Weapons Modifications</i>	17.479	3.551	0.000		0.000	0.000	0.000	0.000	0.000	0.000	34.012
• PMC/222000: <i>Sniper System Capability Sets</i>	6.953	1.148	10.584		10.584	4.023	0.004	0.007	0.003	Continuing	Continuing

Remarks

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.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Payload Module	C/CPFF	EMD-Contract:Quantico, VA	0.000	0.000		2.860	Apr 2013	5.891	Oct 2013	-		5.891	Continuing	Continuing	Continuing
Ocular Interruption	C/FFP	EMD-Contract:Quantico, VA	0.000	0.000	Jun 2012	0.588	Apr 2013	0.400	Sep 2014	-		0.400	Continuing	Continuing	Continuing
Company and Battalion Mortars	MIPR	Picatinny Arsenal:Picatinny, NJ	0.441	0.441	Mar 2012	0.000		0.000		-		0.000	0.000	0.882	
Escalation of Force -Equip	Various	MCSC:Quantico, VA	0.053	0.053	Oct 2012	0.300	Nov 2013	0.252	Jan 2014	-		0.252	Continuing	Continuing	Continuing
Infantry Weapons Mods	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.400	Jan 2013	0.000		-		0.000	0.000	0.400	
Family of Infantry Weapons Systems	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.000		0.500	Jan 2014	-		0.500	0.000	0.500	
Disable Point Target (DPT)	C/CPFF	MCSC:Quantico, VA	0.000	0.000		1.298	Jul 2013	1.310	Jun 2014	-		1.310	Continuing	Continuing	Continuing
Ocular Interruption	Various	AFRL:San Antonio,TX	0.087	0.420	Feb 2012	0.000	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Mission Payload Module	Various	AFRL:San Antonio,TX	1.062	0.384	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Night Vision Mod	Various	Various (Contract Industry):TBD	3.333	1.557	Dec 2011	1.582	Nov 2012	0.000		-		0.000	0.000	6.472	
Night Vision Mod	Various	NVESD:Ft. Belvoir, VA	4.068	0.000		0.000		0.000		-		0.000	0.000	4.068	
Scout Sniper Cap Sets	C/FFP	MCSC:Quantico, VA	0.618	0.000		0.159	Apr 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Family of Optical Systems and Modification	Various	Night Vision Lab:Ft. Belvoir, VA	0.935	0.291	Dec 2011	0.573	Nov 2012	0.634	Nov 2013	-		0.634	Continuing	Continuing	Continuing
Family of Optical Systems and Modification	Various	Contract Industry:TBD	0.777	0.443	Dec 2011	0.511	Nov 2012	2.112	Nov 2013	-		2.112	Continuing	Continuing	Continuing
Subtotal			11.374	3.589		8.271		11.099		0.000		11.099			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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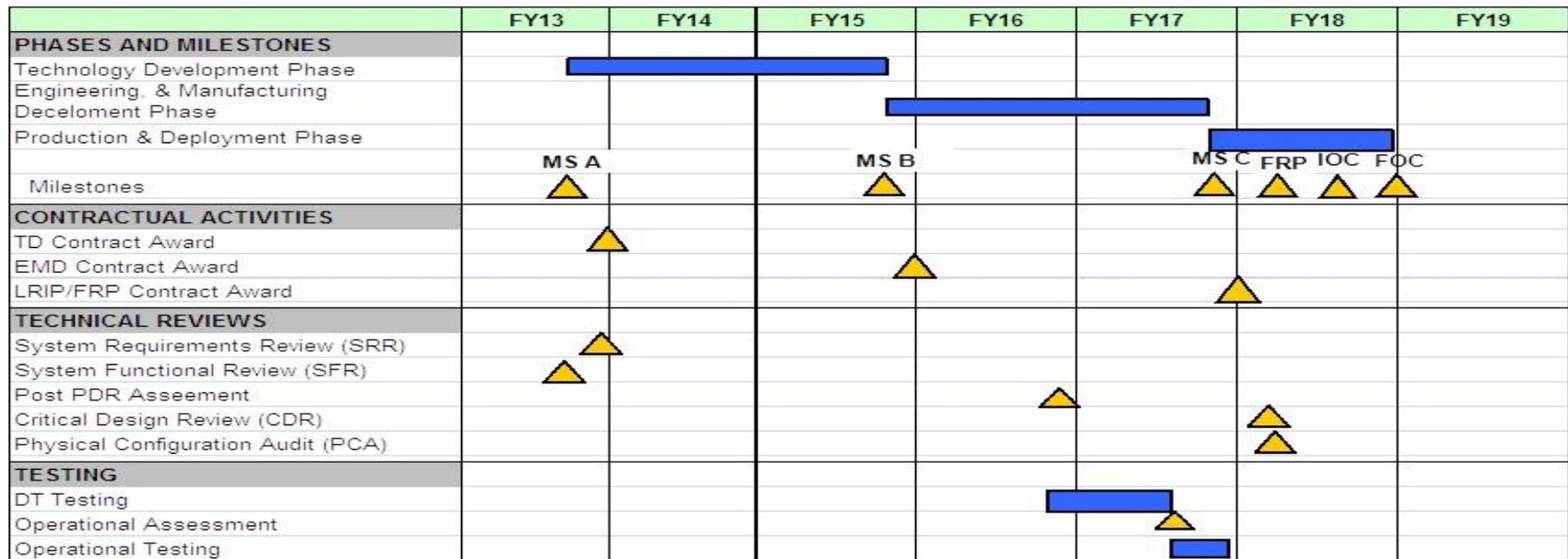
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mission Payload Module	Various	MCSC:Quantico, VA	1.812	1.498	Nov 2011	1.746	Apr 2013	0.000		-		0.000	0.000	5.056	
Night Vision Mod	Various	WR:Various Navy Labs	2.390	0.547	Dec 2011	0.562	Nov 2012	0.000		-		0.000	0.000	3.499	
Family of Optical Systems and Modification	Various	MCSC:Quantico, VA	0.554	0.331	Dec 2011	0.374	Nov 2012	0.378	Nov 2013	-		0.378	0.000	1.637	
Family of Infantry Weapons Systems	Various	MCSC:Qantico, VA	0.000	0.000		0.000		0.060	Aug 2014	-		0.060	0.000	0.060	
Ocular Interruption	Various	Various: Navy Labs:Various Navy Labs	0.362	0.356	Aug 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Ocular Interruption	Various	Travel:Quantico, VA	0.040	0.028	Aug 2012	0.038	Sep 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Ocular Interruption	Various	MCSC:Quantico, VA	0.880	1.204	Jun 2012	0.312	Sep 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Infantry Weapons Mods	Various	Travel/IMPAC:Quantico, VA	0.069	0.025	Sep 2012	0.060	Aug 2013	0.000		-		0.000	0.000	0.154	
Family of Optical Systems and Modification	Various	WR:Various Navy Labs	0.000	0.000		0.000		0.551	Nov 2013	-		0.551	0.000	0.551	
Subtotal			6.107	3.989		3.092		0.989		0.000		0.989			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Ocular Interruption	Various	MCOTE:Quantico, VA	0.387	0.447	Sep 2012	0.000		0.663	Nov 2013	-		0.663	0.000	1.497	
Infantry Weapons Mods	Various	NSWC Crane:Crane, IN	2.845	0.523	Mar 2012	0.400	Feb 2013	0.000		-		0.000	0.000	3.768	
Family of Optical Systems and Modification	Various	NSWC Dahlgren:Dahlgren, VA	0.000	0.000		0.000		0.269	Nov 2013	-		0.269	0.000	0.269	
Family of Infantry Weapons Systems	Various	NSWC Crane:Crane, IN	0.000	0.000		0.000		0.587	Feb 2014	-		0.587	0.000	0.587	

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>

DPT Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>

MISSION PAYLOAD MODULE NON-LETHAL WEAPON SYSTEM

	FY13	FY14	FY15	FY16	FY17	FY18
PHASES AND MILESTONES						
Engineering & Manufacturing Phase	[Blue Bar]					
Low Rate Initial Production (LRIP)			[Blue Bar]			
Production & Deployment Phase				[Blue Bar]		
Milestones		MSC ▲		FRP ▲	IOC ▲	FOC ▲
CONTRACTUAL ACTIVITIES						
EMD Contract Award	▲					
LRIP Option Award			▲			
FRP Contract Award				▲		
TECHNICAL REVIEWS						
System Requirements Review (SRR)						
Preliminary Design Review (PDR)	▲					
Post PDR Assessment						
Critical Design Review (CDR)		▲				
Physical Configuration Audit (PCA)				▲		
TESTING						
DT Testing		[Blue Bar]				
Operational Assessment		▲				
Operational Testing			[Blue Bar]			

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1901				
MPM - Engineering & Manufacturing Phase	1	2012	4	2014
MPM - Low Rate Initial Production (LRIP)	1	2015	2	2015
MPM - Production & Deployment Phase	1	2016	1	2018
MPM - EMD Contract Award	1	2013	1	2013
MPM - LRIP Contract Award	1	2015	1	2015
MPM - Full Rate Production Contract Award	1	2016	1	2016
DPT - Technical Development Phase	4	2013	4	2015
DPT - EMD	4	2015	4	2017
DPT - LRIP	4	2017	4	2017
DPT - Critical Design Review	1	2018	1	2018
DPT - FRP	1	2018	1	2018
OI - IDIQ	3	2013	1	2014
OI - Test Unit Option Executed	2	2014	2	2014
OI - FRP Option Award	1	2015	4	2017
OI - Preliminary Design Review	4	2013	4	2013
OI - Functional Configuration Audit	1	2014	1	2014
OI - Physical Configuration Audit	4	2014	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2086: <i>Soldier/Marine Enhancement</i>	16.667	5.220	3.041	6.146	-	6.146	5.234	5.353	5.425	5.521	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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).

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

	FY 2012	FY 2013	FY 2014
Title: Marine Enhancement Program (MEP)	2.275	0.796	3.073
Articles:	0	0	0
FY 2012 Accomplishments:			
Solar Portable Adaptor Communication Equipment Systems II (SPACES GEN II) efficiencies; developed infantry patrol planning tool for movement of patrols; developed enhanced hearing protection, and material and retention technology for new ECH helmet.			
FY 2013 Plans:			
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 may fund for FY13 are yet to be determined.			
FY 2014 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 2086: <i>Soldier/Marine Enhancement</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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.				
Title: Marine Expeditionary Rifle Squad (MERS)				
		Articles:		
		2.945	2.245	3.073
		0	0	0
FY 2012 Accomplishments: Analysis of weight related injuries in the operating forces, blast injury probability in a Pacific jungle environment with latest equipment, infantry equipment integration, linkage of all squad programs in a project management plan, transfer of Gruntworks to an onbase location, operation of Marine Corps Load Effects Assessment Program, and study of in theater weight and thermal burdens.				
FY 2013 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 usability trials and limited user evaluations for Joint Battle Command Platform at the infantry platoon and squad level. 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 headborne systems in conjunction with Army headborne system project. Conduct surveys with post deploying infantry battalions on usability and integration of equipment utilized during deployment. Conduct weapon system R&D integration of powered rail system and rifle accessory control unit. Conduct human performance testing of Marines utilize current and prototype configurations of infantry rifle squad equipment. Analyze user requirements for replacement solution for the PRC-153 Integrated Intra Squad Radio. Evaluate and transition technologies from ONR and other S&T activities that enhance capabilities of the squad or provide a desired capability for implementation of Expedition MAGTF Operations (EMO). Seek weight and volume reduction replacements for current infantry equipment that support integration of components.				
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 usability trials and limited user evaluations for Joint Battle Command Platform at the infantry platoon and squad level. 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 headborne systems in conjunction with Army headborne system project. Conduct surveys with post deploying infantry battalions on usability and integration of equipment utilized during deployment. Conduct weapon system R&D integration of powered rail system and rifle accessory control unit. Conduct human performance testing of Marines utilizing current and prototype configurations of infantry rifle squad equipment. Analyze user requirements for replacement solution for the PRC-153 Integrated				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Intra Squad Radio. Evaluate and transition technologies from ONR and other S&T activities that enhance capabilities of the squad or provide a desired capability for implementation of Expedition MAGTF Operations (EMO). 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 FY13.			
Accomplishments/Planned Programs Subtotals	5.220	3.041	6.146

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC BLI 220800: <i>Marine Enhancement Program</i>	3.266	2.330	1.313		1.313	3.285	3.135	2.735	2.784	0.000	32.789

Remarks

D. Acquisition Strategy

Non Developmental Item/Commercial off the Shelf (NDI/COTS)

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MERS Product Development	C/FFP	Various:Various	0.000	0.000		0.000		0.700	Mar 2014	-		0.700	0.000	0.700	
MEP Product Development	C/FFP	Marine Corps:Quantico, VA	2.372	0.650	Mar 2012	0.597	Mar 2013	2.023	Mar 2014	-		2.023	0.000	5.642	
MERS Product Development	C/FFP	Marine Corps Systems Command:Quantico, VA	2.490	1.132	Mar 2012	0.805	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			4.862	1.782		1.402		2.723		0.000		2.723			

Remarks
Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs. Contract Method reflects where the majority of the funding is allocated. Contract award date reflects the first of multiple awards.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MERS Operational Test & Evaluation	C/FFP	Marine Corps Systems Command:Quantico, VA	0.000	0.000		0.600	Mar 2013	0.000		-		0.000	0.000	0.600	
MEP Operational Technical Support	WR	Various:Various	0.000	0.000		0.000		0.700	Nov 2013	-		0.700	0.000	0.700	
MERS Technical Support	WR	Various:Various	0.000	0.000		0.000		1.400	Jan 2014	-		1.400	0.000	1.400	
MEP Operational Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	1.514	0.400	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			1.514	0.400		0.600		2.100		0.000		2.100			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs. Contract Method reflects where the majority of the funding is allocated. Contract award date reflects the first of multiple awards.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MERS Developmental Test & Eval	C/FFP	Marine Corps Systems Command: Quantico, VA	1.872	1.122	Mar 2012	0.840	Mar 2013	0.973	Mar 2014	-		0.973	Continuing	Continuing	Continuing
MEP Developmental Test & Eval	C/FFP	Marine Corps Systems Command: Quantico, VA	3.760	0.569	Mar 2012	0.199	Mar 2013	0.350	Mar 2014	-		0.350	Continuing	Continuing	Continuing
Subtotal			5.632	1.691		1.039		1.323		0.000		1.323			

Remarks
Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs, therefore a specific contract award date cannot be identified. Contract award date reflects the first of multiple awards.

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MERS Program Mgmt/ Tech Spt	C/FFP	Marine Corps Systems Command: Quantico, VA	2.534	0.691	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MEP Program Mgmt/Tech Spt	C/FFP	Marine Corps Systems	2.125	0.656	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Command:Quantico, VA													
Subtotal			4.659	1.347		0.000		0.000		0.000		0.000			

Remarks
Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs. Contract Method reflects where the majority of the funding is allocated. Contract award date reflects the first of multiple awards.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.667	5.220	3.041	6.146	0.000	6.146			

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2112: <i>Lightweight 155mm Howitzer</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2112: <i>Lightweight 155mm Howitzer</i>	0.000	0.000	0.000	0.200	-	0.200	0.202	0.204	0.000	0.000	0.000	0.606
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

This project is a new start in FY-14.

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. New start in FY-14.

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

	FY 2012	FY 2013	FY 2014
Title: ECP Material Solutions	0.000	0.000	0.200
Articles:			0
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, and fire control systems. Software Engineering will integrate the Electronic Thermal Warning Device into the Digital Fire Control System supporting improved misfire procedures.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.200

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2112: <i>Lightweight 155mm Howitzer</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 218500: <i>PMC - LW155</i>	21.552	17.913	3.655		3.655	7.510	4.293	0.110	0.112	0.000	1,329.147

Remarks

D. Acquisition Strategy

This will be a collaborative effort between the Program Management Office and the Armaments Research and Development Center at Picatinny Arsenal.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2112: <i>Lightweight 155mm Howitzer</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Engineering	MIPR	ARDEC:Picatinny Arsenal, NJ	0.000	0.000		0.000		0.200	Jan 2014	-		0.200	0.000	0.200	
Subtotal			0.000	0.000		0.000		0.200		0.000		0.200	0.000	0.200	

Remarks
 Funding will support Software Engineering to integrate the Electronic Thermal Warning Device into the Digital Fire Control System supporting improved misfire procedures.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	0.000	0.200	0.000	0.200	0.000	0.200	

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2237: <i>Amphibious Vehicle Test</i>	0.000	0.934	0.933	0.949	-	0.949	0.965	0.981	0.994	1.012	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Amphibious Vehicle Test Branch (AVTB) is a developmental and integrated Test and Evaluation organization and the Department of Defense's only certified amphibious vehicle test capability. AVTB executes developmental tests and force development experiments for Marine Corps Systems Command (MCSC), Program Executive Officer Land Systems (PEO LS) and other Department of the Navy and Department of Defense Research and Development organizations; as well as supports Headquarters United States Marine Corps and USMC Operational Force units with unique resources and technical expertise. The AVTB mission is to plan, execute, analyze and report developmental and integrated test and evaluation 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 2012	FY 2013	FY 2014
Title: Support Services	0.388	0.373	0.507
Articles:	0	0	0
FY 2012 Accomplishments:			
Provided the necessary support assets required to conduct safe and accurate simultaneous developmental testing on amphibious vehicle prototypes. Provided 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 testing locations to support scheduled amphibious vehicle developmental testing. This included the upgrade of instrumentation for Over-The-Horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management operations, general accounting, and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment.			
FY 2013 Plans:			
Provide the necessary support assets required to conduct safe and accurate simultaneous developmental testing on amphibious vehicle prototypes. Provide the maintenance, refurbishment, upgrade, and replacement of test equipment. Provide program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support scheduled amphibious vehicle developmental testing. This includes the upgrade of instrumentation for Over-The-Horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2237: <i>Amphibious Vehicle Test</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
operations, general accounting, and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment. FY 2014 Plans: Provide the necessary support assets required to conduct safe and accurate simultaneous developmental testing on amphibious vehicle prototypes. Provide the maintenance, refurbishment, upgrade, and replacement of test equipment. Provide program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support scheduled amphibious vehicle developmental testing. This includes the upgrade of instrumentation for Over-The-Horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management operations, general accounting, and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment.				
Title: Contracts		0.546	0.560	0.442
		Articles: 0	0	0
FY 2012 Accomplishments: Provided funding for necessary services from Marine Corps Base, Camp Pendleton, California for electricity, heating, and other power charges; and long distance telephone support. Provided funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).				
FY 2013 Plans: Provide funding for necessary services from Marine Corps Base, Camp Pendleton, California for electricity, heating, and other power charges; and long distance telephone support. Provide funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).				
FY 2014 Plans: Provide funding for necessary services from Marine Corps Base, Camp Pendleton, California for electricity, heating, and other power charges; and long distance telephone support. Provide funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).				
Accomplishments/Planned Programs Subtotals		0.934	0.933	0.949
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	2237: <i>Amphibious Vehicle Test</i>

D. Acquisition Strategy

Work will be led in-house. Necessary contractor support will be provided by Marine Corps Base Camp Pendleton via existing contracts. General Services Administration will be used for vehicle leasing contract.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Boat Ops & Maint	C/FFP	RCO Camp Pendleton:Camp Pendleton	0.000	0.446	Feb 2012	0.000		0.478	Feb 2014	-		0.478	Continuing	Continuing	Continuing
Facility/Test Infrastructure	C/FFP	NAVFAC, SW:Camp Pendleton, CA	0.000	0.106	Sep 2012	0.275	Sep 2013	0.063	Sep 2014	-		0.063	Continuing	Continuing	Continuing
Test Equipment/Instr	C/FFP	PM AAA:Woodbridge, VA	0.000	0.023	Sep 2012	0.000		0.000		-		0.000	0.023	0.046	
Test Equipment/Instr	C/FFP	MCTSSA:Camp Pendleton, CA	0.000	0.060	Apr 2013	0.133	Sep 2013	0.014	Sep 2014	-		0.014	Continuing	Continuing	Continuing
Technical/Mgmt Support	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.210	Jul 2013	0.267	Jul 2014	-		0.267	Continuing	Continuing	Continuing
Subtotal			0.000	0.635		0.618		0.822		0.000		0.822			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test Article Ops& Maint/ Fuel Consumables and Materials	Various	Camp Pendleton:Camp Pendleton, CA	0.000	0.239	Sep 2012	0.295	Sep 2013	0.107	Sep 2014	-		0.107	Continuing	Continuing	Continuing
Subtotal			0.000	0.239		0.295		0.107		0.000		0.107			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Equipment/Instr Calibration	WR	NSA:Corona, CA	0.000	0.020	Apr 2012	0.020	Apr 2013	0.020	Apr 2014	-		0.020	Continuing	Continuing	Continuing
Data Management	WR	NSWC:Fallbrook, CA	0.000	0.040	Jul 2013	0.000		0.000		-		0.000	0.040	0.080	
Subtotal			0.000	0.060		0.020		0.020		0.000		0.020			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>			PROJECT 2237: <i>Amphibious Vehicle Test</i>				
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	0.000	0.934	0.933	0.949	0.000	0.949				

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2315: <i>Training Devices/Simulators</i>	65.871	14.355	19.492	9.697	-	9.697	12.453	11.124	9.729	9.880	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: Combined Arms Command and Control Trainer Upgrade System (CACCTUS)	3.363	5.828	3.725
Articles:	0	0	0
Description: Combined Arms Command and Control Trainer Upgrade System (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 2012 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2315: <i>Training Devices/Simulators</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continued the development levels of MEB Staff training for modeling and simulation and greater Command, Control, Communications, Computers and Intelligence Systems Reconnaissance (C4ISR) capabilities in support of the integration of key elements of the Live, Virtual and Constructive (LVC) resources. FY 2013 Plans: Increase the development of LVC training capabilities and to refine warfare specific software application in support of forward observer to regimental staff training requirements. FY 2014 Plans: Continue development of LVC training capabilities (with initiation of some distributed operations capability) and to complete refinement of warfare specific software application in support of regimental staff training requirements.				
Title: Deployable Virtual Training Environment (DVTE)		3.600	2.270	0.269
		Articles: 0	0	0
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. FY 2012 Accomplishments: Conducted efforts to provide incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. Initiated 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. FY 2013 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 Capability Development Document (CDD) Increment II that includes Command, Control, Communications, Computers and Intelligence (C4I) Integration and DVTE interoperability. FY 2014 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 2315: <i>Training Devices/Simulators</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan.				
Title: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Enhancements		2.720	2.589	2.635
Articles:		0	0	0
Description: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (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 2012 Accomplishments: Increased the levels of development in the JLVC effort with development of Irregular Warfare (IW) simulation capabilities. These include modeling the kinetic and non-kinetic behaviors and automated Master Scenario Events List (MSEL) to focus the training audience on staff actions.				
FY 2013 Plans: Continue development of the MTWS HLA bridge, integration into the JLVC Federation, and increasing levels of software capability to meet the changing operational environment that Marines fight in daily.				
FY 2014 Plans: Continue development of MTWS integration to JLVC Federation, with primary focus on amphibious landings.				
Title: Multiple Integrated Laser Engagement System (MILES)		0.049	0.050	0.000
Articles:		0	0	
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.				
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2315: <i>Training Devices/Simulators</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continued minimal Live, Virtual and Constructive (LVC) training technologies integration with the Instrumented Tactical Engagement System (I-TESS) and Infantry Immersion Trainers (IITs). FY 2013 Plans: Continue 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).				
Title: Range Modernization/Transformation (RM/T)		2.257	6.736	1.000
		Articles: 0	0	0
Description: Range Modernization/Transformation (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. FY 2012 Accomplishments: Conducted efforts to complete the integration of Tactical Video Capture System (TVCS) with the Range Instrumentation Systems Exercise Controller (RISCon). Developed interfaces for range targetry to operate in the Live/Virtual/Constructive Training Environment (LVC-TE), where range targetry and battlefield effects will be stimulated (by virtual and constructive simulations) at distant locations. Range targetry will also report status (active, inactive, damaged, and destroyed) through the LVC-TE to constructive and virtual simulations. FY 2013 Plans: Continue 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. 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). FY 2014 Plans: Reduction of funding will only allow for minimum capability to continue software upgrades to the Range Instrumentation Systems Exercise Controller (RISCon) and ensure integration of numerous target systems. Reduction of funding is a result of funding cuts and TECOM decision to realign RDTE funding to OMMC to sufficiently sustain, operate, and allow for safety and environmental controls on fielded assets.				
Title: Squad Immersive Training Environment (SITE)		1.939	1.806	1.836

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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<p align="right"><i>Articles:</i></p> <p>Description: The Squad Immersive Training Environment (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.</p> <p>FY 2012 Accomplishments: This is a new start in FY12 responding to the Marine Requirements Oversight Council (MROC) approval of the Squad Immersive Training Environment (SITE) Initial Capabilities Document (ICD) (Joint Interest). Conducted efforts to produce acquisition, program of record, and systems engineering documentation and product development to include (1) Continued Integration Analysis (2) material solution analysis; (3) Systems Design Specification; (4) Interface Design Document, and, (5) an overarching System Engineering Master Plan across current training systems to steer development of standards and a roadmap for system capability upgrades and sustained interoperability. The Systems Engineering Management Plan (SEMP) will include a methodical, phased approach to develop SITE capabilities over time and to initiate interoperability plans addressing highest priority Analysis of Alternatives (AoA) gaps. SITE funding will leverage existing and new Office of Naval Research (ONR) transition deliverables to provide immersive training capabilities with existing programs and new program of record systems. It will provide the capability upgrades to the Virtual Battle Space 2 (VBS2) environment for Indigenous Populations.</p> <p>FY 2013 Plans: RDT&E funds continue to produce acquisition, program of record, and systems engineering documentation and product development to include (1) continued AoA; (2) material solution analysis; (3) Systems Design Specification; (4) Interface Design Document, and, (5) an overarching System Engineering Master Plan across 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. SITE funding will develop Live Core System Instrumented-Technical Engagement Simulation System II (I-TESS II) upgrades to include Mortars and Assault Squads.</p> <p>FY 2014 Plans: RDT&E funds continue to produce acquisition, program of record, and systems engineering documentation and product development to include (1) Systems Design Specification; (2) Interface Design Document, and (3) an overarching System Engineering Master Plan across current training systems to steer development of standards and a roadmap for system capability upgrades and sustained interoperability. SITE funding will leverage existing and new Office of Naval Research and PerceptTS</p>	0	0	0
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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 2315: <i>Training Devices/Simulators</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
transition deliverables to provide immersive training capabilities with existing programs and new program of record systems. Provide the capability upgrades to the VBS2 environment for Patrolling, Combat Hunter and Conducting missions.				
Title: Supporting Arms Virtual Trainer (SAVT)				
Articles:		0.368 0	0.153 0	0.171 0
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, neutralization, suppression, illumination/coordinated illumination, interdiction and harassment fire missions.				
FY 2012 Accomplishments: This is a new start initiative that provided modeling and simulation for aircraft enhancements to SAVT, continued enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment, and integration of SAVT and Digital CAS providing interoperability amongst virtual training systems.				
FY 2013 Plans: Provide modeling and simulation for aircraft enhancements to SAVT, continued enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment, and integration of SAVT and Digital CAS providing interoperability amongst virtual training systems.				
FY 2014 Plans: Provide modeling and simulation for aircraft enhancements to SAVT, continued enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment, and integration of SAVT and Digital CAS providing interoperability amongst virtual training systems.				
Title: Training Support				
Articles:		0.059 0	0.060 0	0.061 0
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 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continued development of the MAGTF Tactical Warfare Simulation (MTWS) High Level Architecture (HLA) bridge and integration into the Joint Live, Virtual, and Constructive (JLVC) Federation. FY 2013 Plans: Continue incremental Deployable Virtual Training Environment (DVTE) network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. Initiate 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: Develop tools to provide MAGTF Tactical Warfare Simulation (MTWS) Return on Investment (ROI) capability for training events.			
Accomplishments/Planned Programs Subtotals	14.355	19.492	9.697

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/BLI#6532001: <i>Training Devices, CACCTUS</i>	3.242	3.180	3.269		3.269	2.527	2.601	2.649	2.695	Continuing	Continuing
• PMC/BLI#6532003: <i>Training Devices, RM/T</i>	8.035	40.982	2.522		2.522	2.757	3.852	5.926	6.220	Continuing	Continuing
• PMC/BLI#6532004: <i>Training Devices, DVTE</i>	0.714	2.303	1.282		1.282	0.000	0.000	1.570	1.598	0.000	7.467
• PMC/BLI#6532005: <i>Training Devices, SAVT</i>	0.661	0.599	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1.938

Remarks

D. Acquisition Strategy

(U) CACCTUS - Task Order on exercised option of existing contract (T&M), Commercial Enterprise Omnibus Support Services (CEOSS) contract (C/FFP), and Work Request to NAWCTSD.

(U) DVTE - Competitively award IDIQ contract, Small Business Set-Aside (C/FFP) for CAN SW Dev and new sole source FFP for VBS2 SW Dev.

(U) MILES - Modification to existing development contract (C/FFP)

(U) RM/T - MIPR to the Army planned for award on existing Consolidated Produce-line Management Contract, Work Request to NAWCTSD, and exiting C/FFP.

(U) SAVT - Government engineering lab labor (Work Request) to NAWCTSD

(U) MTWS - Sole Source Firm Fixed Price (SS/FFP) and MIPR to CECOM to be placed on MITRE contract

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
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(U) SITE - New Competitive Firm Fixed Price (FFP) (U) Training Support - DVTE new sole source FFP; MTWS Sole Source Firm Fixed Price (SS/FFP)		
E. Performance Metrics N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CACCTUS - S/W Dev	SS/CPFF	Cole Engineering Systems Inc. (CESI):Orlando, FL	14.826	0.000		0.000		0.000		-		0.000	0.000	14.826	
CACCTUS - S/W Dev	Various	Various:Various	2.640	0.000		0.000		0.000		-		0.000	0.000	2.640	
Training Support - CACCTUS	C/T&M	Riptide:Oviedo, FL	1.664	0.000		0.000		0.000		-		0.000	0.000	1.664	
CACCTUS - S/W Dev	C/T&M	Riptide:Oviedo, FL	0.000	2.783	Nov 2011	4.954	Nov 2012	3.085	Nov 2013	-		3.085	0.000	10.822	
DVTE - S/W Dev	MIPR	Lockheed:Orlando, FL	2.222	0.000		0.000		0.000		-		0.000	0.000	2.222	
DVTE - S/W Dev	Various	Various:Various	1.739	0.000		0.000		0.000		-		0.000	0.000	1.739	
DVTE - S/W Dev - VBS2	SS/FFP	Bohemia Interactive:Orlando, FL	6.661	3.600	Aug 2012	1.135	Mar 2013	0.269	Mar 2014	-		0.269	Continuing	Continuing	Continuing
DVTE - S/W Dev - CAN	C/FFP	TBD:TBD	0.000	0.000		1.135	Mar 2013	0.000		-		0.000	0.000	1.135	
Training Support - DVTE-S/W Dev - VBS2	SS/FFP	Bohemia Interactive:Orlando, FL	0.000	0.000		0.060	Mar 2013	0.000		-		0.000	0.000	0.060	
MILES Technology Insertion	C/CPFF	SARNOFF:Princeton, NJ	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	
MILES MC-ITS Development	C/CPFF	Lockheed Martin:Orlando, FL	1.429	0.000		0.000		0.000		-		0.000	0.000	1.429	
MILES Continuous Technology Refresh	C/FFP	Saab:Orlando, FL	0.091	0.049	Dec 2011	0.050	Dec 2012	0.000		-		0.000	0.000	0.190	
MTWS - S/W Dev	SS/FFP	L-3 Communications:San Diego, CA	10.070	2.579	Mar 2012	2.419	Jan 2013	2.465	Jan 2014	-		2.465	0.000	17.533	
Training Support - MTWS S/W Dev	SS/FFP	L-3 Communications:San Diego, CA	0.000	0.059	Mar 2012	0.000		0.061	Jan 2014	-		0.061	0.000	0.120	
RM/T TACS Dev	WR	NSWC:Corona, CA	2.619	0.000		0.000		0.000		-		0.000	0.000	2.619	
RM/T OV-1 Dev	C/FFP	MITRE:Orlando, FL	0.073	0.000		0.000		0.000		-		0.000	0.000	0.073	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
RM/T APELL	C/CPFF	SARNOFF:Princeton, NJ	4.050	0.000		0.000		0.000		-		0.000	0.000	4.050	
RM/T PLI Integration	C/FP	CTC:Orlando, FL	1.278	0.000		0.000		0.000		-		0.000	0.000	1.278	
RM/T Range Safety Test	MIPR	US Army:Aberdeen Proving Ground	0.274	0.000		0.000		0.000		-		0.000	0.000	0.274	
RM/T DITS/FoFI	C/FP	SAAB USA:Orlando, FL	1.045	0.166	Jul 2012	0.000		0.000		-		0.000	0.000	1.211	
RM/T Competitive BAA	C/FP	Various:Various	1.251	0.000		0.000		0.000		-		0.000	0.000	1.251	
RM/T RISCon Development	MIPR	PEOSTRI/TRADE:Orlando, FL	0.000	1.897	Dec 2011	5.314	Mar 2013	1.000	Mar 2014	-		1.000	Continuing	Continuing	Continuing
SAVT Lab Effort	WR	NAWCTSD:Orlando, FL	0.000	0.368	Feb 2012	0.153	Jan 2013	0.171	Oct 2013	-		0.171	0.000	0.692	
SITE - Material Solution Anlysis	C/CPFF	Bohemia:Orlando, FL	0.000	1.331	Feb 2012	0.000		0.000		-		0.000	0.000	1.331	
RM/T Force-on-Force Instrumentation	C/FFP	Saab Training USA:Orlando, FL	0.000	0.000		0.999	Dec 2012	0.000		-		0.000	0.000	0.999	
SITE-Live Core System Upgrades	C/FFP	TBD:TBD	0.000	0.000		1.806	Mar 2013	1.836	Mar 2014	-		1.836	Continuing	Continuing	Continuing
Subtotal			51.982	12.832		18.025		8.887		0.000		8.887			

Remarks
 DVTE SW Dev-CAN and Tng Spt DVTE SW Dev-CAN - Contract is being competed in FY13 and will be FFP, Small Business Set-Aside.
 SITE: New competitive contract award in FY13 for Live Core System Upgrades with projected Mar 2013 award date.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CACCTUS - S/W Dev Support	WR	NAWCTSD:Orlando, FL	1.444	0.242	Oct 2011	0.604	Oct 2012	0.190	Oct 2013	-		0.190	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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**Combined Arms Command & Control Training Upgrade System
(CACCTUS) PROGRAM SCHEDULE**

	FY 12	FY 13	FY 14	FY15	FY16	FY17	FY18
CEOSS Software Development Reviews	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆
Version 6.0 SW Release, Software (SW) Upgrade All Sites, Test and Validation	◆						
Version 6.1 SW Release, Software (SW) Upgrade All sites, Test and Validation		◆					
Version 6.2 SW Release, Software (SW) Upgrade All sites, Test and Validation			◆				
Version 7.0 SW Release, Software (SW) Upgrade All sites, Test and Validation				◆			
Version 7.1 SW Release, Software (SW) Upgrade All sites, Test and Validation					◆		
Version 7.2 SW Release, Software (SW) Upgrade All sites, Test and Validation						◆	
Full Operating Capability (FOC) Combined Arms Sys Trainer							◆
Version 8.0 SW Release, Software (SW) Upgrade All Sites, Test and Validation							◆

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

Deployable Virtual Training Environment (DVTE) PROGRAM SCHEDULE

	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18
Software Development Annual Version Release - VBS2	◆	◆	◆	◆	◆		
Software Development Annual Version Release - CAN		◆					

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Marine Air-Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) PROGRAM SCHEDULE				FY 12	FY 13	FY 14	FY 15	FY16	FY17	FY18
Contract Awards				◆	◇	◇	◇	◇	◇	◇
MTWS IPT/CCB			◆	◇	◇	◇	◇	◇	◇	◇
Version 3.4.5 Operational Testing Version 3.4.5 SW Release			◆							
Version 4.0.0.0 Operational Testing Version 4.0.0.0 SW Release				◇						
Version 4.0.1.0 Operational Testing Version 4.0.1.0 SW Release					◇					
Version 4.1.0.0 Operational Testing Version 4.1.0.0 SW Release						◇				
Version 4.1.1.0 Operational Testing Version 4.1.1.0 SW Release							◇			
Version 4.2.0.0 Operational Testing Version 4.2.0.0 SW Release								◇		
Version 4.2.1.0 Operational Testing Version 4.2.1.0 SW Release									◇	
Program Support										
Hardware Refresh			◆	◇	◇	◇	◇	◇	◇	◇

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0206623M: *MC Ground Cmbt Spt Arms*
Sys

PROJECT

2315: *Training Devices/Simulators*

C2315E - MILES

	FY12	FY13
MILES Continuous Technology Refresh		

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Supporting Arms Virtual Trainer (SAVT)							
	FY12	FY13	FY14	FY15	FY16	FY17	FY18
CONTRACTUAL ACTIVITIES							
Baseline 2 R&D - Development							
& Design to integrate for							
interoperability							

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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C2315D - SITE

	FY12	FY13	FY14	FY15	FY16	FY17	FY18
SITE - Material Solution Analysis / Live Core System Upgrades							

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Training Support PROGRAM SCHEDULE							
	FY 12	FY 13	FY 14	FY15	FY16	FY17	FY18
MTWS SW Development Release	◇						
DVTE SW Annual Version Release - VBS2		◇					
MTWS SW Development Release			◇				
MTWS SW Development Release				◇			
MTWS SW Development Release					◇		
MTWS SW Development Release						◇	
MTWS SW Development Release							◇

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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C2315K - RM/T

	FY12	FY13	FY14	FY15	FY16	FY17	FY18
RM/T RISON Development	◆—————▶						
RM/T FoF Instrumentation	◆—————▶						

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2315				
CACCTUS - SW Dev Reviews	2	2012	4	2018
CACCTUS - SW Dev Release	4	2012	2	2018
DVTE - SW Annual Version Release - VBS2	4	2012	2	2016
DVTE SW Annual Version Release - CAN	2	2013	2	2013
MTWS - S/W Dev Contract Award	3	2012	2	2018
MTWS - IPT/CCB	2	2012	4	2018
MTWS - S/W Dev Testing	2	2012	2	2018
MTWS - SW Dev Release	2	2012	2	2018
MILES Continuous Technology Refresh	1	2012	4	2013
RM/T RISCON Development	2	2012	4	2018
RM/T Force on Force Instrumentation	3	2012	4	2014
SITE - Material Solution Analysis/Live Core System Upgrades	3	2012	4	2018
SAVT Government Engineering Lab Labor	1	2012	4	2014
Training Support/MTWS S/W Dev Release FY12	2	2012	2	2012
Training Support/DVTE S/W Annual Version Release - VBS2 FY13	2	2013	2	2013
Training Support/MTWS S/W Dev Release FY14-FY18	2	2014	2	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2503: <i>Initial Issue</i>	43.121	6.811	8.244	9.142	-	9.142	7.905	7.943	8.199	8.341	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: *Clothing and Flame Resistant Organizational Gear	0.675	0.772	0.796
Articles:	0	0	0
FY 2012 Accomplishments:			
Flame Resistant Organizational Gear (FROG) has completed research, development and evaluation of advanced technology in fabric and designs in conjunction with the critical design reviews, lessons learned from OIF and OEF to improve the past configurations. Completed fabric lab survey tests and field user evaluations to down select items in order to achieve design improvements. Evaluations completed for the uniform initiatives from the Marine Corps Uniform Board (MCUB) and CMC.			
FY 2013 Plans:			
Continue test and evaluation efforts to utilize technological advances in fabric and design in conjunction with focus groups and lessons learned from OIF and OEF to improve the evolving configuration. Finalize fabric lab testing and choose a vendor to achieve final designs. Continue to evaluate MCUB and CMC uniform requirement for future upgrades.			
FY 2014 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 2503: <i>Initial Issue</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Flame Resistant Organizational Gear (FROG) will continue to seek improvements and take advantage of advanced technology in fabric durability and design. Continue to evaluate and support new Combat Development and Integration (CD&I) office uniform initiatives from the Marine Corps Uniform Board (MCUB) and CMC.</p> <p>Title: *Family of Mountain Cold Weather Clothing & Equipment (FMCWCE)</p> <p align="right">Articles:</p>		1.279 0	1.264 0	1.283 0
<p>FY 2012 Accomplishments: Family of Mountain Cold Weather Clothing and Equipment (MCWCE) completed research, development and evaluations of capability set of clothing and equipment to facilitate Marine Air-Ground Task Force (MAGTF) operations in mountainous and cold weather environments in order to reduce the individual load (weight/volume) of the Ground Combat Element (GCE), particularly dismounted infantry while maintaining or improving system performance. Mobility, survivability, and sustainability requirements for the other elements of the MAGTF were also met. This program completed research, development and evaluation of new capabilities such as steep earth and alpine ice equipment, Three Season Sleep Systems, All Purpose Liner, Improved Sleeping Mat, and a variety of cold weather clothing layering systems for increased environmental protection. Rapid technological advances within the outdoor commercial market made it possible to continuously update the capabilities in the MCWCE.</p> <p>FY 2013 Plans: Continue to evaluate product improvements through research of advanced technology necessary to continue modernization efforts within the MCWCE capabilities. Continue to research and develop the capability set of clothing and equipment to facilitate MAGTF operations in mountainous and cold weather environments. Evaluate new capabilities such as advanced Military Ski System, Extreme Cold Weather Sleep System, and an extreme cold weather boot for increased environmental protection, versatility, and survivability. Continue to evaluate the All Purpose Liner, and Improved Sleeping Mat, and the Extreme Cold Weather Sleep System for advanced capability. The exploration of alternatives to the existing sled systems and Marine Corps Cold Weather Infantry Kit (MCCWICK) will directly impact (improve) the survivability of the individual Marine. Implement rapid technological advances in the outdoor commercial market within the stated requirements.</p> <p>FY 2014 Plans: Continue to exploit 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 Fleece, Extreme Cold Weather Parkas, Extreme Cold weather socks, and extreme cold weather boots. Additionally, equipment technology advances will drive the development of Small Unit stoves, mountain climbing kits to effectively and safely negotiate horizontal and vertical obstacles, continued develop of the Marine Corps Cold Weather Infantry Kit and over the snow mobility in both snowshoes and sleds.</p>				
<p>Title: *Family of Improved Load Bearing Equipment</p> <p align="right">Articles:</p>		0.355 0	0.335 0	0.346 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 2503: <i>Initial Issue</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Completed research, development and evaluation for durability of pouches, and specifications reviews to eliminate light reflection. Completed research, development and evaluation of the Corpsman Assault System (CAD) which replaced the Corpsman Assault Pack. Currently researching next generation Block II Individual Water Purification System (IWPS).</p> <p><i>FY 2013 Plans:</i> Continue to explore product improvements and advanced technology for the Family of Improved Load Bearing Systems. Complete testing and evaluation for durability of pouches, and specifications reviews. Complete next generation Block II Individual Water Purification System (IWPS).</p> <p><i>FY 2014 Plans:</i> Continue research, development and evaluation for Block III IWPS de-salinization effort. Continue to explore product improvements and advanced technology for the Family of Improved Load Bearing Systems.</p>				
<p><i>Title:</i> *Family of Individual Warfighter Equipment (formerly Combat Support Equipment)</p> <p align="right"><i>Articles:</i></p>		0.135 0	0.141 0	0.144 0
<p><i>FY 2012 Accomplishments:</i> Family of Mountain Individual Warfighter Equipment (IWE) completed research, development and evaluation of advanced capability set of general combat support equipment being forward deployed and in FOB operations. Completed evaluations of IWE improved capabilities through the development of COTS and NDI programs, to include the 25 Liter Water Bag, Multi-purpose Attachable Light and continued development of the USMC Martial Arts Kit.</p> <p><i>FY 2013 Plans:</i> Continue research, development and evaluation of product improvements and advanced technology necessary to facilitate modernization efforts within the IWE capabilities. Continue test and evaluation of 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.</p> <p><i>FY 2014 Plans:</i> Continue to exploit industry's development of technological advances in Martial Arts Kit, Mechanical Beachers Kit, Improved Entrenching Tool, and Waterproof Bags. 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.</p>				
<i>Title:</i> *Family of Field Medical Equipment		3.687	4.507	5.372

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 2503: <i>Initial Issue</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Articles:		0	0	0
FY 2012 Accomplishments: Continued testing of Commercial-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items for the Enroute Care System to evaluate functionality for patient transportation post resuscitative surgery in forward echelons. Completed development of a ruggedized anesthesia machine. Continued testing of other medical equipment items to evaluate their functionality improving the quality of warfighter healthcare and to reduce the logistics footprint of USMC medical equipment (i.e. Continued regulatory testing of a new Hydrogen Peroxide Sterilizer decreasing logisitical footprint). Continued testing for possible application technology for insertion (i.e. completed development phase of Infrascanner, a intracranial hematoma detection device). Began testing of mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy.				
FY 2013 Plans: Continue 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. 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 testing of Hydrogen Peroxide Sterilizer. Complete testing of mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy. Begin 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 testing of mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy. 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.				
Title: *Family of Shelters and Shelter Equipment (FSSE)		0.075	0.826	0.900
Articles:		0	0	0
FY 2012 Accomplishments: The Family of Shelter and Shelters Equipment continued to research the capitalization of Energy Efficient technologies, reducing the logistical footprint that will provide lighter weight, modular shelter systems and ancillary equipment for all Marine Corps				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
missions by beginning the evaluation of the 15-man Arctic Shelter. Began testing of energy efficient LED Light technologies to determine potential power savings. FY 2013 Plans: Complete evaluations of the 15-man Arctic Shelter. Complete testing of energy efficient LED light technologies for shelters and shelter equipment. Begin testing of composite materials to be used in the next generation rigid wall shelters and testing new energy efficient field heating systems. FY 2014 Plans: Continue testing of energy efficient technologies for new composite materials for rigid wall shelters and complete testing of energy efficient field heating systems. Begin evaluation testing the new general purpose medium shelter.			
Title: *Family of Combat Field Feeding Articles:	0.605 0	0.399 0	0.301 0
FY 2012 Accomplishments: Continued research to improvements on current technology for heating individual rations will be explored to test individual ration heater concepts and equipment. Initiated research of current Tray Ration Heater System to reduce the footprint size. FY 2013 Plans: Continue to research and test multiple solutions to reduce the foot print size for the Tray Ration Heater System. Begin to analyze, evaluate, and test concepts for an new and improved sanitation system. FY 2014 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 and improved sanitation system.			
Accomplishments/Planned Programs Subtotals	6.811	8.244	9.142

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	FY 2012	FY 2013	FY 2014 <u>Base</u>	FY 2014 <u>OCO</u>	FY 2014 <u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/652200: <i>Field Medical Equipment</i>	25.909	15.317	19.823		19.823	4.772	4.388	5.681	9.578	0.000	133.637
• PMC/661300: <i>Combat Field Feeding System</i>	5.026	8.365	2.390		2.390	2.861	2.883	2.944	2.997	0.000	57.997
• PMC/652201: <i>Family of Shelters & Shelter Equipment</i>	0.000	31.502	3.306		3.306	3.875	3.555	3.375	3.436	0.000	49.049

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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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, and Combat Field Feeding Systems 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.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	7.168	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	WR	ONR:Arlington, VA	0.346	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Improved Load Bearing Equipment	MIPR	USA NSRDEC:Natick, MA	2.726	0.355	Jan 2012	0.335	Jan 2013	0.346	Jan 2014	-		0.346	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	4.082	0.310	Jan 2012	0.143	Jan 2013	0.192	Jan 2014	-		0.192	Continuing	Continuing	Continuing
Combat Field Feeding Systems	MIPR	USA NSRDEC:Natick, MA	1.727	0.401	Jan 2012	0.323	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Family Individual Warfighter Equipment	MIPR	USA NSRDEC:Natick, MA	0.145	0.064	Mar 2012	0.114	Jan 2013	0.094	Jan 2014	-		0.094	Continuing	Continuing	Continuing
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	2.794	0.442	Dec 2011	0.524	Jan 2013	0.450	Jan 2014	-		0.450	Continuing	Continuing	Continuing
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.211	0.000		0.000		0.000		-		0.000	0.000	0.211	
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.316	0.000		0.000		0.000		-		0.000	0.000	0.316	
Family of Field Medical	WR	NMRC:Silver Spring, MD	1.042	1.795	Jan 2012	0.000		3.250	Jan 2014	-		3.250	0.000	6.087	
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	3.148	1.282	Feb 2012	0.741	Feb 2013	0.000		-		0.000	0.000	5.171	
Subtotal			23.705	4.649		2.180		4.332		0.000		4.332			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Field Medical	WR	NHRC:San Diego, CA	0.736	0.360	Dec 2011	0.000		0.000		-		0.000	0.000	1.096	
Subtotal			0.736	0.360		0.000		0.000		0.000		0.000	0.000	1.096	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Family of Individual Warfighter Equipment	MIPR	USA NSRDEC:Natick, MA	0.000	0.000		0.015	Jan 2013	0.000		-		0.000	0.000	0.015	
Family of Individual Warfighter Equipment	C/FP	MCSC:Quantico, VA	0.000	0.000		0.012	Jan 2013	0.050	Mar 2014	-		0.050	0.000	0.062	
Family of Combat Field Feeding	MIPR	USA NSRDEC:Natick, MA	0.000	0.000		0.076	Jan 2013	0.301	Mar 2014	-		0.301	0.000	0.377	
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	0.000	0.000		0.000		0.223	Jan 2014	-		0.223	0.000	0.223	
Family of Shelter and Shelter Equipment	MIPR	ATC:Aberdeen Proving Ground	0.000	0.000		0.014	Feb 2013	0.000		-		0.000	0.000	0.014	
Family of Field Medical	MIPR	USAMRC:Ft. Detrick,MD	0.000	0.000		0.000		2.122	Jan 2014	-		2.122	0.000	2.122	
Family of Shelters and Shelter Equipment	C/CPFF	TSWG:ARLINGTON, VA	0.000	0.000		0.000		0.512	Feb 2014	-		0.512	0.000	0.512	
Family of Shelter and Shelter Equipment	C/BA	LANGLEY AFB:HAMPTON, VA	0.000	0.000		0.000		0.388	Feb 2014	-		0.388	0.000	0.388	
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.135	0.000		0.000		0.000		-		0.000	0.000	0.135	
Family of Field Medical	MIPR	USAMRAA:Ft. Detrick, MD	1.140	0.000		0.000		0.000		-		0.000	0.000	1.140	
Family of Shelters & Shelter Equipment	MIPR	USA NSRDEC:Natick, MA	0.281	0.075	Dec 2011	0.812	Jan 2013	0.000		-		0.000	0.000	1.168	
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	7.201	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	SS/CPFF	MCSC:Quantico VA	2.859	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	2.949	0.541	Dec 2011	0.675	Jan 2013	0.616	Jan 2014	-		0.616	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	C/FP	MCSC:Quantico, VA	0.070	0.000		0.000		0.125	Jan 2014	-		0.125	Continuing	Continuing	Continuing
Family of Field Medical	WR	NAMRUSA:San Antonio, TX	0.000	0.060	Jan 2012	0.000		0.000		-		0.000	0.000	0.060	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Family of Field Medical	WR	NHRC:San Diego, CA	0.000	0.053	Dec 2011	0.000		0.000		-		0.000	0.000	0.053	
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	0.000	0.137	Dec 2011	3.766	Feb 2013	0.000		-		0.000	0.000	3.903	
Subtotal			14.635	0.866		5.370		4.337		0.000		4.337			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Family of Field Medical	Various	MCSC:Quantico, VA	0.060	0.000		0.000		0.000		-		0.000	0.000	0.060	
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	2.042	0.428	Dec 2011	0.446	Jan 2013	0.350	Jan 2014	-		0.350	Continuing	Continuing	Continuing
Family of Individual Warfighter Equipment	C/FP	MCSC:Quantico, VA	0.302	0.071	Jan 2012	0.000		0.000		-		0.000	0.000	0.373	
Combat Field Feeding Systems	C/FP	MCSC:Quantico, VA	0.498	0.204	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	1.143	0.233	Dec 2011	0.248	Dec 2012	0.123	Jan 2014	-		0.123	Continuing	Continuing	Continuing
Subtotal			4.045	0.936		0.694		0.473		0.000		0.473			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	43.121	6.811	8.244	9.142	0.000	9.142			

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2513: <i>Body Armor</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2513: <i>Body Armor</i>	28.886	4.501	3.692	0.572	-	0.572	4.838	4.916	5.037	5.126	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 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 since these 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 Tactical Vest (MTV), Enhanced Small Arms Protective Inserts (ESAPI), Helmet, and Eye Protection.

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

	FY 2012	FY 2013	FY 2014
Title: Body Armor Development	4.501	3.692	0.572
Articles:	0	0	0
FY 2012 Accomplishments:			
Researched new commercial technologies to enhance the capability of Small Arms Protective Inserts (SAPI) and current body armor systems while continuing to reduce weight, increase capability and mobility. Conducted head, torso and pelvic protection studies to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight (Plate Carriers, Improved Modular Tactical Vests, Protective Under Garments, Protective Over Garments, Enhanced Combat Helmets, Improved Ballistic Eyewear). Evaluated and identified passive hearing protection products that will provide a sense of presence and protection against transient impact noise, and blocks and/or reflects harmful blast shock wave in the ear canal.			
FY 2013 Plans:			
Develop and test 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. Continue to develop both torso, pelvic and head borne systems to assess blunt trauma/shock forces on			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 2513: <i>Body Armor</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>the body and how ballistic materials and designs can afford the most protection while reducing weight and lightening the load. 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.</p> <p>R&D initiatives enable development, configuration and compatibility management of new technologies and equipment.</p> <p>FY 2014 Plans: FY14 funding will support development and testing of increased hearing and eye protection.</p>				
Accomplishments/Planned Programs Subtotals		4.501	3.692	0.572
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
<p>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 nondevelopmental 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.</p>				
E. Performance Metrics				
N/A				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2513: <i>Body Armor</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Family of Ballistic Protection	MIPR	USA NSRDEC:Natick, MA	6.333	0.835	Jan 2012	1.000	Feb 2013	0.400	Jan 2014	-		0.400	Continuing	Continuing	Continuing
Family of Ballistic Protection	WR	NRL:Washington DC	13.205	2.283	Jan 2012	1.294	Jan 2013	0.000		-		0.000	0.000	16.782	
Family of Ballistic Protection	WR	NCTRF:Natick MA	0.246	0.135	Jan 2012	0.548	Jan 2013	0.172	Jan 2014	-		0.172	Continuing	Continuing	Continuing
Family of Ballistic Protection	C/FFP	CERADYNE:Costa Mesa, CA	0.000	0.075	Sep 2012	0.000		0.000		-		0.000	0.000	0.075	
Subtotal			19.784	3.328		2.842		0.572		0.000		0.572			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Family of Ballistic Protection	MIPR	USA NSRDEC:Natick, MA	6.243	0.958	Nov 2011	0.000		0.000		-		0.000	0.000	7.201	
Family of Ballistic Protection	MIPR	USAF/AFMC:Bozeman, MT	2.859	0.000		0.500	Jan 2013	0.000		-		0.000	0.000	3.359	
Family of Ballistic Protection	MIPR	USA ATC:Aberdeen Prv Grnd, MD	0.000	0.150	Sep 2012	0.250	Jan 2013	0.000		-		0.000	0.000	0.400	
Family of Ballistic Protection	MIPR	AFRL:Wright Patterson, OH	0.000	0.000		0.100	Jan 2013	0.000		-		0.000	0.000	0.100	
Family of Ballistic Protection	WR	NRL:Washington, DC	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	
Family of Ballistic Protection	WR	NSWC:Bethesda, MD	0.000	0.065	Oct 2012	0.000		0.000		-		0.000	0.000	0.065	
Subtotal			9.102	1.173		0.850		0.000		0.000		0.000	0.000	11.125	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.886	4.501	3.692	0.572	0.000	0.572			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	11.339	1.850	2.353	2.391	-	2.391	2.448	2.487	2.550	2.594	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: HIMARS Systems Engineering	1.786	0.000	0.000
Articles:	0		
Description: Primary and ancillary hardware development and systems engineering support, includes Navy, Marine Corps, Army and contractor development efforts. The U.S. Army Program Office continues to provide system updates to accommodate			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
emerging requirements such as armor upgrades and enhanced communications. This element provides engineering support to meet the unique requirements of the Marine Corps and for the integration of the changes into the Marine Corps inventory.				
FY 2012 Accomplishments: Conducted development on improved fire control systems and provided engineering support to the Army activity program office to develop alternate warheads.				
Title: HIMARS Testing		0.000	0.000	2.190
Articles:				0
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 (i.e. alternate warheads). This funding will be used to provide adequate support and oversight to ensure testing supports Marine Corps requirements				
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.				
HERO Testing: The Government will conduct HERO testing at Redstone Test Center (RTC) as required by the Marine Corps Systems Command and NSWCDD. The Government will perform the HERO test IAW the HERO Test Plan for the Guided Multiple Launch Rocket System (GMLRS) Alternate Warhead (AW) prepared by NSWCDD Electromagnetic Effects Branch. The HERO test environment will derive from the DoD Interface Standard MIL-STD-464 for E3 Requirements for Systems. This standard defines the external Electro-Magnetic Emission (EME) for systems capable of shipboard operations (including topside equipment and aircraft operating from ships) and ordnance. The HERO test will be designed to simulate or duplicate conditions and procedures normally expected during in-service operation of the system. The GMLRS AW RP will be evaluated in all conditions representing stowage and transportation on board navy ships, taking into account the transitional configurations that occur during the specified transportation, storage, handling, and loading/unloading operations.				
Title: HIMARS Program Support		0.064	0.179	0.201
Articles:		0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>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.</p> <p>FY 2012 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.</p> <p>FY 2013 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.</p> <p>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.</p>			
<p>Title: HIMARS AWP Test Articles</p> <p align="right">Articles:</p>	0.000	2.174 0	0.000
<p>FY 2013 Plans: Procure 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).</p>			
Accomplishments/Planned Programs Subtotals	1.850	2.353	2.391

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>						
• PMC/BLI 221200: <i>High Mobility Artillery Rocket System (HIMARS)</i>	26.896	156.859	5.467		5.467	19.531	19.567	49.101	49.985	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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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 US 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 US Army's acquisition strategy.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	MIPR	Redstone Arsenal:Redstone, AL	4.017	1.786	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			4.017	1.786		0.000		0.000		0.000		0.000			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Dev Test & Eval	WR	NSWC:Dahlgren, Va	0.000	0.000		0.000		1.229	Jan 2014	-		1.229	0.000	1.229	
Dev Test & Eval	MIPR	Redstone Test Ctr:Redstone, AL	1.922	0.000		2.174	Mar 2013	0.961	Mar 2014	-		0.961	Continuing	Continuing	Continuing
Subtotal			1.922	0.000		2.174		2.190		0.000		2.190			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Mngmnt	C/FFP	MCSC:Quantico, VA	5.400	0.064	Jan 2012	0.179	Jan 2013	0.201	Jan 2014	-		0.201	Continuing	Continuing	Continuing
Subtotal			5.400	0.064		0.179		0.201		0.000		0.201			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		11.339	1.850	2.353	2.391	0.000	2.391		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Proj 2928	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	1Q	2Q	3Q	4Q																												
GMLRS	▲												▲								▲	▲										

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2928				
GMLRS: GMLRS Alternative Warhead Milestone C: GMLRS Alternative Warhead Milestone C	1	2014	1	2014
GMLRS: GMLRS Alternative Warhead Operational Test: GMLRS Alternative Warhead Operational Test	2	2015	2	2015
GMLRS: GMLRS Alternative Warhead Full Rate Production: GMLRS Alternative Warhead Full Rate Production	3	2015	3	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3098: <i>Fire Support System</i>	69.576	26.745	17.785	16.221	-	16.221	14.575	9.013	6.619	6.735	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 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.

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 that's internally transportable in the MV-22 and CV-22 tilt-rotor aircraft as well as the CH-53 and MH-47 aircraft. The ITV has two configurations: The Light Strike Vehicle (ITV-LSV) and EFSS Prime Mover (ITV-PM).

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

	FY 2012	FY 2013	FY 2014
Title: Common Laser Range Finder (CLRF)	11.883	0.920	0.400
Articles:	0	0	0
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			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 3098: <i>Fire Support System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
of Equipment. CLRF IC provides the observer the ability to perform target detection, recognition, identification, and location determination in a suite of systems.				
FY 2012 Accomplishments: CLRF-IC development efforts continued in the Technology Development Phase focusing on weight reduction and integration of a precise, non-magnetic azimuth sensing capability.				
FY 2013 Plans: CLRF IC development efforts continue in the Technology Development Phase focusing on weight reduction and integration of a precise, non-magnetic azimuth sensing capability and will start the Engineering and Manufacturing (E&M) Development Phase.				
FY 2014 Plans: CLRF IC development efforts continue in the E&M Development Phase.				
Title: Modeled Meteorological Information Manager (MMIM)		0.477	0.249	0.249
		0	0	0
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 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 2012 Accomplishments: MMIM completed the Engineering Manufacturing Development phase, obtained a MS C decision, underwent a Field User Evaluation (FUE) and began fielding. MMIM removed the requirement to employ balloon borne radiosondes eliminating the logistical requirements associated with the current capability. In addition to significant savings in operation and maintenance expenses, MMIM enhances capability by providing real time information and autonomy required to support current combat operations and future operational concepts consistent with the Marine Corps.				
FY 2013 Plans: MMIM will begin integrating existing MET sensors with the Air Force Weather Agency (AFWA) data.				
FY 2014 Plans: MMIM will continue to integrate existing MET sensors with the Air Force Weather Agency (AFWA) data.				
Title: Expeditionary Fire Support Systems (EFSS)		11.501	7.027	11.887

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 3098: <i>Fire Support System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Articles:		0	0	0
<p>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.</p> <p>FY 2012 Accomplishments: EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Extended range guided ammunition development. Developed and produced hardware for the guided rounds and have the various field activities test the hardware. Integration to ballistics and firing tables (software development) and qualification of energetics. Additionally, FY12 R&D was used to incrementally fund the development of the Precision Extended Range Munition (PERM). PERM is a 120mm mortar round consisting of a tail charge assembly, rocket motor, warhead, and fuze. PERM will also include a guidance system designed to be fired from the EFSS 120mm mortar. This funding will specifically procure the development of over 30 contract CDRLs and test articles that will support a demonstration test of up to three different vendor designs. This funding will also support the Government conduct of the PERM demonstration test.</p> <p>FY 2013 Plans: EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Extended range guided ammunition development. Develop and test hardware for the guided rounds and have the various field activities test the hardware. Integration to ballistics and firing tables (software development) and qualification of energetics. Additionally, FY13 R&D is being used to incrementally fund the development of the Precision Extended Range Munition (PERM).</p> <p>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.</p>				
Title: Fire Support Mods (FSM)		1.488	1.950	1.979
Articles:		0	0	0
<p>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), 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</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 3098: <i>Fire Support System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>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.</p> <p>FY 2012 Accomplishments: Funding will be used to develop, build, test, and deliver GCFS Command Post Computer software to run on Intel hardware platform and communicate digitally with AFATDS.</p> <p>FY 2013 Plans: Funding will be used for development and testing of event classification for GCFS.</p> <p>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 will be 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.</p> <p>FSS IA Support: This funding is necessary 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.</p> <p>Acoustics Analysis: This funding supports 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.</p>				
<p>Title: Family of Artillery Munitions (FAM)</p> <p align="right">Articles:</p> <p>Description: Funding is used to develop and mature atrillery munitions for the Marine Corps triad of fire.</p> <p>FY 2012 Accomplishments: Supported development of Advanced Cannon Artillery (ACAAP) and Excalibur to include Weapons Systems Explosives Safety Review Board (WSESRB) testing, program support, and travel. Actively monitored and provided funding for U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts.</p> <p>FY 2013 Plans:</p>		0.310 0	0.323 0	0.333 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 3098: <i>Fire Support System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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 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.				
Title: Insensitive Munitions		1.086	1.138	1.159
		Articles: 0	0	0
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.				
FY 2012 Accomplishments: Two programs are included in the Insensitive Munitions (IM) funding line; Insensitive Munitions and Marine Ammunition Knowledge Enterprise (MAKE). The IM development focused on improved packaging materials/design, venting technology, development/ incorporation of a less sensitive propelling charge, and all associated munitions qualification testing of the incorporated technologies. The MAKE effort develops an enterprise knowledge repository designed, evolved and updated to facilitate knowledge dominance. MAKE provides the enterprise web based access to data and information to enable the decision making process.				
FY 2013 Plans: Continue support for all IM Testing as needed.				
FY 2014 Plans: Continue support for all IM Testing as needed.				
Title: Internally Transportable Vehicle (ITV)		0.000	6.178	0.214
			Articles: 0	0
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 CH53-E and MV-22 aircraft. The ITV is an integral part of the Expeditionary Fire Support System (EFSS).				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>FY 2013 Plans: FY 2013 plans consist of testing and developmental evaluation tasks; continuing to improve the Internally Transportable Vehicle (ITV) from prior year efforts. These efforts include: improving the braking system by developing a modified Anti-lock Braking System, developing a Mechanical Air Compressor, Battery Cut-Off Switch, and the Prime Mover Driveshaft Safety Loop among other tasks.</p> <p>FY 2014 Plans: FY 2014 plans include funding program management support for the Internally Transportable Vehicle (ITV).</p>			
Accomplishments/Planned Programs Subtotals	26.745	17.785	16.221

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/206400: <i>Expeditionary Fire Support Systems</i>	9.663	2.502	0.589		0.589	10.385	10.386	10.405	10.876	0.000	131.608
• PMC/473300: <i>Common Laser Range Finder (CLRF)</i>	0.035	3.249	0.001		0.001	11.346	11.540	11.736	11.949	0.000	49.856
• PMC/473301: <i>Modeled Meteorological Information Manager (MMIM)</i>	2.321	1.500	0.250		0.250	0.250	0.500	0.500	0.509	0.000	7.845
• PMC/473302: <i>Fire Support Mods</i>	2.734	2.570	3.498		3.498	3.812	3.926	4.047	4.116	0.000	71.480

Remarks

D. Acquisition Strategy
These programs range from off-the-shelf modifications to developmental items. Development will typically be conducted at government labs. Provides WESRB certification to bring ordnance 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. MMIM will consist almost entirely of component integration and testing followed by a Limited User Evaluation and fielding. CLRF-IC is a developmental program utilizing progressive competition. GCFS effort consists of development and testing at a government facility.

E. Performance Metrics
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ITV Anti-Braking System Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.400	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Mechanical Air Compressor Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.250	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Prime Mover Driveshaft Safety Loop Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.150	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Battery Cut-Off Switch Dvelopment	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.100	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Ammo Trailer Brake Modification Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.400	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Roll Cage Lightening Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.200	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Aramid Fiber Composite Hood Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.300	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV	Various	Various:Various	21.500	0.000		0.000		0.000		-		0.000	0.000	21.500	
ITV EFI Engine Integration & Windshield Testing	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		1.200	May 2013	0.000		-		0.000	0.000	1.200	
EFSS (PERM)	TBD	TBD:Contractors	0.000	0.000		7.027	Mar 2013	11.887	Nov 2013	-		11.887	0.000	18.914	
Fire Support Mods	MIPR	ARDEC:Picatinny, NJ	0.000	0.000		0.000		0.750	Nov 2013	-		0.750	0.000	0.750	
EFSS	C/FFP	GDOTS:St. Petersburg, FL	23.190	10.984	Aug 2012	0.000		0.000		-		0.000	0.000	34.174	
Fire Support Mods	MIPR	Army Research Lab:Adelphi, MD	8.063	1.488	Jan 2012	0.000		0.000		-		0.000	0.000	9.551	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Fire Support Mods	WR	NSWC DD:Dahlgren, VA	0.000	0.000		1.195	Nov 2012	0.000		-		0.000	0.000	1.195	
CLRF	TBD	TBD:Contract	3.183	11.883	Sep 2012	0.920	Mar 2013	0.000		-		0.000	0.000	15.986	
CLRF	WR	NSWC DD:Dahlgren, VA	0.000	0.000		0.000		0.400	Nov 2013	-		0.400	0.000	0.400	
MMIM	MIPR	FT. Monmouth:Ft. Monmouth, MJ	0.000	0.291	Nov 2011	0.000		0.000		-		0.000	0.000	0.291	
MMIM	MIPR	ARL:Adelphi, MD	0.000	0.186	Dec 2011	0.000		0.000		-		0.000	0.000	0.186	
Insensitive Munitions1	C/FFP	GDOTS:St. Petersburg, FL	1.820	1.086	Jun 2012	0.000		0.000		-		0.000	0.000	2.906	
Insensitive Munitions	TBD	TBD:TBD	0.000	0.000		1.138	Jan 2013	1.159	Jan 2014	-		1.159	0.000	2.297	
Subtotal			57.756	25.918		13.280		14.196		0.000		14.196			

Remarks
Funds will be used to develop a tech data package based on rapid reverse engineer technique. Prototype development will concurrently be performed to allow for test and validation of the tech data package.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Fire Support Mods	TBD	TBD:TBD	0.000	0.000		0.000		1.229	Nov 2013	-		1.229	0.000	1.229	
Fam Artillery Munitions	WR	BAEST:Stafford, VA	1.699	0.310	Jun 2012	0.000		0.000		-		0.000	0.000	2.009	
Subtotal			1.699	0.310		0.000		1.229		0.000		1.229	0.000	3.238	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ITV Anti-Braking System Development	C/FFP	TBD:TBD	0.000	0.000		0.800	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ITV Mechanical Air Compressor Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.600	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Prime Mover Driveshaft Safety Loop Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.100	Aug 2013	0.214	Oct 2013	-		0.214	Continuing	Continuing	Continuing
ITV Battery Cut-Off Switch Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.200	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Ammo Trailer Brake Modification Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.200	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Roll Cage Lightening Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.200	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV EFI Engine Integration & Windshield Testing	C/FFP	TBD:TBD	0.000	0.000		0.600	Aug 2013	0.000		-		0.000	0.000	0.600	
ITV Aramid Fiber Composite Hood Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.300	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
EFSS	WR	NSWCDD:Dahlgren, VA	3.862	0.517	Mar 2012	0.000		0.000		-		0.000	0.000	4.379	
EFSS	WR	MCPD:Fallbrook, CA	6.259	0.000		0.000		0.000		-		0.000	0.000	6.259	
MMIM	WR	NSWC DD:Dahlgren, VA	0.000	0.000		0.249	Dec 2012	0.249	Dec 2013	-		0.249	0.000	0.498	
Fire Support Mods	WR	NSWC DD:Dahlgren, VA	0.000	0.000		0.495	Nov 2012	0.000		-		0.000	0.000	0.495	
Fire Support Mods	Allot	MCOTEA:MCOTEA	0.000	0.000		0.260	Nov 2012	0.000		-		0.000	0.000	0.260	
FAM	WR	Aberdeen Proving Ground:Aberdeen, MD	0.000	0.000		0.323	Jan 2013	0.333	Jan 2014	-		0.333	0.000	0.656	
Subtotal			10.121	0.517		4.327		0.796		0.000		0.796			

Remarks
 Prototype testing required to validate configuration; will begin at Aberdeen Proving Ground in Fiscal Year 2013.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ITV	C/FFP	MCSC:MCSC	0.000	0.000		0.178	Oct 2012	0.000		-		0.000	0.000	0.178	
Subtotal			0.000	0.000		0.178		0.000		0.000		0.000	0.000	0.178	

Remarks
To acquire necessary skills in support of program management for ITV.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	69.576	26.745	17.785	16.221	0.000	16.221			

Remarks

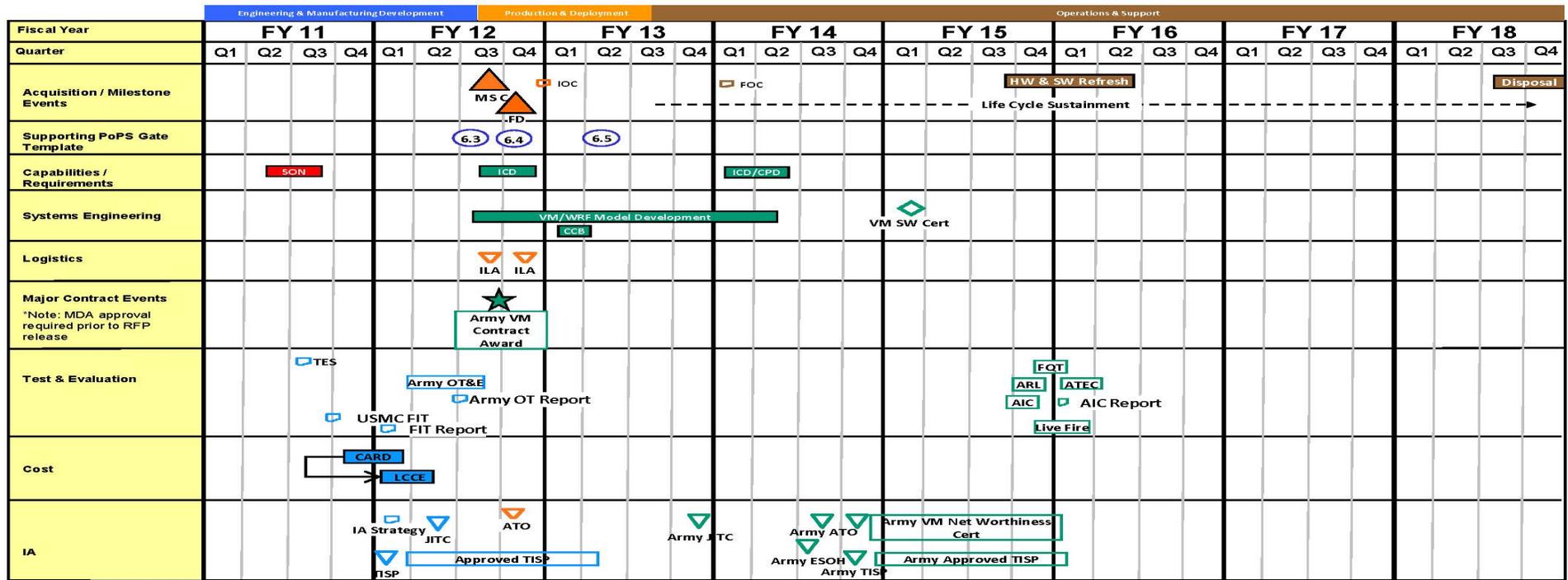
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206623M: MC Ground Cmbt Spt Arms Sys

PROJECT
 3098: Fire Support System



MMIM (240310) Program Schedule



Legend

- ★ MDA Decision Approval (non-MS)
- ◆ Review
- Documentation
- ▲ Milestone / Key Acquisition Event
- ▼ Assessments, Test, Proposals

GREEN schedule items indicate follow-on Army Led efforts to implement Virtual Machine

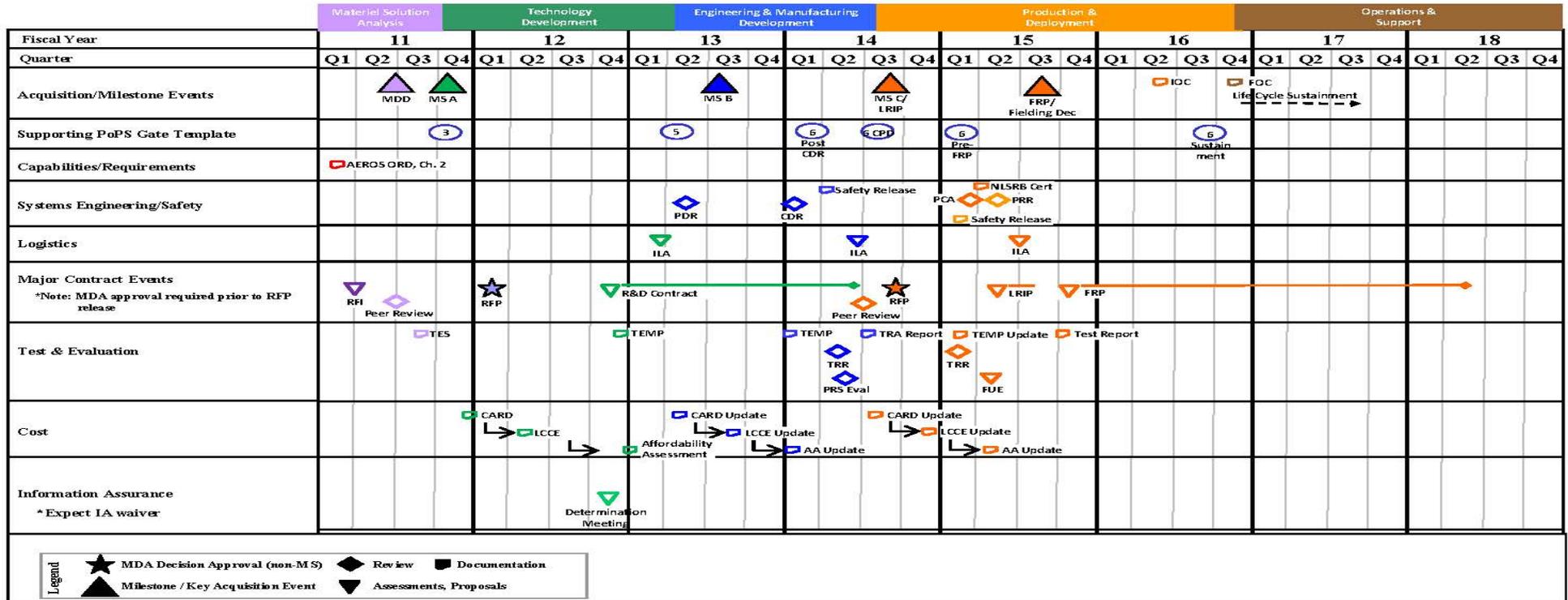
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206623M: MC Ground Cmbt Spt Arms Sys

PROJECT
 3098: Fire Support System



CLRF (214102) Program Schedule



★	MDA Decision Approval (non-MS)	◆	Review	■	Documentation
▲	Milestone / Key Acquisition Event	▼	Assessments, Proposals		

• Overarching schedule that will support multiple vendor contracts through the Technology Development and Engineering and Manufacturing Development Phase

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206623M: MC Ground Cmbt Spt Arms Sys

PROJECT
 3098: Fire Support System



EFSS - PERM (240904) Program Schedule

Fiscal Year	Technology Development				Engineering & Manufacturing Development												Production & Deployment																			
	11				12				13				14				15				16				17				18							
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				▲ MS B															▲ MS C/ LRIP												▲ FRP DR		→ Procurement (PM AMMO)			
Supporting PoPS Gate Template			5																6.3									6.4								
Capabilities/Requirements	EFSS CDD 2004, Chg 1 2006				Requirements Clarification Memo Oct 2010																															
Systems Engineering/Safety			▼ TRA						◆ PDR			◆ CDR													◆ WSESRB/NOSSA				◆ PRR							
Logistics			▼ ILA																▼ ILA								▼ ILA									
Major Contract Events			▼ RFI	★ RFP				▼ Award											▼ RFI	★ RFP			▼ Award													
Test & Evaluation			■ TEMP								■ TEMP Update	◆ TRR			■ Demonstration				■ TEMP Update				◆ TRR				■ FAT/Type Qual									
Cost			■ LCCE				■ IGCE								■ LCCE Update				■ IGCE																	

★	MDA Decision Approval (non-MS)	◆	Review	■	Documentation
▲	Milestone / Key Acquisition Event	▼	Assessments, Proposals		

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys	PROJECT 3098: <i>Fire Support System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3098				
MMIM: MS C	3	2012	3	2013
MMIM: FOC	1	2014	1	2014
CLRF: PDR	2	2013	2	2013
CLRF: MS B	3	2013	3	2013
CLRF: CDR	1	2014	1	2014
CLRF: PRR	2	2014	2	2014
CLRF: MS C	3	2014	3	2014
CLRF: PCA	1	2015	1	2015
CLRF: FRP/FIELDING DECISION	3	2015	3	2015
CLRF: IOC	2	2016	2	2016
CLRF: FOC	4	2016	4	2016
EFSS - PERM: PDR	2	2013	2	2013
EFSS - PERM: CDR	4	2013	4	2013
EFSS - PERM: DEMO	4	2014	3	2015
EFSS - PERM: MS C/LRIP	3	2015	3	2015
EFSS - PERM: PRR 1	1	2016	1	2016
EFSS - PERM: FAT/TYPE QUAL/USER TEST	2	2016	4	2017
EFSS - PERM: WSERB/NOSSA	4	2016	4	2016
EFSS - PERM: PRR 2	2	2017	2	2017
EFSS - PERM: FRP DR	2	2017	2	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 4002: <i>Family of Raid Reconnaissance</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4002: <i>Family of Raid Reconnaissance</i>	3.167	1.436	0.668	0.528	-	0.528	0.540	0.552	0.563	0.572	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
<p>Title: Family of Raid/Reconnaissance Equipment (FRRE)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Completed testing and development of the Tandem Offset Resupply Delivery System (TORDS) canopy and the Military Tandem Tethered Bundle (MTTB) System.</p> <p>FY 2013 Plans: Perform technology upgrades and evaluation of equipment for the Marine Assault Breacher Kit. Test the Advanced Combat Helmet for use as a Military Free Fall Helmet.</p> <p>FY 2014 Plans: Perform technology upgrades and evaluation of emerging reliability challenges presented by fielded systems.</p>	<p>0.350</p> <p>0</p>	<p>0.418</p> <p>0</p>	<p>0.425</p> <p>0</p>
<p>Title: Underwater Reconnaissance Capability (URC)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Continued Tactical Hydrographic Survey Equipment (THSE) system integration and testing.</p> <p>FY 2013 Plans: Complete THSE testing and documentation.</p> <p>FY 2014 Plans:</p>	<p>0.381</p> <p>0</p>	<p>0.250</p> <p>0</p>	<p>0.103</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 4002: <i>Family of Raid Reconnaissance</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Conduct research and development on a hands free diver propulsion device.			
Title: Joint Precision Air Drop System (JPADS)			
Articles:	0.705 0	0.000	0.000
FY 2012 Accomplishments: Evaluating soft good, hardware and software modifications to the JPADS 2K MAGU for integration with the MC-5 Canopy.			
Accomplishments/Planned Programs Subtotals	1.436	0.668	0.528

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/6518: <i>AMPHIB SPT EQUIP</i>	5.533	13.089	4.827		4.827	7.897	5.749	5.360	5.453	0.000	59.565

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 technology integration and developmental testing, with production of two prototypes, four production representative articles, and technical data. The technical data will be used to develop a solicitation for production of THSE on a competitive contract.

E. Performance Metrics

Milestone reviews.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 4002: <i>Family of Raid Reconnaissance</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Family of Raid/Recon Equip	Reqn	MCSC:Quantico, VA	0.000	0.030	May 2012	0.000		0.000		-		0.000	0.000	0.030	
Family of Raid/Recon Equip	MIPR	US Army RDECOM:Natick, MA	0.035	0.000		0.376	Feb 2013	0.000		-		0.000	0.000	0.411	
Family of Raid/Recon Equip	TBD	TBD:TBD	0.000	0.000		0.000		0.425	Apr 2014	-		0.425	Continuing	Continuing	Continuing
Underwater Recon Capability	C/FFP	NAVSEA:Wash, DC	1.280	0.350	Mar 2012	0.050	Dec 2012	0.000		-		0.000	0.000	1.680	
Underwater Recon Capability	TBD	TBD:TBD	0.000	0.000		0.000		0.103	Apr 2014	-		0.103	Continuing	Continuing	Continuing
Joint Precision Air Drop System	MIPR	US Army RDECOM:Natick, MA	1.000	0.705	May 2012	0.000		0.000		-		0.000	0.000	1.705	
Subtotal			2.315	1.085		0.426		0.528		0.000		0.528			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Family of Raid/Recon Equip	C/FFP	MCSC:Quantico, VA	0.815	0.204	Dec 2011	0.000		0.000		-		0.000	0.000	1.019	
Family of Raid/Recon Equip IMPAC	Reqn	MCSC:Quantico, VA	0.017	0.012	Sep 2012	0.000		0.000		-		0.000	0.000	0.029	
Family of Raid/Recon Equip Tvl	Various	MCSC:Quantico, VA	0.000	0.073	Sep 2012	0.000		0.000		-		0.000	0.000	0.073	
Underwater Recon Capability	Various	MCSC:Quantico, VA	0.000	0.007	Oct 2012	0.000		0.000		-		0.000	0.000	0.007	
Subtotal			0.832	0.296		0.000		0.000		0.000		0.000	0.000	1.128	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9C85: <i>Marine Personnel Carrier (MPC)</i>	10.209	18.673	39.729	20.875	-	20.875	64.944	73.137	61.286	62.227	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Tacticle 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 supply.

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

	FY 2012	FY 2013	FY 2014
Title: Product Development	16.704	27.041	3.167
Articles:	0	0	0
FY 2012 Accomplishments: Issued Request for Proposal, received Bids, conducted Source Selection, and awarded 4 contracts to MPC prime contractors (BAE, SAIC, Lockheed Martin, General Dynamics) to perform studies and demonstration on Commercial Off The Shelf (COTS) MPC vehicles to demonstrate swim, survivability, and human factors capability. Issued contract to maintain the MPC-Technology Demonstrator (TD). Issued contract for the evaluation (to include marinization) of Remote Weapons Stations (RWS) of various calibers to assess applicability to all amphibious platforms. Performed reserve buoyancy requirements analysis and support.			
FY 2013 Plans: Complete studies and demonstration on COTS MPC vehicles to demonstrate capabilities such as, swim, survivability (blast), and human factors. Continue to maintain the MPC-TD which will inform the Capabilities Development Document (CDD).			
FY 2014 Plans: Prepare and conduct Pre-EMD Review leading to early FY15 Milestone (MS) B. Issue RFP for competitive MPC bids yielding two prime contractors to compete in MPC drive-off. Procure two suites of communication equipment for integration and prototype testing. Continue to maintain the MPC-TD.			
Title: Contract Advisory and Assistance Services	0.712	9.480	10.009

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys		PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<i>Articles:</i>		0	0	0
<i>FY 2012 Accomplishments:</i> Provided program management and technical support for program requirements generation and survivability analysis.				
<i>FY 2013 Plans:</i> Provide contractor technical, engineering and management support for program planning, program documentation, analysis and execution. Support government laboratory vehicle technology development and evaluation including common digital integration facilitization efforts.				
<i>FY 2014 Plans:</i> Continue contractor technical, engineering and management support for program planning, program documentation, analysis and execution. Continue to support government laboratory vehicle technology development and evaluation. Continue common digital integration facilitization efforts in support of digital architecture software design, development, and analysis.				
<i>Title:</i> In-House Technical Support		1.257	3.208	7.699
<i>Articles:</i>		0	0	0
<i>FY 2012 Accomplishments:</i> Provided in-house technical engineering and integrated logistics support for program planning, analysis and execution. Provided in-house digital architecture technology and software design, development, and analysis efforts. Performed travel in support of the MPC program.				
<i>FY 2013 Plans:</i> Continue in-house technical engineering and integrated logistics support for program planning, analysis and execution. Continue in-house digital architecture software design, development, and analysis efforts. Continue technology development and evaluations. Perform travel in support of the MPC program.				
<i>FY 2014 Plans:</i> Continue in-house technical engineering and integrated logistics support for program planning, analysis and execution. Continue in-house digital architecture software design, development, and analysis efforts. Continue technology development and evaluations. Perform travel in support of the MPC program.				
Accomplishments/Planned Programs Subtotals		18.673	39.729	20.875
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>

D. Acquisition Strategy

The Marine Personnel Carrier (MPC) program will utilize full and open competition for Engineering and Manufacturing Development (EMD). A source selection will be held to select up to two contractors. Each of these contractors will provide three prototype personnel carrier vehicles that will be subjected to Government evaluation. The results of this evaluation will be used to downselect to one contractor and support a milestone decision. The results of the EMD efforts will be used to support a MS C decision as well as determine the Low Rate Initial Production (LRIP) manufacturer.

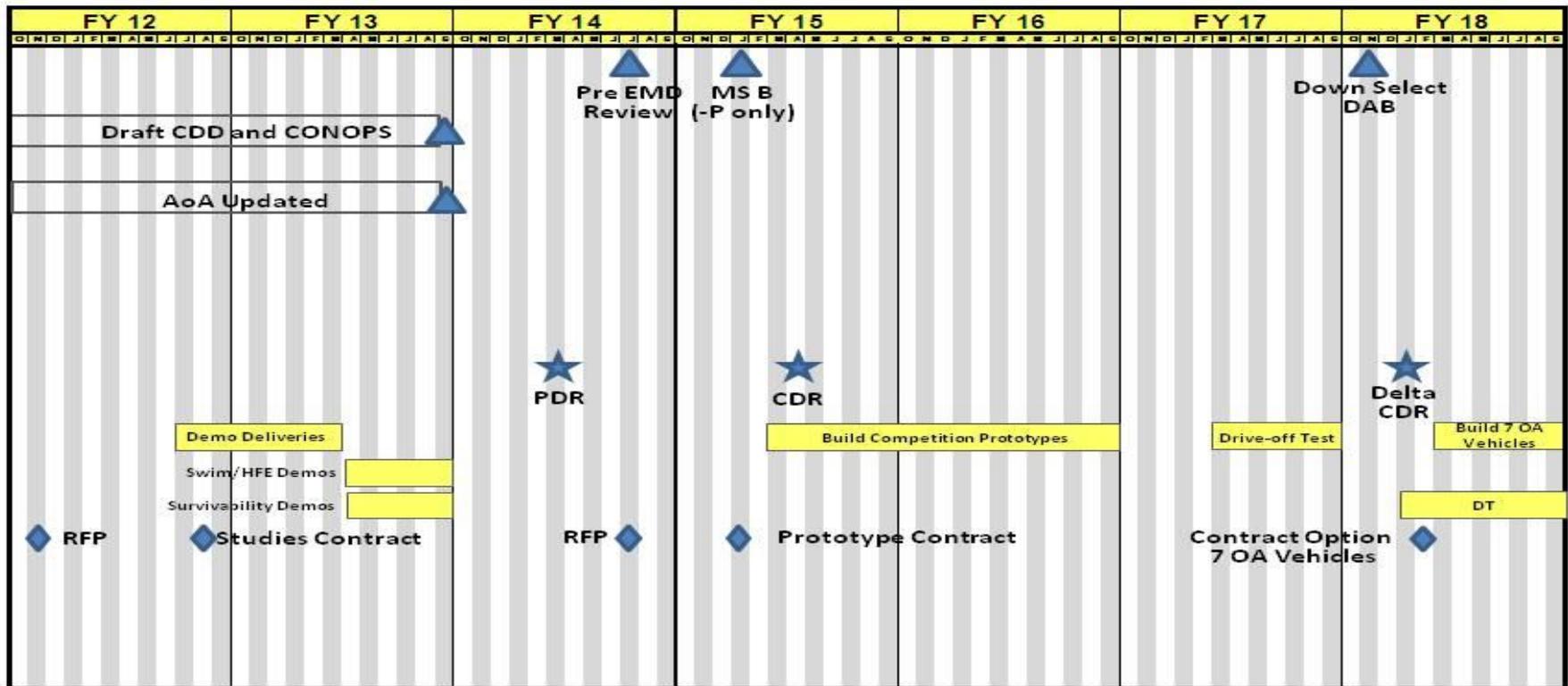
E. Performance Metrics

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>

MPC Schedule Summary



Updated 16 May 12

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C85				
Studies and Demonstration Contract	4	2012	4	2012
Capabilities Development Document (CDD)	4	2013	4	2013
Analysis of Alternatives	4	2013	4	2013
Preliminary Design Review (PDR)	2	2014	2	2014
Milestone B Decision	2	2015	2	2015
Prototype Contract	2	2015	2	2015
Critical Design Review (CDR)	3	2015	3	2015
Drive-Off Testing	2	2017	4	2017
Contract Option 7 OA Vehicles	2	2018	2	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	102.522	45.803	65.155	42.647	-	42.647	46.984	31.991	28.155	30.680	Continuing	Continuing
0201: <i>Logistical Veh Sys Replacement (LVSR)</i>	35.439	0.098	0.560	2.392	-	2.392	2.182	1.739	1.733	1.762	Continuing	Continuing
2316: <i>Combat Service Support Eng Equip</i>	14.081	28.763	33.644	21.788	-	21.788	25.929	16.161	7.247	9.413	Continuing	Continuing
2509: <i>Motor Transport Mod</i>	11.941	14.137	12.438	3.457	-	3.457	5.019	1.498	1.083	1.102	Continuing	Continuing
2510: <i>MAGTF CSSE & SE</i>	0.000	0.000	13.974	9.037	-	9.037	7.458	6.549	6.162	6.268	Continuing	Continuing
2929: <i>Testing Measuring Diag Equip & SE</i>	3.339	1.450	2.043	2.571	-	2.571	2.097	2.120	2.147	2.183	Continuing	Continuing
9C90: <i>MTRV Mod</i>	37.722	1.355	2.496	3.402	-	3.402	4.299	3.924	9.783	9.952	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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; the Marine Personnel Carrier Support System Product Data Management and Technical Information Architecture Application development and integration which includes requirements analysis, detailed system design, analysis of alternatives, implementation, and integration of a risk management tool.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	27.072	58.393	50.312	-	50.312
Current President's Budget	45.803	65.155	42.647	-	42.647
Total Adjustments	18.731	6.762	-7.665	-	-7.665
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	20.000	0.000			
• SBIR/STTR Transfer	-1.269	0.000			
• Program Adjustments	0.000	0.000	-1.692	-	-1.692
• Rate/Misc Adjustments	0.000	6.762	-5.973	-	-5.973

Change Summary Explanation

The \$6.672M increase in FY13 is the OCO request to perform ballistic testing and other planned survivability and mobility upgrades for MRAP. The FY14 base decrease consists of decreases in R2C, Engineer Squad Robot Testing, and Low Metallic Signature MD for test and evaluation, respectively. The \$20.0M increase in FY12 is also related to MRAP.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0201: <i>Logistical Veh Sys Replacement (LVSR)</i>	35.439	0.098	0.560	2.392	-	2.392	2.182	1.739	1.733	1.762	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 and very important 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 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 2012	FY 2013	FY 2014
Title: LVSR: Engineering Change Proposal (ECP)	0.079	0.075	1.196
Articles:	0	0	0
FY 2012 Accomplishments: Funding supported Engineering Change Proposal (ECP) feasibility studies for the effects of extended idling on the C15 Engine and the improved reliability for Armored Door Latch. Continual changes in threat environment requires an on-going and proactive approach to address these changing threats.			
FY 2013 Plans: Funding will support Engineering Change Proposal (ECP) development and testing for all variants (cargo, tractor and wrecker) of the Logistics Vehicle System Replacement (LVSR). Specifically, funding will support the development and testing of the Improved Headlights for all variants of the Logistics Vehicle System Replacement (LVSR). Continual changes in threat environment requires an on-going and proactive approach to address these changing threats.			
FY 2014 Plans: Funding 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 to address these changing threats.			
Title: LVSR: Safety	0.019	0.485	1.196

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Articles:	0	0	0
<i>FY 2012 Accomplishments:</i> Funding will support safety modification development and testing required to meet the diverse environments of current and future operations of Marine Air-Ground Task Force (MAGTF) Expeditionary Maneuver Warfare. Specifically, funding supported the development and testing of the Cargo Underbody Improvement Kits (UIK). Incorporating new safety upgrades will protect the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment.			
<i>FY 2013 Plans:</i> Funding will support 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. Incorporating new safety upgrades will protect the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment.			
<i>FY 2014 Plans:</i> Funding will 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	0.098	0.560	2.392

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>						
• PMC/5093: LVSR	191.354	37.262	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,106.846

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. The strategy utilizes organic logistics support capability for the LVSR. Until that capability is fully established, the Government may exercise a contract option such that the contractor shall provide logistics support services to maintain the operational readiness of the LVSR following delivery of the end item.

E. Performance Metrics
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LVSR Variant Prototypes	C/FFP	MCSC:Quantico, VA	13.793	0.000		0.000		0.000		-		0.000	0.000	13.793	
LVSR Source Selection	C/FFP	MCSC:Quantico, VA	0.248	0.000		0.000		0.000		-		0.000	0.000	0.248	
FRC Prototypes	C/FFP	DRS Systems, Inc.:St. Louis, MO	2.720	0.000		0.000		0.000		-		0.000	0.000	2.720	
FRC Prototypes	C/FFP	Heil:Athens, TN	0.637	0.000		0.000		0.000		-		0.000	0.000	0.637	
Subtotal			17.398	0.000		0.000		0.000		0.000		0.000	0.000	17.398	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LVSR Engineer & Tech Support	WR	NTSC:Orlando, FL	0.194	0.000		0.000		0.000		-		0.000	0.000	0.194	
LVSR Engineer Change Support	C/FFP	MCSC:Quantico, VA	1.454	0.000		0.000		0.000		-		0.000	0.000	1.454	
LVSR Engineer Change Support	SS/FFP	Oshkosh Corp:Oshkosh, WI	0.687	0.056	Mar 2012	0.050	Jul 2013	0.997	Apr 2014	-		0.997	2.271	4.061	
LVSR Safety Mod Development	SS/FFP	Oshkosh Corp:Oshkosh, WI	0.434	0.016	Mar 2012	0.325	Jul 2013	0.998	Apr 2014	-		0.998	3.774	5.547	
Subtotal			2.769	0.072		0.375		1.995		0.000		1.995	6.045	11.256	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LVSR Operational T&E	WR	MCOTE:Quantico, VA	4.552	0.000		0.000		0.000		-		0.000	0.000	4.552	
LVSR Operational T&E	C/FFP	Oshkosh Corp:Oshkosh, WI	0.730	0.000		0.000		0.000		-		0.000	0.000	0.730	
LVSR Development Design & Test	C/FFP	Oshkosh Corp:Oshkosh, WI	0.175	0.000		0.000		0.000		-		0.000	0.000	0.175	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LVSR Variant Test	MIPR	TACOM:Warren, MI	0.110	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
LVSR Corrosion Test	WR	NSWC:Philadelphia, PA	0.217	0.000		0.000		0.000		-		0.000	0.000	0.217	
LVSR ECP Testing	MIPR	Aberdeen Test Center:Aberdeen, MD	3.445	0.026	May 2012	0.185	Sep 2013	0.397	May 2014	-		0.397	0.909	4.962	
LVSR Development Test	C/FFP	Oshkosh Corp:Oshkosh, WI	1.422	0.000		0.000		0.000		-		0.000	1.127	2.549	
LVSR Development and Test	WR	NSWC:Indian Head, MD	0.024	0.000		0.000		0.000		-		0.000	0.000	0.024	
LVSR Live Fire	C/FFP	SURVICE:Not Specified	0.410	0.000		0.000		0.000		-		0.000	0.000	0.410	
FRC Modeling and Simulation	WR	NSWC:Carderock, MD	0.735	0.000		0.000		0.000		-		0.000	0.000	0.735	
FRC Developmental T&E	WR	NATC:Carson City, NV	0.505	0.000		0.000		0.000		-		0.000	0.000	0.505	
Subtotal			12.325	0.026		0.185		0.397		0.000		0.397			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LVSR Contractor Support	C/FFP	MCSC:Various	2.149	0.000		0.000		0.000		-		0.000	0.000	2.149	
LVSR Program Management Support	C/FFP	MCSC:Quantico, VA	0.698	0.000		0.000		0.000		-		0.000	0.000	0.698	
FRC Contractor Support	C/FFP	Sverdrup:Dumfries, VA	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	
FRC Program Management Support	WR	MCSC:Quantico, VA	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	
Subtotal			2.947	0.000		0.000		0.000		0.000		0.000	0.000	2.947	

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

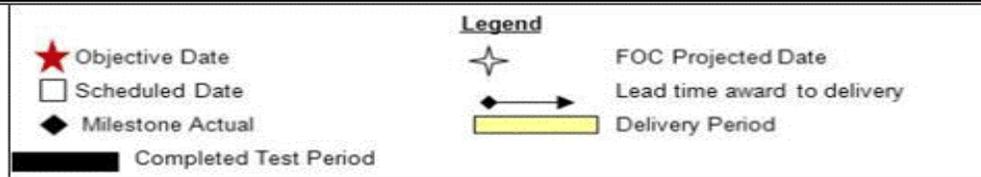
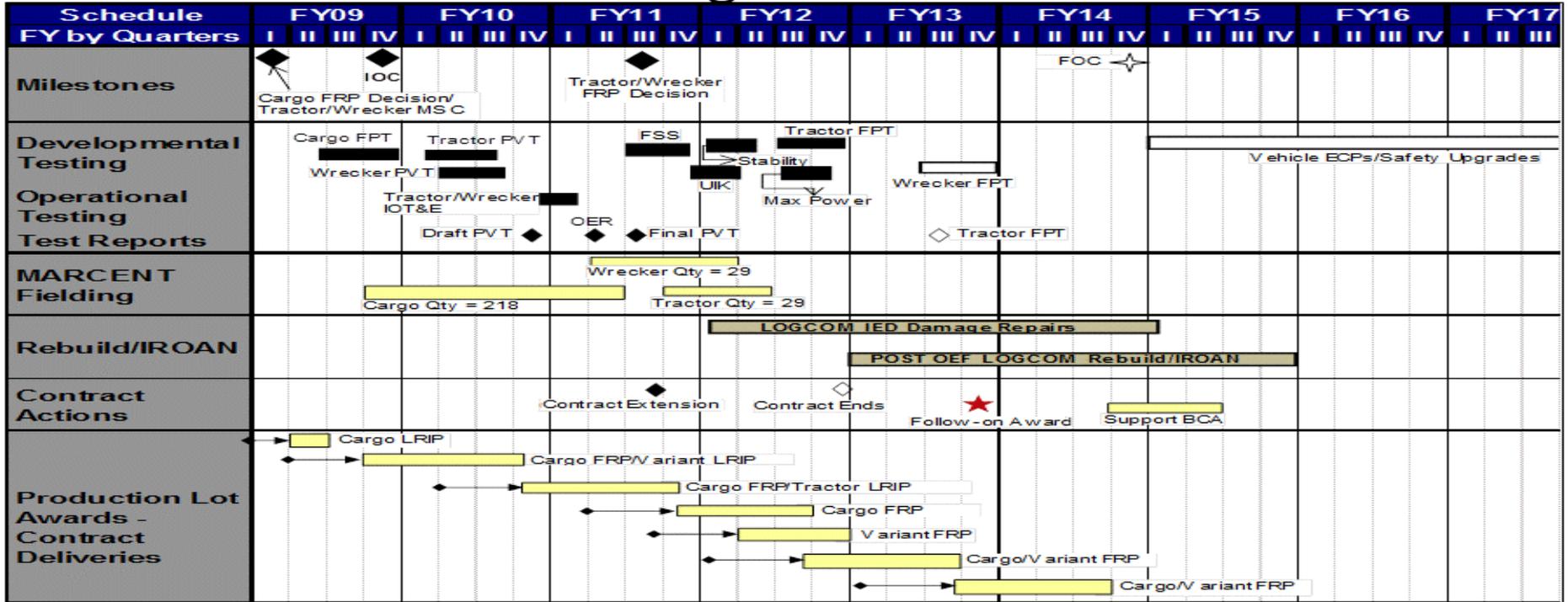
DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206624M: Marine Corps Cmbt Services Supt

PROJECT
 0201: Logistical Veh Sys Replacement (LVSR)

LVSR Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0201				
Full Operational Capability	4	2014	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2316: <i>Combat Service Support Eng Equip</i>	14.081	28.763	33.644	21.788	-	21.788	25.929	16.161	7.247	9.413	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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). 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.

The Engineer Modification Kit 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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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) are being 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 is a FY13 new start.

The Ground Combat Element, Engineer Squad Robot (ESR) with a lightweight back packable robot will 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 is a FY13 new start.

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

	FY 2012	FY 2013	FY 2014
<p>Title: Engineering Mod Kits</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Solved highest priority issues determined during the testing and integration of modifications for the Engineer Family of Systems.</p> <p>FY 2013 Plans: Continue to work on solving the highest priority issues identified during the testing and integration of modifications for the Engineer Family of Systems.</p> <p>FY 2014 Plans:</p>	<p>0.485</p> <p>0</p>	<p>0.498</p> <p>0</p>	<p>0.372</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>		PROJECT 2316: <i>Combat Service Support Eng Equip</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
FY14 funding will support continuation of work to solve the highest priority issues identified during the testing and integration of modifications for the Engineer Family of Systems.				
Title: M1A1 Modifications				
Articles:		1.759 0	1.326 0	3.272 0
FY 2012 Accomplishments: FY12 funding has supported the testing and evaluation of lethality enhancements - particularly alternative high explosive main gun rounds- as well as engineering support for upgrades to support situational awareness and mitigate operational and obsolescence-generated deficiencies with the tank.				
FY 2013 Plans: This project in conjunction with the Army, will qualify tank turret systems as replacements to obsolescing units; address fire control system deficiencies; continue evaluation of attack-detection systems; develop plans for long-term modernization for the M1A1 in the Marine Corps inventory to include secondary armament targeting.				
FY 2014 Plans: FY14 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):				
Articles:		4.455 0	3.892 0	2.751 0
FY 2012 Accomplishments: Funding provided for testing of the High Voltage Energy (HVE) system as well as performance verification testing of various Increment II capabilities. Also included integration modeling and hardware efforts to install these capabilities onto Cougar CAT II A1 Mine Resistant Ambushed Protected (MRAP) Vehicles.				
FY 2013 Plans: FY13 funds will continue development, integration and testing of events began in FY12. FY13 will also begin funding of the preliminary efforts in support planned for increment III of the Route Reconnaissance and Clearance effort.				
FY 2014 Plans: FY14 funds will support the development and test of a semiautonomous explosive obstacle detection vehicle and a semiautonomous explosive obstacle neutralization vehicle				
Title: MRAP Vehicles				
Articles:		19.929 0	6.762 0	0.000
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>		PROJECT 2316: <i>Combat Service Support Eng Equip</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Performed Ballistic Testing on MRAP FoV in support of survivability and mobility upgrades, which includes M-ATV Underbody Improvement Kits (UIK), Vehicle Optical Sensor Systems (VOSS), M-ATV Battery Upgrades, and Cougar Block Upgrades. Performed Testing and Evaluation of capabilities requested in UUNS/JUONS and other planned survivability and mobility upgrades.</p> <p>FY 2013 Plans: Continue to perform Ballistic Testing on MRAP FoV in support of survivability and mobility upgrades. Continue to perform Testing and Evaluation of capabilities requested in UUNS/JUONS and other planned survivability and mobility upgrades.</p>				
<p>Title: Corrosion Prevention and Control (CPAC)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: FY12 funding has focused on the program's efforts to utilize Naval Surface Warfare Center (NSWC) - Carderock and Naval Research Laboratory (NRL) to test and complete all new corrosion initiatives.</p> <p>FY 2013 Plans: Program successes will continue testing and reviews across the inventory to explore options and opportunities to help manage the corrosion issues faced by our platforms.</p> <p>FY 2014 Plans: The Program will continue to leverage prior successes and advances in corrosion control and coatings technologies to further reduce the maintenance and logistics impacts of corrosion on all Marine Corps Platforms as required through SECNAV and DoD instruction and directive.</p>		2.135 0	1.959 0	2.122 0
<p>Title: Engineer Squad Robot</p> <p align="right">Articles:</p> <p>FY 2013 Plans: FY13 funds will focus on development and integration of current technologies to meet the Key Performance Parameter (KPP) requirements of the Engineer Squad Robot (ESR) Capabilities Production Document (CPD): Reconnaissance Effectiveness, Availability, Reliability, Size, Speed/Mobility, Range, and Endurance</p> <p>FY 2014 Plans:</p>		0.000	5.822 0	4.844 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY14 funds will continue integration of new and evolving technologies to meet Reconnaissance Effectiveness, Availability, Reliability, Size, Speed/Mobility, Range, and Endurance and includes live fire test and evaluation of the engineer squad robot.			
Title: Low Metallic Signature MD	0.000	13.385	8.427
Articles:		0	0
FY 2013 Plans: FY13 funds will support the development, integration, test, evaluation and procurement of a new dual sensor handheld detector system that incorporates advanced metal detection and ground penetrating radar (GPR) to provide improved performance, miniaturization, 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 will be used to continue development of a new hand held detector system as well as incorporate advanced ground penetrating radar to provide greater efficiency, improved target discrimination, minituration and longer operating time.			
Accomplishments/Planned Programs Subtotals	28.763	33.644	21.788

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

Line Item	FY 2012	FY 2013	FY 2014	FY 2014	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Cost To	Total Cost
			Base	OCO	Total					Complete	
• PMC/6520-1: <i>EOD Systems- R2C</i>	83.478	45.118	13.493		13.493	19.351	20.501	37.568	59.391	Continuing	Continuing
• PMC/6670: <i>CPAC</i>	0.485	0.484	0.848		0.848	0.837	0.857	0.872	0.874	Continuing	Continuing
• PMC/2061-1: <i>Modification Kits - M1A1 Mod Kits</i>	35.839	34.989	29.819		29.819	27.496	19.860	20.475	20.857	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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	2316: <i>Combat Service Support Eng Equip</i>

already in place. Concurrently support 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.

(U) Engineering Mod 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) 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, be capable of start-up and calibration in less than 60 seconds, and be integrated with existing C2 systems.
Estimated Production Cost is \$24k per system.

(U) The Engineer Squad Robot (ESR) will focus on development and integration of current technologies to meet the KPP requirements of the ESR CPD with reconnaissance effectiveness, availability, reliability, size, speed/mobility, range, and endurance.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Eng Squad Robot	TBD	TBD:TBD	0.000	0.000		5.822	Apr 2013	4.320	Nov 2013	-		4.320	Continuing	Continuing	Continuing
Low Metallic Signature MD	C/IDIQ	MCSC:Quantico, VA	0.000	0.000		13.385	Sep 2013	8.427	Dec 2013	-		8.427	Continuing	Continuing	Continuing
M1A1 MODIFICATIONS	WR	SPAWAR:Charleston, SC	0.000	0.000		0.000		0.337	Jan 2014	-		0.337	0.000	0.337	
M1A1 MODIFICATIONS	MIPR	FORT BELVOIR:Ft Belvoir, VA	0.000	0.000		0.000		2.200	Mar 2014	-		2.200	0.000	2.200	
MRAP Engineering	MIPR	ARL:Adelphi, MD	0.000	2.022	Dec 2012	0.325	May 2013	0.000		-		0.000	0.000	2.347	
MRAP Engineering	MIPR	TACOM:Warren, MI	0.000	5.828	Mar 2012	0.586	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
MRAP Engineering	MIPR	ATC:Aberdeen, MD	0.000	5.099	Mar 2012	0.453	Nov 2012	0.000		-		0.000	0.000	5.552	
MRAP Engineering	MIPR	TARDEC:Warren, MI	0.000	1.975	Feb 2012	0.240	Nov 2012	0.000		-		0.000	0.000	2.215	
M1A1 MODIFICATIONS	MIPR	TACOM:TACOM	2.303	0.586	Jan 2012	0.086	Jan 2013	0.086	Jan 2014	-		0.086	Continuing	Continuing	Continuing
MRAP Engineering	MIPR	AEC:Alexandria, VA	0.000	0.865	Jul 2012	0.000		0.000		-		0.000	0.000	0.865	
M1A1 MODIFICATIONS	MIPR	ABERDEEN PRV:APG, MD	1.813	0.400	Dec 2011	0.397	Dec 2012	0.378	Dec 2013	-		0.378	Continuing	Continuing	Continuing
MRAP Engineering	MIPR	ARDEC:Picatinny, NJ	0.000	0.644	May 2012	0.000		0.000		-		0.000	0.000	0.644	
M1A1 MODIFICATIONS	MIPR	FORT BELVOIR:FORT BELVOIR, VA	0.200	0.158	Jan 2012	0.201	Jan 2013	0.201	Jan 2014	-		0.201	Continuing	Continuing	Continuing
MRAP Engineering	MIPR	MDA:Huntsville, AL	0.000	1.579	Feb 2012	0.600	Jan 2013	0.000		-		0.000	0.000	2.179	
M1A1 MODIFICATIONS	MIPR	BENET LABS:WATERVELIET, NY	0.250	0.250	Jan 2012	0.247	Jan 2013	0.070	Jan 2014	-		0.070	Continuing	Continuing	Continuing
MRAP Engineering	MIPR	RDECOM:Aberdeen, MD	0.000	0.270	Feb 2012	0.419	Aug 2013	0.000		-		0.000	0.000	0.689	
M1A1 MODIFICATIONS	MIPR	PICATINNY ARSENAL:PICATINNY, NJ	0.414	0.365	Jan 2012	0.395	Jan 2013	0.000	Jan 2014	-		0.000	Continuing	Continuing	Continuing
MRAP Engineering	MIPR	AMSAA:Aberdeen, MD	0.000	0.200	Mar 2012	0.026	Nov 2012	0.000		-		0.000	0.000	0.226	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MRAP Engineering	MIPR	ERDC:Vicksburg, MS	0.000	0.201	Feb 2012	0.079	Nov 2012	0.000		-		0.000	0.000	0.280	
MRAP Engineering	C/IDIQ	MCSC:Quantico, VA	0.000	0.639	Jan 2012	0.000		0.000		-		0.000	0.000	0.639	
MRAP Engineering	WR	NSWC:Panama City, FL	0.000	0.264	Apr 2012	0.634	Nov 2012	0.000		-		0.000	0.000	0.898	
R2C-Increment II	WR	NSWC:Panama City, FL	4.660	4.455	Dec 2011	3.892	Nov 2012	2.751	Dec 2013	-		2.751	Continuing	Continuing	Continuing
MRAP Engineering	MIPR	YPG:Yuma, Arizona	0.000	0.343	Mar 2012	0.000		0.000		-		0.000	0.000	0.343	
Subtotal			9.640	26.143		27.787		18.770		0.000		18.770			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MRAP Test Support	MIPR	AEC:Alexandria, VA	0.000	0.000		0.300	Nov 2012	0.000		-		0.000	0.000	0.300	
Subtotal			0.000	0.000		0.300		0.000		0.000		0.000	0.000	0.300	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Eng Squad Robot	MIPR	Aberdeen Proving Grounds:Aberdeen, MD	0.000	0.000		0.000		0.524	Nov 2013	-		0.524	0.000	0.524	
MRAP FoV Ballistic Evaluations	MIPR	ATC:Aberdeen, MD	0.000	0.000		1.600	Feb 2013	0.000		-		0.000	0.000	1.600	
MRAP FoV LFT&E	MIPR	ATC:Aberdeen, MD	0.000	0.000		1.200	Jun 2013	0.000		-		0.000	0.000	1.200	
MRAP Buffalo Testing Requirements	MIPR	ATC:Aberdeen, MD	0.000	0.000		0.300	Nov 2012	0.000		-		0.000	0.000	0.300	
CPAC	WR	Naval Surface Warfare Center	3.441	1.635	Dec 2011	1.959	Nov 2012	2.122	Dec 2013	-		2.122	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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Proj 2316	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	1Q	2Q	3Q	4Q																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2316				
R2C Increment I Production	1	2012	2	2012
R2C Increment II Integration	2	2012	4	2012
R2C Increment II Production	2	2013	4	2013
R2C Increment III Integration	2	2013	4	2013
R2C Increment III IOT&E	3	2015	4	2015
Increment III Production	2	2016	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2509: <i>Motor Transport Mod</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2509: <i>Motor Transport Mod</i>	11.941	14.137	12.438	3.457	-	3.457	5.019	1.498	1.083	1.102	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

The Family of Tactical Trailers and MTRV Trailers projects are new starts in FY13.

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. Given that 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.

P-19 Replacement 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 elements of the MAGTF, such as ammunition supply points, Petroleum, Oil, and Lubricant (POL) distribution points, or hazardous material storage facilities.

MTRV Trailer and Family of Tactical Trailers programs will explore options for "lightening the MAGTF" weight and cube attributes of our light and medium trailer fleet. Will explore technologies and other current and emerging options that can be employed to achieve optimum lift capability with constraints to the desired weight and cube. Transportation and expeditionary goals will be considered in the research and development phase for the trailer fleet. These projects are new starts in FY13.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>		PROJECT 2509: <i>Motor Transport Mod</i>
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 2012	FY 2013	FY 2014
<p>Title: Improved Recovery Vehicle (IRV)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: This project continued joint participation with US Army on evaluation of prospective modifications, solutions to cold weather starting deficiencies, alternatives to wire cables used in recovery operations, and improvements to the M88A2 drive train. Developmental efforts were conducted to modify the current fording kit to support operation with the new Automatic Fire Extinguishing System (AFES).</p> <p>FY 2013 Plans: This project develops long-term modernization plans for the M88A2 within the Marine Corps. Continue efforts to mitigate emergent operational deficiencies.</p> <p>FY 2014 Plans: Develop long-term modernization plans for the M88A2 within the Marine Corps to include Situational Awareness, Upgraded Mechanics Tools, and Electronic Fuel Injection.</p>		0.114 0	0.315 0	0.266 0
<p>Title: High Mobility Multipurpose Wheeled Vehicle ECV (HMMWV-ECV)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Phases 0-1 for the HMMWV Sustainment Modification Initiative (SMI) program were awarded. Phases 2-4 for the HMMWV SMI program were awarded in 1Q FY 2013. Phases 0-1 include: performance and cost trade studies. Phases 2-4 include: preliminary design, final design & vehicle builds, and test & evaluation as well as engineering data package development.</p> <p>FY 2013 Plans: Completion of test article fabrication, performance & reliability testing, delivery of engineering data packages, and program management activities in support of the RFP release for Phase 5 Production Contract award.</p> <p>FY 2014 Plans: Program management & source selection activities in support of the Phase 5 award.</p>		12.587 12	1.498 0	0.358 0
<p>Title: P-19 Replacement</p> <p align="right">Articles:</p> <p>Description: The Aircraft Rescue & Fire Fighting (ARFF) vehicle will be equipped with fire suppression compounds and extinguishing agents, handheld extinguishers, and specialized rescue tools used by firefighters for extinguishing aircraft or structural fires, providing protection for rescue personnel, cooling explosive ordnance, extricating wounded aircrew members,</p>		0.847 0	6.503 0	0.922 0

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services</i> <i>Supt</i>		PROJECT 2509: <i>Motor Transport Mod</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>dispatching emergency response capabilities to crash and structural alarms, and supporting mutual aid agreements with local, state, and federal agencies.</p> <p>FY 2012 Accomplishments: Milestone B and contract award for the P-19 Replacement development effort.</p> <p>FY 2013 Plans: Milestone B, contract award and development of the P-19R.</p> <p>FY 2014 Plans: Finalize development and testing of the P-19R.</p>				
<p>Title: Motor Transport Modification (MTM)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Evaluated, tested, and integrated system modifications identified for application on Motor Transportation assets including testing in support of the Internally Transportable Vehicle (ITV).</p> <p>FY 2013 Plans: Evaluation, testing, and integration of system modifications identified for application on Motor Transportation light medium and heavy tactical assets.</p> <p>FY 2014 Plans: Evaluating, testing, and integrating system modifications identified for application on Motor Transportation light, medium and heavy tactical assets including testing in support of the Internally Transportable Vehicle (ITV).</p>		0.589 0	0.632 0	0.473 0
<p>Title: MTRV Trailers</p> <p align="right">Articles:</p> <p>Description: The MTRV Trailer Program is a USMC initiative to replace the current M105 Trailer with a trailer capable of augmenting the MTRV'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 capability to up to 12,000 lbs. This is a new start program in FY13.</p> <p>FY 2013 Plans:</p>		0.000	2.497 0	0.748 0

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services</i> <i>Supt</i>		PROJECT 2509: <i>Motor Transport Mod</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Design and assess new versions of water and cargo trailers to replace those trailers that did not meet new operational requirements. FY 2014 Plans: Finalize design and test new versions of water and cargo trailers to provide increased capacity with lower weight to achieve the goal of lightening the MAGTF.				
Title: Family of Tactical Trailers Description: Funding will provide for research & development activities to ensure the existing legacy tactical trailer fleet designed for the High Mobility Multipurpose Wheeled Vehicle (HMMWV) remains effective and up-to-date with restoration of HMMWV capabilities and also provides for the M870A2E1 trailer designed for the Logistics Vehicle System (LVS)/Logistical Vehicle System Replacement (LVSR). This is a new start in FY13. FY 2013 Plans: Support the evaluation and testing efforts for the M1076 Palletized Load System (PLS) Trailer and the MK1077 Flatrack Trailer modifications to ensure continued effectiveness with the Logistics Vehicle System Replacement (LVSR). FY 2014 Plans: Funding will support testing efforts to ensure continued effectiveness of Light Tactical Trailers (LTT) with the improved High Mobility Multipurpose Wheeled Vehicle (HMMWV) fleet and also provides for medium trailers as well as the Heavy Tactical Trailer (HTT) designed for the Logistics Vehicle System (LVS)/Logistical Vehicle System Replacement (LVSR).		0.000	0.499 0	0.349 0
Title: Family of Material Handling Equipment Description: The Family of Material Handling equipment will explore techniques and technology to help survivability of the various platforms while also working to help sustain reliability and performance of the equipment. FY 2013 Plans: Funds will be used to assess survivability of Material Handling Equipment. FY 2014 Plans: Funds will be used to assess survivability of Material Handling Equipment.		0.000	0.494 0	0.341 0
Accomplishments/Planned Programs Subtotals		14.137	12.438	3.457

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

Line Item	FY 2012	FY 2013	FY 2014	FY 2014	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PMC/523000: <i>Motor T Mod</i>	1.804	2.803	2.885		2.885	2.966	3.018	3.197	3.255	Continuing	Continuing
• PMC/504500: <i>HMMWV</i>	0.000	8.052	36.333		36.333	11.601	11.810	12.351	12.572	Continuing	Continuing
• PMC/509700-1: <i>Family of Tactical Trailers</i>	3.647	7.866	4.002		4.002	9.675	9.786	9.994	10.174	Continuing	Continuing
• PMC/206100: <i>IRV</i>	4.164	3.651	3.427		3.427	3.227	3.281	3.355	3.416	Continuing	Continuing
• PMC/463000: <i>IRV</i>	0.181	0.155	0.156		0.156	0.159	0.162	0.165	0.168	Continuing	Continuing
• PMC/509700-2: <i>Flatrack Refueler Capability (FRC)</i>	0.000	11.890	18.791		18.791	4.456	0.000	0.000	0.000	0.000	35.137
• PMC/ 509700: <i>MTRV Trailers</i>	43.027	36.046	4.592		4.592	10.426	2.816	1.000	1.018	Continuing	Continuing
• PMC/500600: <i>P19R</i>	0.000	0.000	16.940		16.940	32.972	27.540	30.852	15.977	Continuing	Continuing
• PMC/646200: <i>Family of Material Handling Equipment</i>	79.608	39.759	48.549		48.549	53.318	16.393	17.948	19.565	Continuing	Continuing

Remarks

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 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 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.

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<p>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).</p> <p>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).</p> <p>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. The revised acquisition strategy will assist the Capabilities Development Directorate (CDD), Logistics Integration Division (LID) with a study to determine the Marine Corps' long term water and power distribution requirements. The RDT&E funds for the MTVR Trailer program will be used to build prototypes and conduct necessary tests to support the study results for water and power distribution trailers.</p> <p>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.</p> <p><u>E. Performance Metrics</u> N/A</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2509: <i>Motor Transport Mod</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FTT (Heavy)	MIPR	TBD:TBD	0.000	0.000		0.250	May 2013	0.174	Dec 2013	-		0.174	Continuing	Continuing	Continuing
MTRV Trailers	MIPR	Choctaw Defense:McAlester, OK	0.000	0.000		2.197	Apr 2013	0.548	Mar 2014	-		0.548	Continuing	Continuing	Continuing
HMMWV SMI Phases 2-4	C/CPFF	NATC:NV	0.000	8.931	Oct 2012	0.000		0.000		-		0.000	0.000	8.931	19.769
Motor Transport Modification (Light)	TBD	TBD:TBD	0.000	0.000		0.316	Mar 2013	0.237	Mar 2014	-		0.237	Continuing	Continuing	Continuing
Family of Tactical Trailers (Light)	TBD	TBD:TBD	0.000	0.000		0.249	Apr 2013	0.175	Mar 2014	-		0.175	Continuing	Continuing	Continuing
Motor T Mods	MIPR	TBD:TBD	3.373	0.000		0.000		0.000		-		0.000	0.000	3.373	
HMMWV SMI Technology Development	C/CPFF	Johns Hopkins University:Laurel, MD	0.000	1.000	Sep 2012	0.000		0.000		-		0.000	0.000	1.000	
Improved Recovery Vehicle	WR	SPAWAR:Charleston, SC	0.000	0.000		0.000		0.100	Dec 2013	-		0.100	0.000	0.100	
Family of Material Handling Equipment	C/FFP	Kalmar:San Antonio, TX	0.000	0.000		0.355	Mar 2013	0.000		-		0.000	0.000	0.355	
Improved Recovery Vehicle	MIPR	TACOM:WARREN, MI	0.966	0.114	Dec 2011	0.315	Sep 2013	0.166	Mar 2014	-		0.166	Continuing	Continuing	Continuing
Motor T. Mods (Heavy)	MIPR	TBD:TBD	0.000	0.000	Jun 2013	0.316	Jun 2013	0.236	Jul 2014	-		0.236	Continuing	Continuing	Continuing
FRC	C/FFP	Heil CO:Athens, TN	4.600	0.000		0.000		0.000		-		0.000	0.000	4.600	
P-19 Replacement	MIPR	TBD:TBD	0.000	0.847	Mar 2013	5.896	Mar 2013	0.622	Apr 2014	-		0.622	Continuing	Continuing	Continuing
Subtotal			8.939	10.892		9.894		2.258		0.000		2.258			

Remarks
HMMWV SMI Phases 2-4 contract has a Target Value of \$19.769M funded by both USMC and USA. USMC portion of this contract is \$8.931M.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MTVR Trlr NATC Developmental Testing	C/FFP	NATC:NV	0.796	0.000		0.300	Apr 2013	0.200	Apr 2014	-		0.200	0.000	1.296	
HMMWV SMI Test & Evaluation	C/FFP	NATC:NV	0.035	1.318	Aug 2012	0.000		0.000		-		0.000	0.000	1.353	
HMMWV SMI Energy Efficiency & Specialty Material Testing	C/FFP	TBD:TBD	0.000	0.000		0.665	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
P19 NATC Developmental Testing	C/BA	TBD:TBD	0.000	0.000		0.607	Apr 2013	0.300	Mar 2014	-		0.300	0.000	0.907	
Motor Transport Modification (Light)	MIPR	Various:Various	0.805	0.589	Jul 2012	0.000		0.000		-		0.000	0.000	1.394	
HMMWV SMI Operational Assesment Planning & Execution	TBD	TBD:TBD	0.000	0.000		0.792	Apr 2013	0.000		-		0.000	0.000	0.792	
HMMWV SMI Engineering & Technical	WR	MCOTEA:Various	0.000	0.165	Sep 2012	0.000		0.000		-		0.000	0.000	0.165	
HMMWV SMI Ballistic & Automotive Testing	MIPR	Aberdeen Proving Grounds:Aberdeen, MD	0.000	0.163	Oct 2012	0.000		0.000		-		0.000	0.000	0.163	
Family of Material Handling Equipment	MIPR	Aberdeen Test Center:Aberdeen, MD	0.000	0.000		0.139	Mar 2013	0.341	Mar 2014	-		0.341	0.000	0.480	
Subtotal			1.636	2.235		2.503		0.841		0.000		0.841			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
HMMWV SMI Travel	Various	Various:Various	0.000	0.033	Feb 2012	0.033	Nov 2012	0.033	Feb 2014	-		0.033	Continuing	Continuing	Continuing
HMMWV SMI Professional Engineering Support	C/FFP	SURVICE:VA	0.913	0.977	Dec 2012	0.000		0.000		-		0.000	0.000	1.890	

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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2510: <i>MAGTF CSSE & SE</i>	0.000	0.000	13.974	9.037	-	9.037	7.458	6.549	6.162	6.268	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

Note
 Advanced Power Sources, Mobile Power Equipment and Environmental Control Equipment programs are new starts in FY13.

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. Environmental Control Equipment is a new start in FY13.

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. Mobile Power Equipment is a new start in FY13.

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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 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 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) Integration and product qualification testing of new 1kW diesel generator for USMC-unique applications. Generator procurement will be by customers on a DoD contract.

Advanced Power Sources

Advanced Power Sources is a new start in FY13. The next generation Solar Portable Alternative Communications Energy System (SPACES) and the Ground Renewable Expeditionary Energy System (GREENS) will focus on Renewable Energy improvement in the area of smaller, lighter and more efficient systems. These R&D efforts will focus on achieving the Marine Corps goal of lightening the MAGTF and the individual Marine combat load through reduced battery weight and logistical fuel resupply needs.

The next generation Battery Management and Sustainment System (BMASS), will focus on making the next generation of the Suitcase Portable Charger smaller, lighter, more efficient and high power. In addition, a capability which will allow the Marine Corps to transport and maintain lithium batteries throughout the fleet in a safe and expeditionary manor will be developed.

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) is to focus on flexibility and efficiency of research and development to save fuel at idle conditions and improve vehicle energy efficiency on MTVR and HMMWV platforms.

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

	FY 2012	FY 2013	FY 2014
<p>Title: Enhanced Environmental Control Unit</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Develop new 36,000 BTU/Hr and 60,000 BTU/Hr environmental control units (ECUs).</p> <p>FY 2014 Plans: Testing of the Enhanced ECUs developed during FY13.</p>	0.000	2.998 12	1.983 0
Title: Hybrid Generator/Next Gen Power Distribution System	0.000	4.985	3.558

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p align="right">Articles:</p> <p>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 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 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 of a unit that can be integrated with the AMMPS generator. (4) Integration and product qualification testing of new 1kW diesel generator for USMC-unique applications. Generator procurement will be by customers on a DoD contract.</p> <p>FY 2013 Plans: Hybrid Generator Development: Award 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 to produce 2 for total of 6 test articles. Next Generation Power Distribution System: Award three one-year RDTE contracts to develop next generation power distribution system. Articles: Each contractor to produce 2 for total of 6 test articles.</p> <p>FY 2014 Plans: Continue development and testing of the Hybrid Generator and Next Generation Power Distribution systems.</p>			12	0
<p>Title: Advanced Power Sources</p> <p align="right">Articles:</p> <p>Description: Solar Portable Alternative Communications Energy System (SPACES) Ground Renewable Expeditionary Energy Systems (GREENS) Suitcase Portable Charger Squad Electric Power On-Board Vehicle Power (OBVP)</p> <p>FY 2013 Plans: RENEWABLE ENERGY</p>		0.000	5.991 28	3.496 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Development of new SPACES: Award three one-year RDTE contract 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.			
Development of new GREENS: Award three one-year RDTE contract to develop more efficient GREENS. Each contractor to produce 2 of each size for total of 6 test articles. Plan for government testing in FY14.			
BATTERY MANAGEMENT AND SUSTAINMENT SYSTEM (BMASS) Development of new Suitcase Portable Charger - Award two one-year RDTE contract 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 will procure batteries and conduct study.			
SQUAD ELECTRIC POWER PROGRAM Development of Squad Electric Power - Award three one-year RDT&E contract to develop Squad Electric Power. Each contractor to produce 2 of each size for total of 6 test articles. Plan for government testing in late FY13.			
ON BOARD VEHICLE POWER (OBVP) MTVR/HMMWV On Board Vehicle Power, fuel efficiency study - Award two one-year RDT&E contract 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.			
<i>FY 2014 Plans:</i> 2nd year of development of GREENS initiated in 2013. Testing of HMMWV On-Board Vehicle Power developed in 2013.			
Accomplishments/Planned Programs Subtotals	0.000	13.974	9.037

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/6054-1: <i>Environmental Control Equipment</i>	21.509	13.576	14.377		14.377	11.121	11.620	12.070	12.287	0.000	181.701
• PMC/6366-2: <i>Mobile Power Equipment</i>	103.985	42.792	35.135		35.135	31.824	31.005	28.624	32.984	0.000	352.248
• PMC/6366-3: <i>Advanced Power Sources</i>	30.509	33.708	26.218		26.218	15.450	15.913	16.331	16.649	0.000	170.221

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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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) and the Ground Renewable Expeditionary Energy System (GREENS). These R&D efforts will focus on achieving the Marine Corps goal of lighting the MAGTF and the individual Marine combat load though 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 Accessable Point) Update Protocal (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 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	2510: <i>MAGTF CSSE & SE</i>

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 - 20% reduction in weight, 50% increase in power capability, 20% reduction in volume
- BMASS: N/A
- SQUAD ELECTRIC POWER PROGRAM: N/A
- OBVP- N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ECU DEVELOPMENT	TBD	TBD:TBD	0.000	0.000		2.998	Apr 2013	0.000		-		0.000	Continuing	Continuing	Continuing
HYBRID GENERATOR/ NEXT GEN POWER DIST SYS	TBD	TBD:TBD	0.000	0.000		4.985	May 2013	0.000		-		0.000	0.000	4.985	
APS SPACES	C/IDIQ	CTQ:TBD	0.000	0.000		0.700	May 2013	0.000		-		0.000	0.000	0.700	
APS GREENS	C/IDIQ	TBD:TBD	0.000	0.000		1.200	Apr 2013	1.988	Jan 2014	-		1.988	0.000	3.188	
APS PORTABLE BATT CHARGER	C/IDIQ	TBD:TBD	0.000	0.000		0.793	May 2013	0.000		-		0.000	0.000	0.793	
APS SQUAD ELECTRIC POWER	C/IDIQ	TBD:TBD	0.000	0.000		0.500	Apr 2013	0.000		-		0.000	0.000	0.500	
APS OBVP MTRV DEVELOPMENT	C/IDIQ	TBD:TBD	0.000	0.000		0.500	Apr 2013	0.000		-		0.000	0.000	0.500	
APS OBVP HMMWV	C/IDIQ	TBD:TBD	0.000	0.000		0.300	May 2013	0.000		-		0.000	0.000	0.300	
Subtotal			0.000	0.000		11.976		1.988		0.000		1.988			

Remarks
 TBD - Source Selection to be completed in early FY13.
 2nd year of development of GREENS initiated in 2013.
 Hybrid Generator Development begin in 2013. Vendor TBD.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ECU TESTING	MIPR	ABERDEEN TEST CENTER:ABERDEEN, MD	0.000	0.000		0.000		1.983	Mar 2014	-		1.983	0.000	1.983	
HYBRID GENERATOR/ NEXT GEN POWER DIST SYS	MIPR	ABERDEEN TEST CENTER:ABERDEEN, MD	0.000	0.000		0.000		3.558	Mar 2014	-		3.558	0.000	3.558	
APS SPACES TESTING	MIPR	NWSC:CARDEROCK, MD	0.000	0.000		0.497	Jun 2013	0.000		-		0.000	0.000	0.497	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
APS GREENS TESTING	MIPR	NSWC:CARDEROCK, MD	0.000	0.000		0.300	Jun 2013	0.000		-		0.000	0.000	0.300	
APS SQUAD TESTING	MIPR	NSWC:CARDEROCK, MD	0.000	0.000		0.195	May 2013	0.000		-		0.000	0.000	0.195	
APS OBVP MTRV TESTING	MIPR	ABERDEEN TEST CENTER:ABERDEEN, MD	0.000	0.000		0.250	May 2013	0.000		-		0.000	0.000	0.250	
APS OBVP HMMWV TESTING	MIPR	ABERDEEN TEST CENTER:ABERDEEN, MD	0.000	0.000		0.150	Jun 2013	1.508	Mar 2014	-		1.508	0.000	1.658	
Subtotal			0.000	0.000		1.392		7.049		0.000		7.049	0.000	8.441	

Remarks
 Testing of Power Distribution developed in 2013.
 Teting of HMMWV On-Board Vehicle Power developed in 2013.

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
APS PM support for development and test mgmt	C/FFP	TBD:Quantico, VA	0.000	0.000		0.606	Apr 2013	0.000		-		0.000	0.000	0.606	
Subtotal			0.000	0.000		0.606		0.000		0.000		0.000	0.000	0.606	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.000	0.000	13.974	9.037	0.000			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Exhibit R-4, RDT&E Schedule Profile: APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE PE 0206626M MOBILE POWER EQUIPMENT	PROJECT	DATE: June 2011
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HYBRID GENERATOR	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones	Δ MS "B"	MS "C" LRIP Δ	MS "C" FRP Δ				
Contract Awards	Δ RDTE		Δ PRODUCTION	Δ 1ST PROD D.O.	Δ 2ND PROD D.O.	Δ 3RD PROD D.O.	Δ 4TH PROD D.O.
Engr / Manuf Development							
Government Testing			LRIP PVT				
Production			LRIP	FRP			
Fielding							
Operations and Support							

POWER DISTRIBUTION	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones	Δ MS "B"	MS "C" LRIP Δ	MS "C" FRP Δ				
Contract Awards	Δ RDTE		Δ PRODUCTION	Δ 1ST PROD D.O.	Δ 2ND PROD D.O.	Δ 3RD PROD D.O.	Δ 4TH PROD D.O.
Engr / Manuf Development							
Government Testing			LRIP PVT				
Production			LRIP	FRP			
Fielding							
Operations and Support							

FLOODLIGHT SET	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones		Δ MS "B"	MS "C" LRIP Δ	MS "C" FRP Δ			
Contract Awards		Δ RDTE		Δ PRODUCTION	Δ 1ST PROD D.O.	Δ 2ND PROD D.O.	Δ 3RD PROD D.O.
Engr / Manuf Development							
Government Testing				LRIP PVT			
Production				LRIP	FRP		
Fielding							
Operations and Support							

1KW INTEGRATION	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Integration Effort							
Government Testing							
Operations and Support							

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:							DATE: June 2011
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE		PROJECT		
			PE 0206626M ENVIRONMENTAL CONTROL EQUIP		Enhanced Environmental Control Unit		
	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones	Δ MS "B"	MS "C" LRIP Δ	MS "C" FRP Δ				
Contract Awards	Δ RDTE		Δ PRODUCTION	Δ 1ST PROD D.O.	Δ 2ND PROD D.O.	Δ 3RD PROD D.O.	Δ 4TH PROD D.O.
Engr / Manuf Development							
Government Testing		DT	LRIP TEST				
Production			LRIP	FRP			
Fielding							
Operations and Support							

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:							DATE:
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			PROJECT		
					BMASS		
	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones							
Contract Awards	◆						
Technical Reviews	◆	◆		◆			
Logistic Reviews		◆					
Technology Development	■	■					
Engr / Manuf Development	■	■					
Testing	■	■					
Production		■	■	■	■		
Helding							
Operations and Support							

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:								DATE:
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE				PROJECT		
						Squad Electric Power		
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	
Milestones								
Contract Awards	◆							
Technical Reviews		◆		◆				
Logistic Reviews			◆		◆			
Technology Development	—————							
Engr / Manuf Development	—————							
Testing	———	———		———				
Production				—————				
Holding								
Operations and Support								

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:		DATE:						
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE					PROJECT	
							On Board Vehicle Power	
		FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones								
Contract Awards		◆		◆				
Technical Reviews		◆	◆					
Logistic Reviews			◆					
Technology Development		■		■				
Engr / Manuf Development			■		■			
Testing			■		■			
Production			■					■
Fielding						■		
Operations and Support								

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:		R-1 ITEM NOMENCLATURE							PROJECT	DATE:
APPROPRIATION/BUDGET ACTIVITY									Renewable Energy	
	FY13	FY14	FY15	FY16	FY17	FY18	FY19			
Milestones										
Contract Awards	◆									
Technical Reviews	◆	◆	◆	◆	◆					
Logistic Reviews		◆	◆	◆	◆					
Technology Development	■	■		■						
Engr / Manuf Development		■	■	■						
Testing	■	■	■	■	■					
Production			■	■	■	■	■			
Fielding										
Operations and Support										

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services</i> <i>Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
HYBRID GENERATOR				
Milestone B	1	2013	1	2013
Contract Award: Schedule Detail	3	2013	3	2013
Engr/Mfg Development: Schedule Detail	3	2013	4	2013
Milestone C LRIP: Schedule Detail	4	2014	4	2014
Eng/Mfg Develop (Milestone C): Schedule Detail	1	2014	2	2014
Govt Testing: Schedule Detail	2	2014	3	2014
Milestone C FRP: Schedule Detail	4	2015	4	2015
Milestone C Production: Schedule Detail	2	2015	2	2015
1st Production D.O.: Schedule Detail	1	2016	1	2016
FRP: Schedule Detail	1	2016	1	2016
2nd Prod D.O.: Schedule Detail	1	2017	1	2017
Production: Schedule Detail	1	2017	4	2017
LRIP PVT MS C: Schedule Detail	2	2015	3	2015
LRIP: Schedule Detail	2	2015	2	2015
FIELDING: Schedule Detail	1	2017	4	2017
OPERATIONS SUPPORT: Schedule Detail	1	2017	4	2017
POWER DISTRIBUTION				
MS B: Schedule Detail	1	2013	1	2013
CONTRACT AWARD: Schedule Detail	3	2013	3	2013
EMD: Schedule Detail	3	2013	3	2013
MS C LRIP: Schedule Detail	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MS C EMD: Schedule Detail	1	2014	1	2014
GVT TESTING: Schedule Detail	2	2014	3	2014
MS C FRP: Schedule Detail	4	2015	4	2015
MS PRODUCTION: Schedule Detail	2	2015	2	2015
LRIP PVT: Schedule Detail	2	2015	3	2015
LRIP: Schedule Detail	2	2015	3	2015
1ST PROD D.O.: Schedule Detail	1	2016	1	2016
FRP: Schedule Detail	1	2016	1	2016
2ND PROD D.O.: Schedule Detail	1	2017	1	2017
PRODUCTION: Schedule Detail	1	2017	4	2017
FIELDING: Schedule Detail	1	2017	4	2017
O/S: Schedule Detail	1	2017	4	2017
FLOODLIGHT SET				
MS B: Schedule Detail	1	2014	1	2014
CONTRACT AWARD: Schedule Detail	2	2014	2	2014
EMD: Schedule Detail	3	2014	3	2014
MS C LRIP: Schedule Detail	4	2015	4	2015
MS C EMD: Schedule Detail	1	2015	2	2015
GVT TESTING: Schedule Detail	2	2015	3	2015
MS C FRP: Schedule Detail	4	2016	4	2016
PRODUCTION: Schedule Detail	2	2016	2	2016
LRIP PVT: Schedule Detail	2	2016	3	2016
LRIP: Schedule Detail	2	2016	3	2016
1ST PROD D.O.: Schedule Detail	1	2017	1	2017
FRP: Schedule Detail	1	2017	1	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
1KW INTEGRATION				
INTEGRATION	2	2015	2	2015
GVT TESTING: Schedule Detail	2	2016	3	2016
O/S: Schedule Detail	1	2017	4	2017
ENVIRONMENTAL CONTROL UNIT				
MS B	1	2013	1	2013
C/AWARD: Schedule Detail	3	2013	3	2013
EMD: Schedule Detail	3	2013	4	2013
MS C LRIP: Schedule Detail	4	2014	4	2014
M/S C EMD: Schedule Detail	1	2014	2	2014
DT: Schedule Detail	2	2014	3	2014
MS C FRP: Schedule Detail	4	2015	4	2015
MS C PRODUCTION: Schedule Detail	2	2015	2	2015
LRIP TEST: Schedule Detail	2	2015	3	2015
LRIP: Schedule Detail	2	2015	3	2015
1ST PROD D.O.: Schedule Detail	1	2016	1	2016
FRP: Schedule Detail	2	2016	4	2016
2ND PROD D.O.: Schedule Detail	1	2017	1	2017
PRODUCTION: Schedule Detail	1	2017	4	2017
FIELDING: Schedule Detail	1	2017	4	2017
O/S: Schedule Detail	1	2017	4	2017
BMASS				
C/AWARD: Schedule Detail	3	2013	3	2013
BMASS TECHNICAL REVIEWS: Schedule Detail	3	2013	4	2013
BMASS TECH DEVELOP: Schedule Detail	3	2013	4	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
EMD: Schedule Detail	3	2013	4	2013
TESTING: Schedule Detail	3	2013	4	2013
TECH REVIEWS: Schedule Detail	2	2014	2	2014
LOGISTIC REVIEWS: Schedule Detail	1	2014	1	2014
TECH DEVELOP: Schedule Detail	1	2014	2	2014
BMASS EMD (1): Schedule Detail	1	2014	2	2014
BMASS EMD(2): Schedule Detail	1	2014	4	2014
BMASS TESTING: Schedule Detail	2	2014	4	2014
BM PROD: Schedule Detail	3	2014	4	2014
BMASS TECH REVIEWS: Schedule Detail	2	2015	2	2015
B M TESTING: Schedule Detail	2	2015	3	2015
PRODUCTION: Schedule Detail	1	2015	4	2015
BMASS PROD: Schedule Detail	1	2016	4	2016
B PROD: Schedule Detail	1	2017	4	2017
SQUAD ELECTRIC POWER				
C/AWARD: Schedule Detail	3	2013	3	2013
TECH REVIEWS: Schedule Detail	3	2013	3	2013
SUAD TECH DEVELOP: Schedule Detail	2	2013	4	2013
SQUAD TESTING: Schedule Detail	1	2013	3	2014
SQUAD TECH REVIEWS: Schedule Detail	4	2014	4	2014
LOG REVIEWS: Schedule Detail	2	2014	2	2014
TECH DEVELOP: Schedule Detail	1	2014	2	2014
EMD: Schedule Detail	2	2014	4	2014
TESTING: Schedule Detail	3	2014	3	2014
TECH REV: Schedule Detail	4	2015	4	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services</i> <i>Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
LOG REV: Schedule Detail	3	2015	3	2015
SQUAD EMD: Schedule Detail	1	2015	3	2015
SQ TESTING: Schedule Detail	3	2015	4	2015
SQ PRODUCTION: Schedule Detail	4	2015	4	2017
ON-BOARD VEHICLE POWER				
C/AWARD: Schedule Detail	3	2013	3	2013
TECH REVIEWS: Schedule Detail	3	2013	3	2013
LOG REVIEWS: Schedule Detail	4	2013	4	2013
TECH DEVELOPMENT: Schedule Detail	3	2013	3	2016
EMD: Schedule Detail	1	2014	3	2015
OBVP EMD: Schedule Detail	2	2016	4	2016
TESTING: Schedule Detail	3	2014	3	2015
OBVP TESTING: Schedule Detail	1	2016	3	2017
PRODUCTION: Schedule Detail	2	2015	4	2017
RENEWABLE ENERGY				
C/AWARDS (S): Schedule Detail	3	2013	3	2013
C/AWARD (G): Schedule Detail	3	2013	3	2013
TECH REVIEWS (S): Schedule Detail	3	2013	3	2013
TECH REVIEWS (G): Schedule Detail	3	2013	3	2013
TECH DEVELOP (S): Schedule Detail	3	2013	1	2014
TECH DEVELOP (G): Schedule Detail	3	2013	1	2014
EMD (S): Schedule Detail	4	2013	1	2015
TESTING (S): Schedule Detail	3	2013	1	2014
TEST (S): Schedule Detail	3	2014	1	2015
TECH REV (S): Schedule Detail	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
LOG REV (S): Schedule Detail	2	2014	2	2014
LOG REV (G): Schedule Detail	3	2014	3	2014
TESTING (G): Schedule Detail	3	2013	4	2013
TEST (G): Schedule Detail	3	2014	1	2015
C/A ONR SYS: Schedule Detail	3	2015	3	2015
TECH REV (G): Schedule Detail	2	2015	2	2015
TECH REV (ONR SYS): Schedule Detail	4	2015	4	2015
LOG REV (ONR SYS): Schedule Detail	4	2015	4	2015
TECH DEVEL (ONR SYS): Schedule Detail	3	2015	1	2016
EMD (ONR SYS): Schedule Detail	3	2015	2	2016
TEST (ONR): Schedule Detail	2	2015	3	2015
TEST (ONR SYS): Schedule Detail	3	2015	2	2016
PRODUCTION (S): Schedule Detail	2	2015	4	2017
PRODUCTION (G): Schedule Detail	1	2015	4	2017
PRODUCTION (ONR SYS): Schedule Detail	2	2016	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>				PROJECT 2929: <i>Testing Measuring Diag Equip & SE</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2929: <i>Testing Measuring Diag Equip & SE</i>	3.339	1.450	2.043	2.571	-	2.571	2.097	2.120	2.147	2.183	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Marine Corps Automatic Test Equipment (MCATE) program provides development of sustainment technology for automatic test equipment used in organizational/intermediate maintenance facilities.

The Autonomic Logistics (AL) provides platform-based situational awareness to Marine Corps ground weapon systems. Embedded Platform Logistics System (EPLS) interfaces to a weapon system data bus to collect and process sensor data into actionable information. EPLS provides systems health, fuel and ammo levels, mobile and troop load information to the combatant commander and his supporting staff.

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 (arRFID), 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).

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.

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

Title: Marine Corps Automated Test Equipment	FY 2012	FY 2013	FY 2014
Articles:	1.204	2.043	0.000
Description: Overall thrust of this program is to develop advanced technology concepts for automatic test and integrate 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 of technologies and applying them to our Automatic Test Systems (ATS) acquisition programs.	0	0	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2929: <i>Testing Measuring Diag Equip & SE</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
A primary secondary thrust is to prevent obsolescence in our current automatic test systems by identifying new technologies that can be implemented immediately.				
FY 2012 Accomplishments: Activities have researched new testing techniques to prevent obsolescence of legacy automatic test systems (ATS). Replacements for signal generators and RF down-converters to prevent ATS obsolescence and testing techniques for new infrared sighting assemblies are being identified.				
FY 2013 Plans: Activities will continue to research new testing techniques to prevent obsolescence of legacy systems. Develop integration techniques to address new testing solutions into fielded automatic test systems.				
Title: Autonomic Logistics				
		Articles:	0.246 0	0.000 0.000
FY 2012 Accomplishments: Activities have continued to integrate Embedded Platform Logistics System (EPLS) applications with external USMC logistics applications.				
Title: Automatic Identification Technology (AIT)				
		Articles:	0.000	0.000 0.500 0
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.				
Title: General Purpose Automatic Test Systems				
		Articles:	0.000	0.000 2.071 0
FY 2014 Plans: Activities will 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.				
Accomplishments/Planned Programs Subtotals		1.450	2.043	2.571

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2929: <i>Testing Measuring Diag Equip & SE</i>

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

Line Item	FY 2012	FY 2013	FY 2014	FY 2014	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PMC/41811: <i>Calibration</i>	3.389	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	49.881
• PMC/41812: <i>TETS</i>	0.000	7.078	0.000		0.000	0.000	0.000	0.000	0.000	0.000	126.250
• PMC/41813: <i>Autonomic Logistics</i>	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	119.271
• PMC/41814: <i>General Purpose Automatic Test Systems</i>	0.000	0.000	12.992		12.992	13.312	13.371	13.590	13.825	Continuing	Continuing

Remarks

D. Acquisition Strategy

Automatic Test Systems (ATS) and Marine Corps Automatic Test Equipment (MCATE) 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), Pax River, MD.

Autonomic Logistics (AL) Embedded Platform Logistics System's (EPLS) work is being done through Naval Sea Systems Command (NAVSEA), Washington, District of Columbia.

Automatic Identification Technology (AIT) funding supports procurement of demo 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 included.

E. Performance Metrics

N/A
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2929: <i>Testing Measuring Diag Equip & SE</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Study & Hardware (MCATE) 6	C/FFP	NAVAIR:Pax River, MD	0.000	0.000		0.245	Dec 2012	0.000		-		0.000	0.000	0.245	
Study & Hardware (MCATE) 7	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.000		0.641	Mar 2014	-		0.641	0.000	0.641	
Study & Hardware (MCATE) 8	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.000		0.935	Feb 2014	-		0.935	0.000	0.935	
Service Enhancements (AIT)	TBD	TBD:TBD	0.000	0.000		0.000		0.250	Mar 2014	-		0.250	0.000	0.250	
Study & Hardware (MCATE) 2	C/FFP	MCSC:Quantico, VA	0.449	0.000		0.000		0.000		-		0.000	0.000	0.449	
Study & Hardware (MCATE) 4	C/FFP	MCSC:Quantico, VA	0.000	0.505	Mar 2012	0.650	Jan 2013	0.000		-		0.000	0.000	1.155	
Study & Hardware (MCATE) 5	C/FFP	MCSC:Quantico, VA	0.000	0.385	Jan 2012	0.400	Dec 2012	0.000		-		0.000	0.000	0.785	
Subtotal			0.449	0.890		1.295		1.826		0.000		1.826	0.000	4.460	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Support (AL)	C/CPFF	NAVSEA:Washington, District of Columbia	0.000	0.246	Nov 2011	0.000		0.000		-		0.000	0.000	0.246	
Engineering Support (MCATE)	WR	MCLB:Albany, GA	2.890	0.314	Nov 2011	0.748	Nov 2012	0.495	Nov 2013	-		0.495	Continuing	Continuing	Continuing
Subtotal			2.890	0.560		0.748		0.495		0.000		0.495			

Remarks
Autonomic Logistics (AL) FY12 funds will focus on the integration of the Embedded Platform Logistics System applications with external USMC logistics. Autonomic Logistics (AL) applications include Embedded Platform Logistics System (EPLS), the EPLS MIMOSA data Repository (EMDR), and the Electronic Maintenance Support System (EMSS).

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9C90: <i>MTVR Mod</i>	37.722	1.355	2.496	3.402	-	3.402	4.299	3.924	9.783	9.952	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The MTVR Modification program line funds numerous and very important modifications and initiatives that are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, tool malfunctions, product quality deficiencies, beneficial suggestions 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 2012	FY 2013	FY 2014
<p>Title: Medium Tactical Vehicle Replacement (MTVR): Fuel Economy/Energy Efficiency</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Funding supported 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 CMC priorities for reducing costs, logistics footprint and improved environment.</p> <p>FY 2013 Plans: Funding will support increased 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 CMC priorities for reducing costs, logistics footprint and improved environment.</p> <p>FY 2014 Plans: Funding will 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.</p>	<p>0.300</p> <p>0</p>	<p>0.500</p> <p>0</p>	<p>2.411</p> <p>0</p>
<p>Title: Medium Tactical Vehicle Replacement (MTVR): Engineering Change Proposal (ECP)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Funding supported Engineering Change Proposal (ECP) development and testing for transportability of the MTVR vehicle. Specifically, funding supported ECPs and studies to improve MTVR Lighting Kit, Transportability of the MTVR fleet of vehicles, Lift</p>	<p>0.150</p> <p>0</p>	<p>0.500</p> <p>0</p>	<p>0.369</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services</i> <i>Supt</i>		PROJECT 9C90: <i>MTVR Mod</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
and Tie Down Provisions, Improved Wheel Ramps and Steering Gear Failures. Continual changes in threat environment requires on-going vehicle modifications to address new and changing threats which must be developed and tested.				
FY 2013 Plans: Funding will support Engineering Change Proposal (ECP) development and live fire and prototype testing for the MTVR program. Specifically, funding supported ECPs for Transportability of the MTVR fleet of vehicles and the Lift and Tie Down Provisions. Continual changes in threat environment requires on-going vehicle modifications to address new and changing threats which must be developed and tested.				
FY 2014 Plans: Funding will support 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 to address new and changing threats which must be developed and tested.				
Title: Medium Tactical Vehicle Replacement (MTVR): Safety		0.455	0.499	0.322
		Articles: 0	0	0
FY 2012 Accomplishments: Funding supported development, testing and modifications for Emergency Egress Windows, Blast seats and floor mats, relamination of transparent armor and brake based stability testing. These are in response to safety concerns to protect the warfighter and MTVR from possible catastrophic events as a result of continual changes in the current and future threat environments.				
FY 2013 Plans: Funding supported continued development, testing and modifications for Emergency Egress Windows, Blast seats and floor mats, relamination of transparent armor and brake based stability testing. These are in response to safety concerns to protect the warfighter and MTVR from possible catastrophic events as a result of continual changes in threat environment requires on-going vehicle modifications to address new and changing threats which must be developed and tested.				
FY 2014 Plans: Funding will support Engineering Change Proposal (ECP) development, various testing and modifications required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare for the MTVR program. In response to protect the warfighter and MTVR from possible catastrophic events as a result of continual changes in threat environment requires on-going vehicle modifications to address new and changing threats which must be developed and tested.				
Title: Medium Tactical Vehicle Replacement (MTVR): Integration		0.200	0.500	0.000
		Articles: 0	0	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Funding supported development and testing of components related to the integration of common video display into the MTVR vehicle. Continual changes in threat environment requires on-going vehicle modifications which need to be incorporated into the MTVR fleet of vehicles to address new and changing threats.</p> <p><i>FY 2013 Plans:</i> Funding will support development and testing of components related to the integration of brackets and cables to accommodate add-on components and equipment (such as Blue Force Tracker (BFT), radio jammers, Intercoms, Drivers Vision Enhancer (DVE), etc) for both CONUS and OCONUS vehicles. Continual changes in threat environment requires on-going vehicle modifications which need to be incorporated into the MTVR fleet of vehicles to address new and changing threats.</p>			
<p><i>Title:</i> Medium Tactical Vehicle Replacement (MTVR): Modeling & Simulation (M&S)</p> <p align="right"><i>Articles:</i></p>	0.250 0	0.497 0	0.300 0
<p><i>FY 2012 Accomplishments:</i> Funding provided continued support to address operational effectiveness and improved efficiencies of the MTVR vehicles with the use of the ADAMS software model.</p> <p><i>FY 2013 Plans:</i> Provide continued support to address operational effectiveness and improved efficiencies of the MTVR vehicles with the use of the ADAMS software model.</p> <p><i>FY 2014 Plans:</i> Funding will provide continued support to address operational effectiveness and improved efficiencies of the MTVR vehicles with the use of the ADAMS software model.</p>			
Accomplishments/Planned Programs Subtotals	1.355	2.496	3.402

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/505000: <i>MTVR Modifications</i>	41.789	44.334	1.542		1.542	7.498	9.503	10.033	10.214	Continuing	Continuing
• PMC/508800: <i>MTVR</i>	98.224	10.466	0.000		0.000	0.000	0.000	0.000	0.000	0.000	3,186.711
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>

D. Acquisition Strategy

The strategy for the MTVR Modification initiative is to be proactive in our approach. This will aid in the prevention of parts obsolescence, potential safety concerns, and support the needs of the Marine Corps. 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. The anticipated life of the MTVR was partially based on the vehicle being at curb weight a large percentage of its life time. Due to the addition of the MTVR Armor System, various other components and the current high optempo, it is anticipated that the MTVR life expectancy will be lessened. It is important to ensure MTVR sustainment in any and all circumstances and this Modification line supports this effort.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prototype Development & Testing	SS/T&M	Oshkosh:Warren, MI	18.500	0.000		0.000		0.000		-		0.000	0.000	18.500	
Subtotal			18.500	0.000		0.000		0.000		0.000		0.000	0.000	18.500	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ECP Development	SS/T&M	Oshkosh:Warren, MI	3.945	0.200	Mar 2012	0.250	Mar 2013	0.269	Mar 2014	-		0.269	0.713	5.377	
Integration	SS/T&M	Oshkosh:Warren, MI	1.750	0.200	Apr 2012	0.300	Apr 2013	0.000		-		0.000	0.000	2.250	
Safety Initiatives	SS/T&M	Oshkosh:Warren, MI	3.325	0.160	Jul 2012	0.249	Jul 2013	0.222	Jul 2014	-		0.222	0.700	4.656	
Energy Efficiency	Various	TBD:TBD	0.000	0.300	May 2012	0.500	May 2013	2.411	May 2014	-		2.411	19.800	23.011	
Subtotal			9.020	0.860		1.299		2.902		0.000		2.902	21.213	35.294	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Modeling and Simulation (SIL)	MIPR	TARDEC:Warren, MI	0.235	0.250	Apr 2012	0.497	Apr 2013	0.300	Apr 2014	-		0.300	0.300	1.582	
Component Upgrade, Prototype Testing	MIPR	APG:Aberdeen, MD	1.250	0.100	Jul 2012	0.250	Jul 2013	0.100	Jan 2014	-		0.100	0.000	1.700	
Operational Testing	WR	MCOTEA:Quantico, VA	2.750	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Live Fire Testing	MIPR	ATC/ARL:Aberdeen, MD	2.520	0.000		0.350	Jan 2013	0.100	Jan 2014	-		0.100	0.000	2.970	
Modeling and Simulation	WR	NSWC:Carderock	1.495	0.100	Jun 2012	0.000		0.000		-		0.000	0.000	1.595	
Component Upgrade, Prototype Testing	MIPR	NATC:NV	1.952	0.045	Jul 2012	0.100	Jul 2013	0.000		-		0.000	0.000	2.097	
Subtotal			10.202	0.495		1.197		0.500		0.000		0.500			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services</i> <i>Supt</i>			PROJECT 9C90: <i>MTVR Mod</i>				
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	37.722	1.355	2.496	3.402	0.000	3.402				

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>

Medium Tactical Vehicle Replacement (MTVR)																																
FISCAL YEARS	Prior Years				FY12				FY13				FY14				FY15				FY16				FY17				FY18			
Quarter	8	9	10	11	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
System Engineering																																
Safety and Vehicle Upgrades	SAFETY and VEHICLE UPGRADES																															
Armor ECPs	ARMOR ECP																															
MTVR Energy Initiatives																																
MTVR Warfighter Integration	MTVR WARFIGHTER INTEGRATION																															
Future Contracts																																
Follow-on Production Contract																																
Sustainment Contract Strategy																																
Follow On Production Test																																
Notes	Priority for Upgrades 1. Automatic Fire Extengushing Systems 2. Emergency Egress Windshields 3. Upgrades Blast Seats and Mat 4. Armor ECPs - 107, 108 & 110																															

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C90				
Follow-on Production Contract: Follow-on Production Contract Award	4	2012	4	2017
Follow-on Production Contract: Follow-on Production Testing 1	4	2012	4	2012
Follow-on Production Contract: Follow-on Production Testing 2	4	2013	4	2013
Follow-on Production Contract: Follow-on Production Testing 3	4	2014	4	2014
Follow-on Production Contract: Follow-on Production Testing 4	4	2015	4	2015
Sustainment Contract: Business Case Analysis	1	2013	4	2015
Sustainment Contract: Logistics Support Contract	3	2014	4	2018
Safety Modifications, ECP Upgrades and Integration: Safety Upgrades	1	2012	4	2018
Safety Modifications, ECP Upgrades and Integration: Armor Engineering Change Proposals	1	2012	4	2018
Safety Modifications, ECP Upgrades and Integration: Warfighter Integration	1	2012	4	2018
MTVR Energy Initiatives: Energy Initiative	1	2012	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	85.946	19.627	22.966	34.394	-	34.394	30.954	27.881	24.049	26.065	Continuing	Continuing
2272: <i>Intel Command and Control (C2) Sys</i>	85.946	19.627	22.966	34.394	-	34.394	30.954	27.881	24.049	26.065	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

* Funds for Project C2272 were realigned to PE 0206625M in FY 2010. Prior to FY10 funds resided in PE 0206313M.

* 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

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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	18.151	22.966	37.623	-	37.623
Current President's Budget	19.627	22.966	34.394	-	34.394
Total Adjustments	1.476	0.000	-3.229	-	-3.229
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.476	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	2.333	-	2.333
• Rate/Misc Adjustments	0.000	0.000	-5.562	-	-5.562

Change Summary Explanation

FY14 decrease of \$3.2M from PB13 represents schedule shifts in C4 developments.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0206625M: *USMC Intelligence/Electronics Warfare Sys*

The increase of \$11.4M from FY13 to FY14 is attributable to increased product development and testing for next-generation efforts and enhancements for four programs: Communication Emitter Sensing and Attacking System (CESAS), Joint Surveillance Target Attack Radar System (JSTARS), Tactical Remote Sensor System (TRSS) and Intelligence Analysis System (IAS).

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/ Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2272: <i>Intel Command and Control (C2) Sys</i>	85.946	19.627	22.966	34.394	-	34.394	30.954	27.881	24.049	26.065	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 either High Mobility Multipurpose Wheeled Vehicle (HMMWV)-mounted or 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. FY13 funding supports research, development and testing of incremental product improvements.

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 One Roof system, is the focal point of Radio Battalions (RADBN), Marine Corps Special Operations Command (MARSOC), and Fixed Wing Marine Electronic Attack Squadron (VMAQ) Signals Intelligence (SIGINT) operations. The 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. The 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 provided USMC tactical SIGINT collection and analytical data into the Real-Time Regional Gateway (RTRG) and Distributed Common Ground System (DCGS). Funding ramp up in FY14 to support increased capability of USMC Tactical SIGINT Collection Systems required to pass data to TCAC.

Joint Surveillance Target Attack Radar (JSTARS) connectivity program will research a future Ground Moving Target Indicator (GMTI) receive and exploitation system to be integrated into the Distributed Common Ground System-Marine Corps (DCGS-MC) and to replace the JSTARS legacy Common Ground Stations (CGS) and Joint Services Workstations (JSWS). FY14 engineering technical and management support will focus on the future GMTI exploitation system and integration into DCGS-MC.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/ Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
<p>Tactical Remote Sensor Systems (TRSS) will provide 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. The 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. As the Product Improvement Program proceeds, upgrading of individual components will occur on an as needed basis. The 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.</p> <p>Team Portable Collection System - Multi-Platform Capable (TPCS-MPC) - 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 for each system and is modular, lightweight and team transportable. The next upgrades will be the multi-platform capability and will allow the system to exploit information from more technically advanced target sets and will provide the MAGTF commander with a modular and scalable carry on/carry off suite of equipment. Overseas Contingency Operations (OCO) funds are needed to complete the development, integration, modification, and testing efforts. These new Radio Battalion (RadBn) Modifications (Mods) Field User Evaluation (FUE) systems will be transitioned into the TPCS configuration to include MoonShine, 4453 Receivers, ICS-401, Internal Directional Finding (DF) Processor, precision location tools, and Snap-in Sleeve Design. OCO funds are necessary to complete the development of these technology insertions to execute subsequent FY13 procurement and deployment to meet emerging Operation Enduring Freedom (OEF) requirements.</p> <p>Wide Field of View Persistent Surveillance (WFVPS) (formerly Angel Fire) is a capability that supports persistent Intelligence, Surveillance and Reconnaissance (ISR), Improvised Explosive Device (IED) mitigation, and actionable intelligence in urban and other operations (e.g. disaster relief, security, etc). It delivers broad area, near real time, geo-registered imagery down to the tactical level of execution. Consisting of airborne and ground components such as the airborne payload consists of an imagery sensor (currently Electro-Optical (EO)), on-board processors, and an air-to-ground communication link. Ground distribution network consists of the ground receive station, servers, storage and viewer client stations. WFVPS is a Marine Corps companion 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. The name of the program is Wide Focal Plane Array Camera (WFPAC). WFPAC represents a significant additive/new capability for the CIED fight.</p> <p>MAGTF Secondary Imagery Dissemination System (MSIDS) is the only ground prospective Family of Systems (FoS) that 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 or receive images in Near Real Time (NRT), internally with subordinate commands that are widely separated throughout the areas of operation and externally with higher 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 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 MSIDS Video Exploitation Workstation (VEW) requirement within Infantry Battalions and Wing units, down to the squadron level, grew from 18 to 140 in FY12. The VEW is utilized 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</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/ Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
<p>capability. MSIDS FoS is currently employed in every location world-wide where the Marine Corps participates in military operations to include Irregular Warfare. MSIDS is currently or has been employed in Iraq, Kuwait, Afghanistan, Haiti, Philippines, and Horn of Africa.</p> <p>Intelligence Equipment Readiness (IER) support rapid prototyping and integration of emerging technologies involving national systems data. The IER provides a responsive capability to alleviate Marine Corps intelligence systems shortfalls created by the rapidly evolving missions, threats and command relationships associated with Overseas Contingency Operations (OCO). The program provides for rapid technology insertion, reaction 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 rapidly mitigates intelligence infrastructure shortfalls through exploitation of Commercial Off-the-Shelf (COTS), Government Off-the-Shelf (GOTS) and Non-Developmental Item technology to the greatest extent practical. This effort also centralizes support for Marine Corps intelligence infrastructure items and systems that are not separately identified within the program funding lines. IER addresses requirements that span the entire Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISR-E).</p> <p>Intelligence Analysis System, Family of Systems (IAS FoS) supports the employment of systems that provide 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 mission, and provides a tactical intelligence capability tailored to meet specific mission requirements from conventional to irregular warfare. R&D funding provides for the integration, system testing, and evaluation of advanced analytic technologies into the Intelligence Analysis System (IAS) Family of Systems (FoS) to directly support the Marines in all deployed environments. 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. FY14 increase will also support development of Sensitive Compartmented Information (SCI) variant. Effective in FY12, the GCCS-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.</p> <p>Radio Reconnaissance Equipment Program (RREP) provides the Radio Battalions (RadBns), Radio Reconnaissance Platoons (RRP), and the Marine Corps Special Operations Command (MARSOC) Direct Support Teams (DSTs) with mission unique Signals Intelligence/Ground Electronic Warfare (SIGINT/EW) Equipment suites. The latest suite of equipment, 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 currently maintaining 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.</p> <p>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 in accordance with applicable national oversight directives. CIHEP provides each CI/HUMINT Company (CIHCo) with a suite of state-of-the-market equipment comprised of commercial-off-the-shelf, government-off-the-shelf, and non-developmental items (COTS/GOTS/NDI). It</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/ Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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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 additional Programs of Record, providing a significant reduction in size and weight from the currently fielded system. 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 detect, disrupt, degrade or deny 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. It is a D-30, Tier 3 system which 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. Funding is required in FY 2013 and beyond for development of the next generation Marine Corps ground electronic attack system (CESAS II). This funding will also assist in the development of the advanced componentry required to reduce equipment damage realized by the Radio Battalions(RadBns) due to enemy engagement and platform suspension issues across rugged terrain.

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.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Title: *Technical Control and Analysis Center PIP (TCAC-PIP): Product Development</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Continued software upgrade for the Remote Analysis Workstation (RAWS) Transportable Work Station (TWS) and planned integration of the Cyber Analysis Tools into the TCAC Family of Systems (FoS). Planned integration of Windows 7 into the TWS laptop. Integrated GALE 5.2 software into the TCAC baseline.</p> <p>FY 2013 Plans: Planned integration of Cyber Analysis Tools in the TCAC Family of Systems (FoS) and data exchange enhancements.</p> <p>FY 2014 Plans: Integration of TCAC 5.0 analysis tools and Multiple Level Security/Cross Domain Solution into the TCAC Family of Systems (FoS).</p>	<p>1.678</p> <p>0</p>	<p>3.406</p> <p>0</p>	<p>4.249</p> <p>0</p>
<p>Title: *SCI COMMS: Support - Engineering and Technical Support</p> <p align="right">Articles:</p>	<p>0.431</p> <p>0</p>	<p>1.195</p> <p>0</p>	<p>1.056</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/</i> <i>Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Funding utilized for engineering and technical support.</p> <p><i>FY 2013 Plans:</i> Funding will support an Analysis of Alternatives(AoA) for the Team Level variant. RDT&E is required for Bandwidth in order to test for interoperability and accreditation for Top Secret/Sensitive Compartmented Information(TS/SCI) connectivity with the TROJAN Network Center.</p> <p><i>FY 2014 Plans:</i> Funding will support the test and evaluation of all SCI COMMS platforms (Mobile, Team, Platform) 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.</p>				
<p><i>Title:</i> *Joint Surveillance Target Attack Radar System (JSTARS): Test and Evaluation</p> <p align="right"><i>Articles:</i></p>		0.000	0.431 0	1.711 0
<p><i>FY 2013 Plans:</i> Engineering technical and management support and MTI integration.</p> <p><i>FY 2014 Plans:</i> Testing support for the next generation GMTI exploitation system.</p>				
<p><i>Title:</i> *Technical Control and Analysis Center PIP (TCAC-PIP): Support</p> <p align="right"><i>Articles:</i></p>		1.237 0	1.100 0	0.611 0
<p><i>FY 2012 Accomplishments:</i> Continued program management support for the Integration of the EA-6B ICAP III Block 5 capability into the TCAC FoS.</p> <p><i>FY 2013 Plans:</i> Continue program management support for the Integration of the Cyber Analysis Tools into the TCAC FoS.</p> <p><i>FY 2014 Plans:</i> Continue program management support for the Integration of the Cyber Analysis Tools into the TCAC FoS.</p>				
<p><i>Title:</i> *Joint Surveillance Target Attack Radar System (JSTARS): Product Development</p> <p align="right"><i>Articles:</i></p>		0.000	0.000	1.942 0
<p><i>FY 2014 Plans:</i> Develop and integrate next generation Ground Moving Target Indicator(GMTI)exploitation system.</p>				
<p><i>Title:</i> *Team Portable Collection System (TPCS): Support</p>		0.837	0.717	1.152

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/</i> <i>Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Articles:		0	0	0
FY 2012 Accomplishments: Planned program support and management with Space and Naval Warfare Systems Command Systems Center-Atlantic.				
FY 2013 Plans: Plan program support and management with Space and Naval Warfare Systems Command Systems Center-Atlantic.				
FY 2014 Plans: Plan program support and management with Space and Naval Warfare Systems Command Systems Center-Atlantic.				
Title: *Tactical Remote Sensor System (TRSS): Test and Evaluation - IOT&E, Increment II		0.350	0.150	0.417
Articles:		0	0	0
FY 2012 Accomplishments: Planned IOT&E for the TRSS 6.0 baseline.				
FY 2013 Plans: Continue planned test and evaluation events and documentation for the TRSS 6.0 baseline.				
FY 2014 Plans: Funding provides for the test and evaluation events/IOT&E, including the necessary documentation for the TRSS Common Sensor Radio (CSR) baseline.				
Title: *Tactical Remote Sensor System (TRSS): Product Development - CSR Integration		0.400	0.000	1.762
Articles:		0		0
FY 2012 Accomplishments: Continued the CSR integration. \$343K of this integration effort will be for the required development of the critical upgrades to TRSS systems for Overseas Contingency Operations. The development improves the TRSS sensor systems integration with theater-provided-equipment/sensor systems currently in OEF.				
FY 2014 Plans: Perform TRSS Common Sensor Radio (CSR) modernization initiative to standardize communication. This modernization effort is required to develop the critical upgrades to TRSS systems to improve the sensor systems' interoperability with other military equipment/sensor systems currently in use and being developed.				
Title: *Tactical Remote Sensor System (TRSS): Product Development - RSMS VER 4.2.2.		0.295	0.310	0.000
Articles:		0	0	
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/</i> <i>Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continued TRSS evolutionary software upgrade to Sentinel VER 1.6. FY 2013 Plans: Continue TRSS evolutionary software upgrade to Sentinel VER 2.0.				
Title: *Wide Field of View Persistent Surveillance (WVPS): Product Development Articles:		0.256 0	0.025 0	0.027 0
FY 2012 Accomplishments: Product development for Ground Receive Station. FY 2013 Plans: Continue product development. FY 2014 Plans: Continue product development.				
Title: *Tactical Remote Sensor System (TRSS): Support - Engineering and Technical Articles:		0.307 0	0.600 0	0.996 0
FY 2012 Accomplishments: Continued the engineering and technical management support, specifically required for developing critical upgrades to TRSS systems for Overseas Contingency Operations. This software development improves the TRSS sensor management software in order to integrate TRSS sensor systems with theater-provided-equipment sensor systems in OEF. FY 2013 Plans: Continue the on-going engineering and technical management support for testing and integrating the detector upgrades. FY 2014 Plans: Perform engineering and technical management support required for developing critical upgrades to TRSS systems. In FY14, the TRSS Common Sensor Radio (CSR) modernization initiative will standardize communication and interoperability with other military equipment/sensor systems currently in use and being developed.				
Title: *Team Portable Collection System (TPCS): Test and Evaluation Articles:		1.089 0	0.665 0	0.803 0
FY 2012 Accomplishments: Post Production Testing for the Block O Modifications and ANS/PGL performance and environmental testing. FY 2013 Plans:				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Post Production Testing for the Block O Modifications and DNI performance and environmental testing.				
FY 2014 Plans: Test and evaluation efforts for technology refresh of the Master Station and technology insertion to support additional signals of interest.				
Title: *Team Portable Collection System (TPCS): Product Development		3.267	2.915	1.853
		Articles: 0	0	0
FY 2012 Accomplishments: System development of technology insertion upgrades. FY12 OCO (\$1.5M) was obligated to meet new requirements to integrate Special Intelligence technologies. Overseas Contingency Operations (OCO) funds were executed to complete the development, integration, modification, and testing efforts with Space and Naval Warfare Systems Command Atlantic (SSCA). Two Radio Battalion (RadBn) Modifications (Mods) Field User Evaluation (FUE) systems were transitioned into the TPCS configuration: ICS-201, and precision location tools. OCO funds were necessary to complete the development of these technology insertions to execute subsequent FY13 procurement and deployment to meet emerging Operation Enduring Freedom (OEF) requirements.				
FY 2013 Plans: Continue to fund the integration of the Special Intelligence technologies, Digital Network Intelligence (DNI). Funding will be utilized for upgrades to the workstations and increase capability for graphic card in order to keep pace with the software load in addition to increasing speed and solid state hard drives.				
FY 2014 Plans: Develop technology refresh of the Master Station and technology insertion to support additional signals of interest.				
Title: *Wide Field of View Persistent Surveillance (WFVPS): Support - Engineering and Technical		0.178	0.000	0.000
		Articles: 0		
FY 2012 Accomplishments: Engineering and technical support for Persistent Intelligence Surveillance and Reconnaissance (P-ISR).				
Title: *MAGTF Secondary Imagery Dissemination System (MSIDS): Support - Engineering and Technical		0.288	0.379	0.388
		Articles: 0	0	0
FY 2012 Accomplishments: Performed technical and engineering support for product development of hardware and software refresh.				
FY 2013 Plans:				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue on-going technical and engineering support for product development of hardware and software refresh. FY 2014 Plans: Continue on-going technical and engineering support for product development of hardware and software refresh.				
Title: Intelligence Equipment Readiness (IER): Product Development Articles:		0.398 0	0.000	0.560 0
FY 2012 Accomplishments: GDAP Enhancements. FY 2014 Plans: Product development for Rapid Technology Insertion.				
Title: *Intelligence Equipment Readiness (IER): Support - Program and Technical Articles:		2.623 0	2.243 0	0.000
FY 2012 Accomplishments: Continued program management and technical support for Rapid Technology Insertion. Funding continued to support rapid prototyping and integration of emerging technologies involving national systems data. \$1.016K to TENCAP Program Support, \$586K Program Support for Space and Missile Defense Command, \$100K for Network Nodes at Empire Challenge, \$100K JITC for DDTE Tranportable Nodes, and \$820K for Navy Systems Management Activity (NSMA). FY 2013 Plans: \$1.1M for Navy Systems Management Activity (NSMA) for GDAP Enhancement. \$1.1M for NRL for GDAP Enhancement.				
Title: *Intelligence Analysis System, Mod Kit (IAS): Product Development Articles:		1.504 0	1.079 0	1.571 0
Description: Effective in FY12, the Global Command Control Station (GCCS)-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line. FY 2012 Accomplishments: Support software development and integration of all IAS FoS related COTS and GOTS software.				

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/</i> <i>Electronics Warfare Sys</i>		PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>FY12 OCO funding was requested to conduct integration, system testing, and evaluation of technology to incorporate into Intelligence Analysis Systems (IAS) Family of Systems (FoS) to directly support the Marines in OEF-A. Current intelligence efforts in Afghanistan have demonstrated a compelling need for COTS/GOTS product purchases to provide improved linking of structured and unstructured data sources, data and information discovery, and improved interoperability of data and exchange amongst the existing toolset applications. Without funding, the impact to OEF-A, as well as other Marine Corps overseas efforts, will be the lack of the Marines, and IAS FoS's ability 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 support of OEF, or other overseas contingency operations.</p> <p>FY 2013 Plans: Plan to support software development and integration of all IAS FoS related COTS and GOTS software.</p> <p>FY 2014 Plans: R&D funding provides for the integration, system testing, and evaluation of advanced analytic technologies into the Intelligence Analysis System (IAS) Family of Systems (FoS). 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.</p>				
<p>Title: Radio Recon Equipment Program (RREP): Test and Evaluation</p> <p align="right">Articles:</p> <p>FY 2014 Plans: Conduct testing and evaluation of technology insertions.</p>		0.000	0.000	0.034 0
<p>Title: *Intelligence Analysis System, Mod Kit (IAS): Support</p> <p>Description: Effective in FY12, the Global Command Control Station (GCCS)-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.</p> <p>FY 2012 Accomplishments: Program management supported the integration and updates of the GCCS-I3 software into the IAS FoS software baseline. Purchased of R&D prototyping software/hardware efforts for future IAS FoS software baselines.</p> <p>\$1,400K OCO to conduct integration, system testing, and evaluation of technology to incorporate into IAS FoS to directly support the Marines in OEF-A.</p> <p>FY 2013 Plans:</p>		2.444 0	1.056 0	3.096 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Program management support for the integration and updates of the GCCS-I3 software into the IAS FoS software baseline. Planned purchase of R&D prototyping software/hardware efforts for future IAS FoS software baselines.</p> <p>FY 2014 Plans: Fund integration of advanced analytics tools into the IAS FoS software baseline.</p>				
<p>Title: *Radio Recon Equipment Program (RREP): Support - Program and Technical</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Provided program support. Developed and integrated man-packable Network Survey/Terminal Guidance capability.</p> <p>FY 2013 Plans: Provide program support. Develop technology refresh of basic collection receivers and workstations.</p> <p>FY 2014 Plans: Provide program support. Develop technology refresh of Advanced collection kit.</p>		0.831 0	1.127 0	1.436 0
<p>Title: *Counterintel and Human Intel Equip (CIHEP): Support - Engineering and Technical</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Conducted the materiel solution analysis, and continued the engineering, integration, and technical support for the refresh of CIHEP hardware and software.</p> <p>FY 2013 Plans: Continue the on-going materiel solution analysis, and the engineering, integration, and technical support for the evolving refresh of the CIHEP hardware and software.</p> <p>FY 2014 Plans: Continue the engineering, integration, and technical support for the evolving refresh of the various CIHEP hardware and software.</p>		0.133 0	0.185 0	0.191 0
<p>Title: *Communication Emitter Sensing and Attacking System (CESAS): Product Development</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: \$500K OCO: Center Dahlgren (NSWC-D) to assist in the development of the advanced componentry required to reduce equipment damage realized by the Radio Battalions (RadBns) due to enemy engagement and platform suspension issues across rugged terrain.</p> <p>FY 2013 Plans:</p>		0.500 0	2.080 0	2.523 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>This funding is required for development efforts for the next generation Marine Corps ground electronic attack system (CESAS II). Funding will provide for development of prototypes that will require modifications to ensure requirements to delay, disrupt, and deny communications are met. Will be conducting systems engineering tests such as the System Requirements Review (SRR) and System Functional Review (SFR).</p> <p>OCO: This funding is required to support software upgrades and Information Assurance updates for systems supporting MEF(FWD) ground mobile EA activities in OEF-A. There is a requirement to conduct annual contingency plan testing as well as continue development of Tactics, Techniques, and Procedures to counter emerging threats. If these funds are not provided, the MAGTF Commanders' ability to degrade enemy C2 networks will be severely limited.</p> <p>FY 2014 Plans: This funding is required for development efforts for the next generation Communication Emitter Sensing and Attacking System 2 (CESAS II). TRR (Test Readiness Review), SVR (System Verification Review) and PRR (Production Readiness Review) will be conducted.</p>				
<p>Title: *Communication Emitter Sensing and Attacking System (CESAS): Test and Evaluation</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Funding is required for the next generation Marine Corps ground electronic attack system (CESAS II). Funding will provide for the preparation of test plans and procedures.</p> <p>FY 2014 Plans: Funding is required for the next generation Marine Corps ground electronic attack system (CESAS II). Funding will pay for the test facility, Test Readiness Review (TRR) and the Developmental Test (DT).</p>		0.000	0.625 0	2.750 0
<p>Title: *Communication Emitter Sensing and Attacking System (CESAS): Support</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Program support and management.</p> <p>FY 2014 Plans: Program support and management. Increase is associated with development of the next generation CESAS II.</p>		0.000	0.502 0	2.150 0
<p>Title: *Intelligence Broadcast Receiver (IBR): Support</p> <p align="right">Articles:</p>		0.368 0	0.176 0	0.000

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
				FY 2012	
				FY 2013	
				FY 2014	
FY 2012 Accomplishments: Planned contractor program support for Navy Systems Management Activity (NSMA).					
FY 2013 Plans: Plan contractor program support for Navy Systems Management Activity (NSMA).					
Title: *Intelligence Broadcast Receiver (IBR): Product Development		Articles:	0.213 0	0.000	0.987 0
FY 2012 Accomplishments: Common Interactive Broadcast Conformance test certification.					
FY 2014 Plans: Develop Common Interactive Broadcast and Tactical Receive Segment (TRS).					
Title: *Tactical Exploitation of National Capabilities (TENCAP): Program Support		Articles:	0.000	0.500 0	0.629 0
FY 2013 Plans: Provide program management and support for the evaluation of emerging national and Intelligence Community technologies applicability to the operating forces. Conduct technical assessments through field user evaluations of innovative technological capabilities for assessment of insertion into the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE). Continue to support operational planning and enhanced Operating Force capabilities to utilize technology innovation within the MAGTF ISR architecture. Continue 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.					
Title: *Tactical Exploitation of National Capabilities (TENCAP): Technical Assessments		Articles:	0.000	1.500 0	1.500 0
FY 2013 Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Conduct research and development, advanced technology demonstrations, and integration of emerging technologies into the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISR-E). Conduct technical assessments of innovative national data receipt and dissemination capabilities for insertion into the MCISR-E. Coordinate with national agencies 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.			
<i>FY 2014 Plans:</i> 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.			
Accomplishments/Planned Programs Subtotals	19.627	22.966	34.394

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/474707: <i>RREP</i>	2.166	0.000	1.489		1.489	1.288	5.225	0.966	2.261	Continuing	Continuing
• PMC/700000: <i>IER SPARES</i>	0.000	0.122	0.138		0.138	0.142	0.144	0.134	0.136	Continuing	Continuing
• PMC/474757: <i>JSTARS</i>	0.000	0.000	3.109		3.109	3.244	0.000	0.000	0.000	0.000	6.353
• PMC/474713: <i>TRSS</i>	11.582	0.000	8.766		8.766	8.845	7.535	3.900	3.970	Continuing	Continuing
• PMC/700005: <i>IAS SPARES</i>	0.090	0.099	0.100		0.100	0.101	0.104	0.157	0.160	Continuing	Continuing
• PMC/474751: <i>WVPS</i>	1.344	0.000	0.000		0.000	2.767	0.828	0.587	0.605	Continuing	Continuing
• PMC/474719: <i>MSIDS</i>	11.675	6.380	9.320		9.320	7.025	4.896	8.071	8.216	Continuing	Continuing
• PMC/700009: <i>SCI COMMS SPARES</i>	0.000	0.000	0.100		0.100	0.700	0.000	0.000	0.000	0.000	0.800
• PMC/474727: <i>TPCS</i>	13.503	16.550	12.360		12.360	8.378	5.132	6.948	5.607	Continuing	Continuing
• PMC/474763: <i>CESAS</i>	0.000	0.000	2.272		2.272	10.173	2.637	2.730	0.000	Continuing	Continuing
• PMC/474761: <i>IAS</i>	6.505	0.000	8.632		8.632	2.157	6.620	6.473	9.968	Continuing	Continuing
• PMC/474737: <i>SCI COMMS</i>	16.545	0.000	12.875		12.875	8.414	0.542	0.686	0.235	Continuing	Continuing
• PMC/474755: <i>TCAC</i>	11.241	2.516	0.202		0.202	13.000	11.228	5.214	9.216	Continuing	Continuing
• PMC/474705: <i>IER</i>	10.769	0.000	0.171		0.171	0.176	0.651	0.204	0.940	Continuing	Continuing
• PMC/474717: <i>IBR</i>	6.994	1.562	1.134		1.134	1.008	0.412	0.420	0.428	Continuing	Continuing
• PMC/700003: <i>TRSS SPARES</i>	0.000	0.119	0.144		0.144	0.127	0.123	0.064	0.065	Continuing	Continuing

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

Line Item	FY 2012	FY 2013	FY 2014	FY 2014	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PMC/700007: <i>MSIDS SPARES</i>	0.000	0.449	0.185		0.185	0.516	0.527	0.809	0.824	Continuing	Continuing

Remarks

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. The integration effort for TCAC software and hardware components will be accomplished under the control of MCSC. These activities report to and are directed by the PM Marine Intelligence, Marine Corps Systems Command (MARCORSYSCOM).

(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: The TRSS are typically Non-Developmental Item (NDI) integration efforts, making maximum use of the efforts of hardware and software initially developed by other DoD organizations and programs. The initial phases of each increment are government-led, while the production phase, which encompasses the production, fielding, training and initial support of the systems, is firm-fixed price efforts.

(U) ACQUISITION STRATEGY TPCS: The ever-increasing sophistication of target threats and information technology necessitates an evolutionary acquisition approach. TPCS will make incremental improvements through maximum use of COTS, GOTS and NDI. These technology insertions and product improvements will ensure the Radio Battalions maintain cutting edge technologies and collection capabilities. Technology insertion and refresh is developed by government personnel at the Lead System Integrator, the Space and Naval Warfare Support Center Atlantic (SSC-A). for procurement, product integration and limited product development, TPCS leverages existing SSC-A competitively awarded Multiple Award Contracts.

(U) ACQUISITION STRATEGY WFPAC: Marine Corps funds the development of the Ground Receive Station (GRS) for the Wide Focal Plane Array Camera (WFPAC). Development, integration, interoperability and testing are divided between Marine Corps Systems Command (MCSC) as lead integrator, the Army Program Manger, Unmanned Aerial Systems (PM UAS), Naval Air Systems Command (NAVAIR), and Naval Research Laboratory (NRL).

(U) ACQUISITION STRATEGY MSIDS: Research, test and integrate new technology to keep pace with the evolving Marine Corps operational needs. Acquisition will maximize the use of NDI/COTS hardware and software to ensure the supporting units maintain cutting edge technology and collection capabilities.

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<p>(U) ACQUISITION STRATEGY IER: This program seeks to support a wide range of technology solutions based on the requests received from the Operating Forces and/or PM Intelligence Program of Record. The request must require solution evaluation beyond merely acquisition to be recommended as a Rapid Technology Insertion (RTI) candidate. Each request will be validated by the RTI team and approved by PM Marine Intelligence before solution evaluation begins. The RTI program will use COTS/GOTS/NDI solutions to the greatest extent possible.</p> <p>(U) ACQUISITION STRATEGY IAS: The IAS program uses existing Government contracts for hardware and software development and integration. The system is comprised primarily of Commercial Off-the-Shelf (COTS) and Government Off-The-Shelf (GOTS) equipment. The IAS FoS utilizes an evolutionary strategy to ensure periodic incorporation of state-of-the-art technology that meets both current and future Marine Corps intelligence requirements while maintaining system readiness and reliability.</p> <p>(U) ACQUISITION STRATEGY RREP: The ever-increasing sophistication of target threats and information technology necessitates an evolutionary acquisition approach. RREP will make incremental improvements through maximum use of COTS, GOTS and NDI. These technology insertions and product improvements will ensure the Radio Battalions maintain cutting edge technologies and collection capabilities. Technology insertion and refresh is developed by government personnel at the Lead System Integrator, the Space and Naval Warfare Support Center Atlantic (SSC-A). for procurement, product integration and limited product development, TPCS leverages existing SSC-A competitively awarded Multiple Award Contracts.</p> <p>(U) ACQUISITION STRATEGY CIHEP: The CIHEP program employs a block approach of refreshing. Each year all or a portion of several of the 12 CIHEP modules is refreshed. Refresh rates vary by equipment, at one extreme with cameras and computers being refreshed every third year, and at the other with lens, night visions, and tactical radios being refreshed every seven years. CIHEP's block refresh approach facilitates the effective incorporation of technological advances and allows procurements to be evenly spread across the FYDP. To the maximum extent possible, existing contracts and relationships with other entities are leveraged to provide cost savings and capitalize on research and development already being done. Obsolescence will be addressed in the CIHEP Fielding Plans and In-Service Management Plans (ISMPs); the Program Office will use Defense Reutilization and Marketing Office procedures in order to extend the use of serviceable equipment throughout the Department of Defense (DoD) or other government agencies.</p> <p>(U) ACQUISITION STRATEGY IBR: Existing external contract will be used for Common Interactive Broadcast (CIB) upgrade development and COMSEC upgrade integration for USB ENTR and Joint Tactical Terminal (JTT) Senior to meet DoD and NSA mandates for MIL-STD waveform integration and COMSEC modernization.</p> <p>(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).</p> <p>(U) ACQUISITION STRATEGY CESAS: CESAS II development will consist of COTS and NDI integration into an existing GOTS architecture. Integration efforts will be conducted primarily by government personnel at the Lead System Integrator, the Space and Naval Warfare Support Center Atlantic (SSC-A) and the CESAS II development activity, the Naval Air Warfare Center -Pt Magu CA. For procurement, product integration and limited product development, TPCS leverages existing SSC-A and NAWC Pt Magu competitively awarded contracts.</p>		

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E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/</i> <i>Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TENCAP	C/CPFF	ManTech1:STAFFORD, VA	32.094	0.000		0.500	Apr 2013	0.629	Apr 2014	-		0.629	0.000	33.223	
TRSS	C/CPFF	L3 NOVA:CINCINNATI, OH	2.575	0.000		0.000		0.000		-		0.000	0.000	2.575	
TRSS	C/CPFF	ManTech2:STAFFORD, VA	3.865	0.310	Feb 2012	0.310	Dec 2012	0.000		-		0.000	0.000	4.485	
SCI COMMS	MIPR	CECOM/WIN-T:FT. MONMOUTH, NJ	0.826	0.431	Apr 2013	0.000		0.000		-		0.000	0.000	1.257	
TCAC	C/CPFF	SPAWAR2:CHARLESTON, SC	0.000	0.000		0.439	Apr 2013	1.000	Jan 2014	-		1.000	0.000	1.439	
TCAC	C/FFP	ManTech4:STAFFORD, VA	0.000	0.000		2.167	Feb 2013	0.000		-		0.000	0.000	2.167	
TCAC	C/FFP	NSWC CRANE:CRANE, IN	0.000	0.700	Aug 2012	0.800	Apr 2013	0.000		-		0.000	0.000	1.500	
TCAC	WR	SPAWAR8:San Diego, CA	0.000	0.978	Oct 2012	0.000		3.249	Jan 2014	-		3.249	0.000	4.227	
CESAS	C/FFP	SPAWAR4:CHARLESTON, SC	0.000	0.000		2.080	Apr 2013	0.000		-		0.000	0.000	2.080	
SCI COMMS	C/FFP	ManTech3:STAFFORD, VA	0.000	0.000		0.483	Nov 2012	0.316	Nov 2013	-		0.316	0.000	0.799	
WFVPS	C/CPFF	SPAWAR5:CHARLESTON, SC	0.000	0.256	Jun 2012	0.025	Feb 2013	0.027	Jun 2014	-		0.027	0.000	0.308	
IER	C/CPFF	NRL:ARLINGTON, VA	0.000	0.398	Sep 2012	0.000		0.560	Jun 2014	-		0.560	0.000	0.958	
TENCAP	C/CPFF	SPAWAR6:CHARLESTON, SC	0.000	0.000		1.500	Jan 2013	1.500	Jan 2014	-		1.500	0.000	3.000	
IBR	SS/CPFF	ASPO:CHANTILLY, VA	0.000	0.000		0.000		0.737	Nov 2013	-		0.737	0.000	0.737	
IBR	SS/CPFF	SSC PAC:SAN DIEGO, CA	0.000	0.000		0.000		0.250	Feb 2014	-		0.250	0.000	0.250	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/</i> <i>Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IBR	C/CPFF	JITC:FORT HUACHUCA, AZ	0.000	0.213	Feb 2012	0.000		0.000		-		0.000	0.000	0.213	
JSTARS	C/FFP	Navy Research Lab (NRL):Washington DC	0.000	0.000		0.000	Dec 2013	1.942	Dec 2013	-		1.942	0.000	1.942	
TRSS	WR	SPAWAR7:CHARLESTON, SC	0.000	0.702	Jun 2012	0.000		1.762	Jan 2014	-		1.762	0.000	2.464	
CESAS	TBD	TBD:TBD	0.000	0.000		0.000		2.523	Feb 2014	-		2.523	0.000	2.523	
IAS	C/CPFF	SPAWAR3:CHARLESTON, SC	1.739	1.504	Jan 2013	1.079	Jan 2013	1.571	Jan 2014	-		1.571	0.000	5.893	
CESAS	WR	NSWC-D:DAHLGREN, VA	0.000	0.500	Mar 2012	0.000		0.000		-		0.000	0.000	0.500	
TPCS	C/FFP	SPAWAR1:CHARLESTON, SC	8.663	2.500	Oct 2011	2.915	Apr 2013	1.853	Jan 2014	-		1.853	0.000	15.931	
TPCS	C/FFP	ManTech5:STAFFORD, VA	0.000	0.767	Feb 2012	0.000		0.000		-		0.000	0.000	0.767	
Subtotal			49.762	9.259		12.298		17.919		0.000		17.919	0.000	89.238	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TRSS	C/CPFF	ManTech1:STAFFORD, VA	12.896	0.340	Jul 2012	0.600	Feb 2013	0.000		-		0.000	Continuing	Continuing	Continuing
MSIDS	C/CPFF	ManTech2:Stafford, VA	0.537	0.288	Sep 2012	0.379	Nov 2012	0.388	Jan 2014	-		0.388	0.000	1.592	
CIHEP	WR	SPAWAR:CHARLESTON, SC	0.383	0.067	Mar 2012	0.092	Apr 2013	0.191	Jan 2014	-		0.191	Continuing	Continuing	Continuing
IBR	C/CPFF	ManTech3:STAFFORD, VA	1.559	0.368	Jul 2012	0.176	Dec 2012	0.000		-		0.000	0.000	2.103	
IER	Various	VAR:VAR	1.933	0.101	Jul 2012	1.143	Jun 2013	0.000		-		0.000	0.000	3.177	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/</i> <i>Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JSTARS	C/CPFF	ManTech4:STAFFORD, VA	0.721	0.000		0.431	Apr 2013	0.000		-		0.000	0.000	1.152	
RREP	WR	NSWC:CRANE, IN	0.742	0.363	Feb 2012	0.369	Dec 2012	0.000		-		0.000	0.000	1.474	
RREP	C/CPFF	ManTech5:STAFFORD, VA	0.743	0.352	Feb 2012	0.508	Nov 2012	0.000		-		0.000	0.000	1.603	
RREP	C/FFP	ManTech6:Stafford, VA	0.140	0.090	Nov 2012	0.250	Feb 2013	0.000		-		0.000	0.000	0.480	
WFVPS	C/CPFF	LANL:LOS ALAMOS, NM	0.488	0.000		0.000		0.000		-		0.000	0.000	0.488	
IER	C/CPFF	ManTech8:STAFFORD, VA	0.000	0.820	Jul 2012	1.100	Feb 2013	0.000		-		0.000	0.000	1.920	
CIHEP	C/CPFF	ManTech10:STAFFORD, VA	0.000	0.060	Nov 2011	0.093	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
CESAS	WR	SPAWAR:CHARLESTON, SC	0.000	0.000		0.502	Jan 2013	0.000		-		0.000	0.000	0.502	
WFVPS	C/CPFF	ManTech11:STAFFORD, VA	0.000	0.178	Jul 2012	0.000		0.000		-		0.000	0.000	0.178	
TPCS	WR	SPAWAR1:CHARLESTON, SC	1.650	0.677	Jan 2012	0.717	Feb 2013	1.152	Jan 2014	-		1.152	0.000	4.196	
TRSS	C/FFP	SPAWAR2:CHARLESTON, SC	0.000	0.000		0.000		0.996	Jan 2014	-		0.996	0.000	0.996	
RREP	C/FFP	MCSC:QUANTICO, VA	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	
RREP	C/FFP	SPAWAR:CHARLESTON, SC	0.000	0.000		0.000		1.436	Jan 2014	-		1.436	0.000	1.436	
CESAS - Spt	C/FFP	NAWC:Point Magu, CA	0.000	0.000		0.000		1.200	Feb 2014	-		1.200	0.000	1.200	
CESAS	C/FFP	MCSC:QUANTICO, VA	0.000	0.000		0.000		0.950	Feb 2014	-		0.950	0.000	0.950	
SCI COMMS	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.552	Jun 2013	0.580	Jun 2014	-		0.580	0.000	1.132	
TPCS	C/FFP	SAIC:Stafford, VA	0.000	0.116	Feb 2012	0.000		0.000		-		0.000	0.000	0.116	
CIHEP	C/CPFF	ManTech:Stafford, VA	0.000	0.006	Nov 2012	0.000		0.000		-		0.000	0.000	0.006	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/</i> <i>Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
RREP	PO	MCSC1:Quantico, VA	0.000	0.019	Jul 2012	0.000		0.000		-		0.000	0.000	0.019	
RREP	PO	MCSC2:Quantico,VA	0.000	0.007	Sep 2012	0.000		0.000		-		0.000	0.000	0.007	
TPCS	WR	SPAWAR-A:CHARLESTON, SC	0.000	0.044	Dec 2011	0.000		0.000		-		0.000	0.000	0.044	
IER	C/FFP	ONR:Arlington, VA	0.000	1.016	Sep 2012	0.000		0.000		-		0.000	0.000	1.016	
IER	C/FFP	SMDC:Huntsville, AL	0.000	0.586	Jul 2012	0.000		0.000		-		0.000	0.000	0.586	
IER	C/FFP	JITC:Ft. Huachuca, AZ	0.000	0.100	Jul 2012	0.000		0.000		-		0.000	0.000	0.100	
SCI COMMS	MIPR	US Army, MITRE:Stafford, VA	0.000	0.000		0.160	Mar 2013	0.160	Jan 2014	-		0.160	0.000	0.320	
TCAC	C/CPFF	ManTech7:STAFFORD, VA	0.000	0.058	Jul 2012	1.100	Feb 2013	0.000		-		0.000	0.000	1.158	
TCAC	C/FFP	MCSC:Quantico, Va	0.000	0.000		0.000		0.611	Jan 2014	-		0.611	0.000	0.611	
TCAC	WR	SPAWAR:CHARLESTON, SC	0.000	0.797	Jun 2012	0.000		0.000		-		0.000	0.000	0.797	
TCAC	C/CPFF	SPAWAR-A:CHARLESTON, SC	0.000	0.382	Aug 2012	0.000		0.000		-		0.000	0.000	0.382	
IAS	C/CPFF	SPAWAR:CHARLESTON, SC	10.411	2.047	Jan 2013	0.856	Mar 2013	2.685	Dec 2013	-		2.685	0.000	15.999	
IAS	C/CPFF	ManTech9:STAFFORD, VA	0.000	0.000		0.200	Dec 2012	0.000		-		0.000	0.000	0.200	
IAS	C/FFP	MCSC:Quantico, Va	0.000	0.000		0.000		0.411	Feb 2014	-		0.411	0.000	0.411	
IAS	TBD	ONR:Arlington, VA	0.000	0.397	Aug 2012	0.000		0.000		-		0.000	0.000	0.397	
Subtotal			32.203	9.279		9.228		10.760		0.000		10.760			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/ Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TRSS	Various	MCOTEA:QUANTICO, VA	0.672	0.000		0.150	Jan 2013	0.417	Jan 2014	-		0.417	Continuing	Continuing	Continuing
TPCS	Various	MCOTEA:QUANTICO, VA	1.637	0.000		0.000		0.000		-		0.000	0.000	1.637	
TPCS	C/FFP	SPAWAR:CHARLESTON, SC	1.672	1.089	Mar 2012	0.665	Mar 2013	0.803	Jan 2014	-		0.803	0.000	4.229	
CESAS	C/FFP	SPAWAR:CHARLESTON, SC	0.000	0.000		0.625	Mar 2013	0.000		-		0.000	0.000	0.625	
CESAS	TBD	TBD:TBD	0.000	0.000		0.000		0.850	Feb 2014	-		0.850	0.000	0.850	
CESAS	Various	MCOTEA:QUANTICO, VA	0.000	0.000		0.000		1.900	Feb 2014	-		1.900	0.000	1.900	
RREP	WR	SPAWAR:CHARLESTON, SC	0.000	0.000		0.000		0.034	Jan 2014	-		0.034	0.000	0.034	
JSTARS	C/FFP	NRL:WASHINGTON, DC	0.000	0.000		0.000		1.711	Jan 2014	-		1.711	0.000	1.711	
Subtotal			3.981	1.089		1.440		5.715		0.000		5.715			

Remarks
 TRSS/TPCS/CESAS - MCOTEA to award in various methods, i.e. CPFF, FFP.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		85.946	19.627	22.966	34.394	0.000		34.394	

Remarks

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

DATE: April 2013

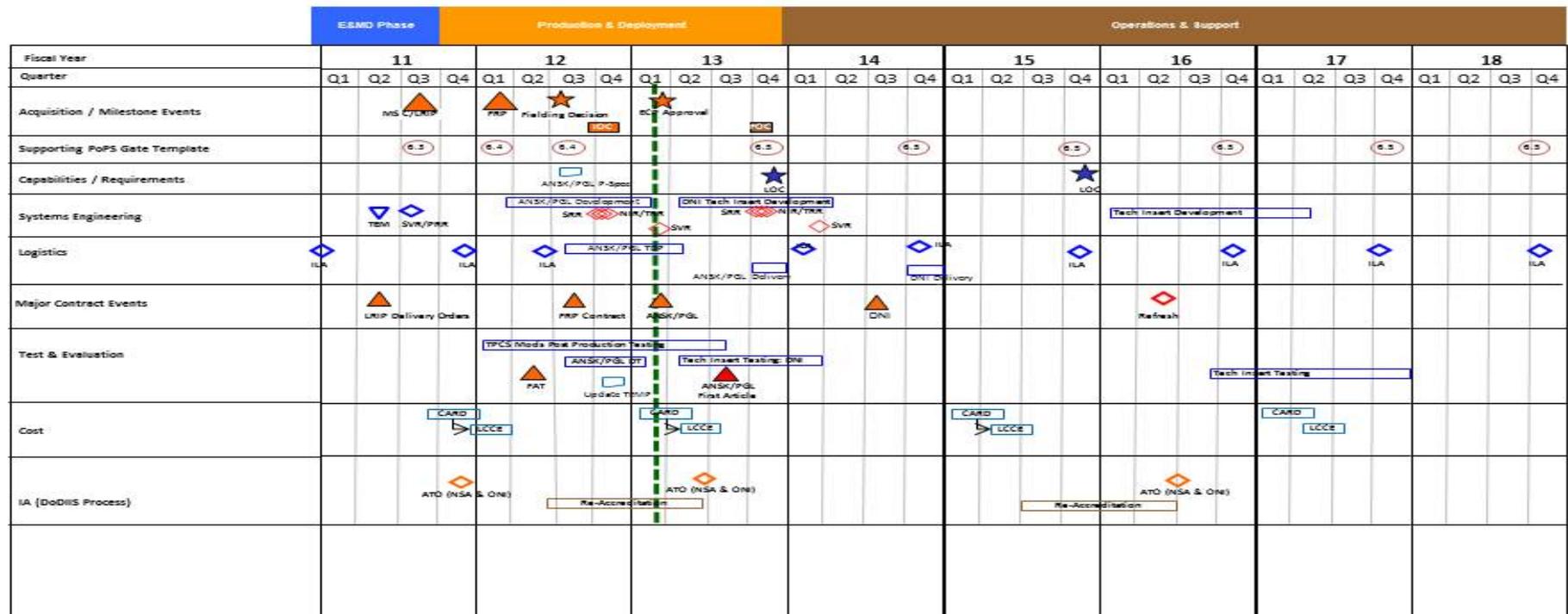
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206625M: USMC Intelligence/
 Electronics Warfare Sys

PROJECT
 2272: Intel Command and Control (C2) Sys

TPCS Mods Schedule

Jan 2013

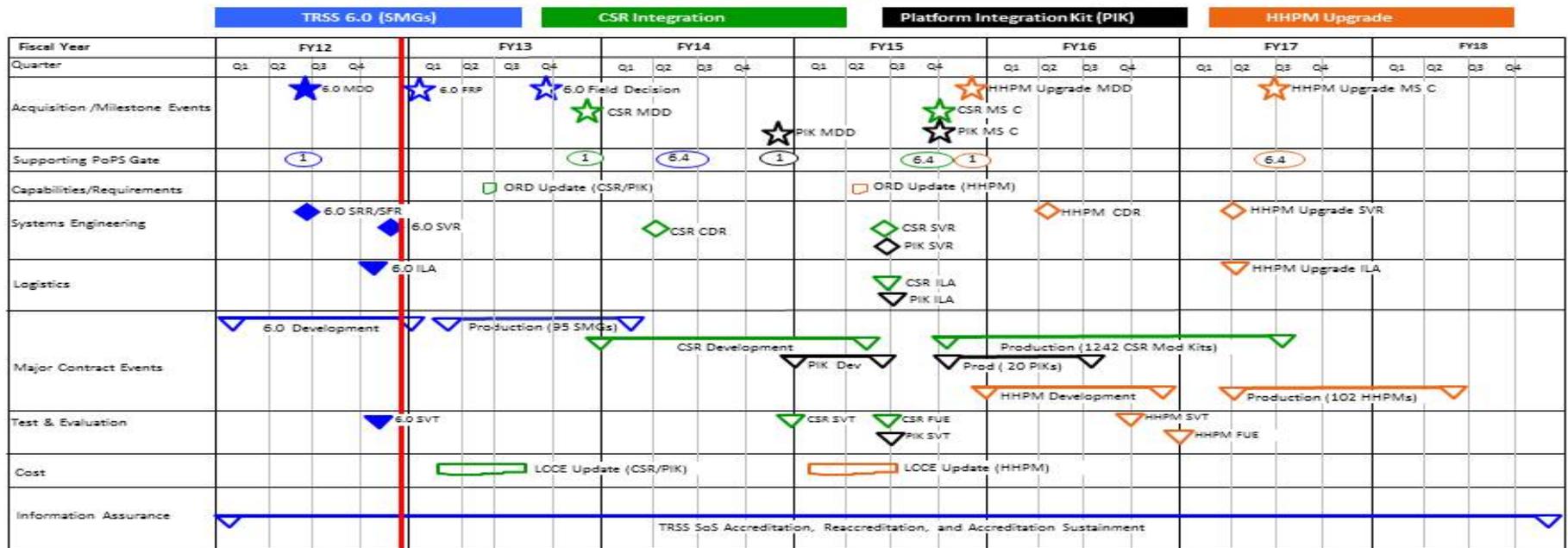


APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206625M: USMC Intelligence/
 Electronics Warfare Sys

PROJECT
 2272: Intel Command and Control (C2) Sys

**Program Schedule
 Overall TRSS SoS**



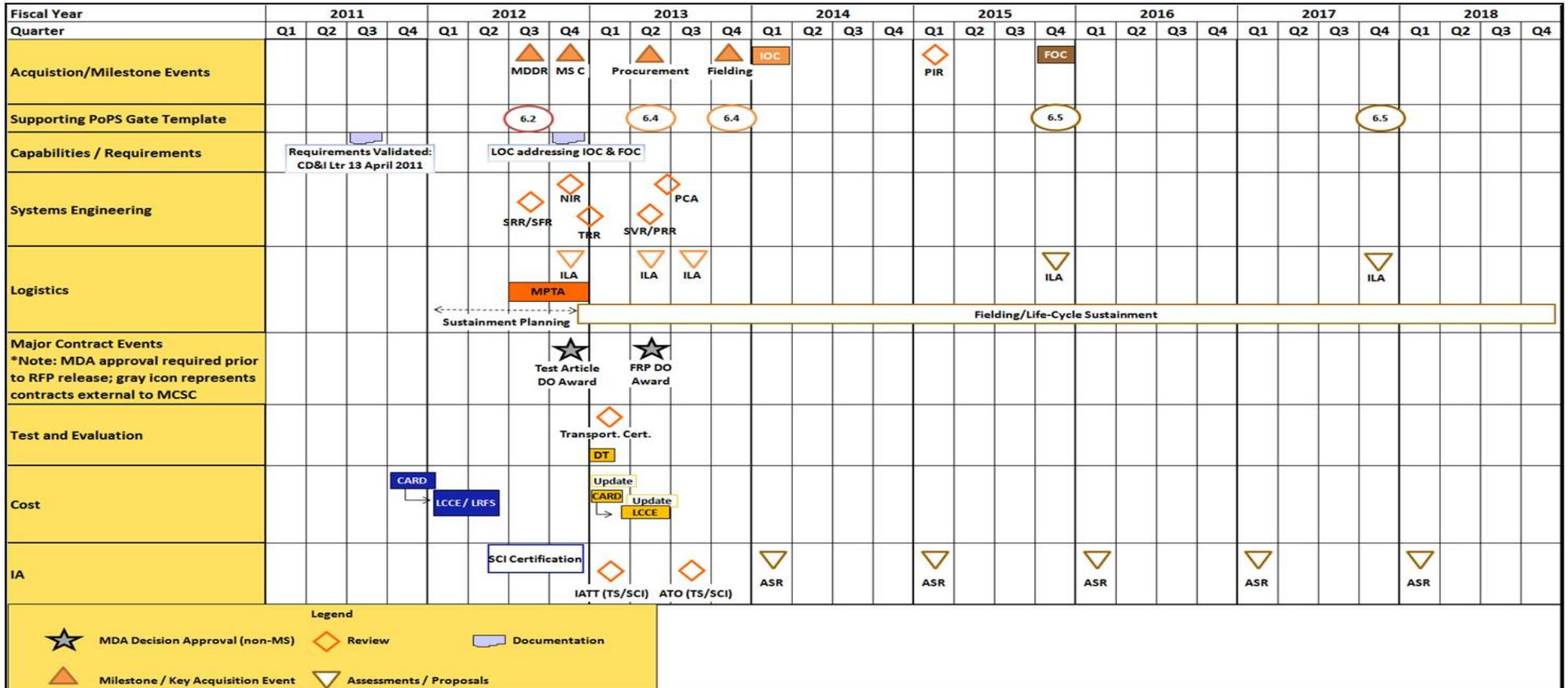
Updated 12/18/12

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206625M: USMC Intelligence/
 Electronics Warfare Sys

PROJECT
 2272: Intel Command and Control (C2) Sys

SCI COMMS Program Schedule



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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0206625M: USMC Intelligence/
Electronics Warfare Sys

PROJECT

2272: Intel Command and Control (C2) Sys

CESAS II Program Schedule

Updated as of 20 February 2012

		Capabilities / Req't Development				Materials Solution Analysis				Technology Development				Engineering & Manufacturing Development				Production & Deployment				Operations & Support											
Fiscal Year		11				12				13				14				15				16				17				18			
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				▲ AoA Approval								▲ MS C/ FRP				■ IDC								■ FOC		
Supporting PoPS Gate Template						①					②								③														
Capabilities/Requirements																																	
Systems Engineering										◇ ASR	◇ SRR			◇ NIR	◇ TRR							◇ SVR											
Logistics											■ Support Strategy			■ ILA Tech Assist								■ ILA	■ PCA										
Major Contract Events <small>*Note: MDA approval required prior to RFP release</small>											★ GTO			★ Taskbook								★ Taskbook				★ Taskbook							
Test & Evaluation														■ Prototype Testing				■ DT1/ WTI				■ DT2 FUE								■ FAT			
Cost							■ PCB/ ROM				■ CARD			■ LCCE																			
IA											■ Refined SIP, C& tasks							▼ CEP Gate 3				▼ IV&V Gate 4											
Funding																																	
	RDT&E																																
	O&M																																
	Procurements																																
	Quantities																																
	Totals																																

★	MDA Decision Approval (non-MS)	◆	Review	■	Documentation
▲	Milestone / Key Acquisition Event	▼	Assessments, Proposals		



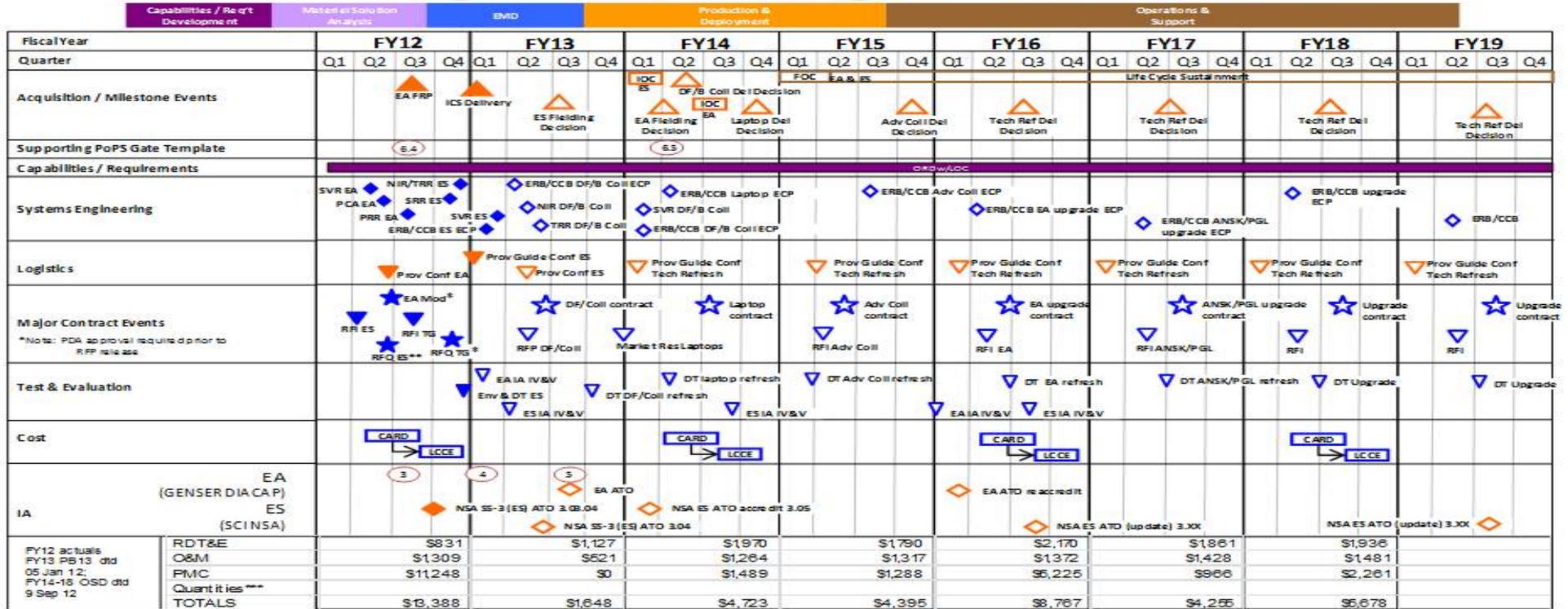
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206625M: USMC Intelligence/
 Electronics Warfare Sys

PROJECT
 2272: Intel Command and Control (C2) Sys

RREP Notional Program Schedule Program Planning / Execution

Last Update: 10 Dec 12



Last Update 10 Dec 12

Legend

- ★ MDA Decision Approval (non-MS)
- ▲ Milestone / Key Acquisition Event
- ◆ Review
- Documentation
- ▼ Assessments, Proposals

Note: FY12 RFQ = Procurement of P&L components. ***Quantities - total of 29 plus initial spares for each new component; FY12 MARSOC AAO increase adding 6 new systems, and re moving 2 War-time Reserve systems for an RREP AAO total of 42 for each FOS

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0206625M: USMC Intelligence/
Electronics Warfare Sys

PROJECT

2272: Intel Command and Control (C2) Sys



Fiscal Year	FY 12				FY 13				FY 14				FY 15				FY 16				FY 17				FY 18																			
	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	DCGS RTADM				MDD DAS				IS FD				IWS FD				FD RDP 1				RDP 1 RDP 2																							
Supporting PoPS Gate Template					1				5				6.1				6.3				6.4				6.5																			
Capabilities/Requirements					LOG				DCGS IS CDR				DCGS IS RDP 1				DCGS IS RDP 2																											
Systems Engineering	ECP				SRR CDR SVR				ECP SRR				SVR PCA				ECP SRR				PDR CDR SVR PCA				ECP SRR PDR																			
Logistics					Intel Server Refresh				Intel Work Station Refresh				Intel IWS Fielding				RDP 1 Agile Development				RDP 2 Agile Development																							
Major Contract Events					SSC-A TB																																							
Test & Evaluation					TRR TRR Functional Test Env Test				TRR TRR Functional Test Env Test				TRR TRR Functional Test Env Test				TRR TRR Functional Test Env Test				FUE																							
Cost					Update ICARD Update ITCE Update IWS update				Update ICARD Update ITCE Update IWS update				Update ICARD Update ITCE Update IWS update				Update ICARD Update ITCE Update IWS update				Update ICARD Update ITCE Update IWS update																							
IA	ATO				ASR IJTC Update				ASR				ATO				ASR IJTC Update				ASR				ATO																			
Funding PB-14	RDT&E \$3.9M				O&M \$5.8M				Procurements \$6.6M				Quantities 10				Totals \$16.3M				RDT&E \$2.1M				O&M \$1.9M				Procurements \$0.1M				Quantities 10				Totals \$4.1M							
					RDT&E \$2.1M				O&M \$6.4M				Procurements \$8.7M				Quantities 22				Totals \$19.8M				RDT&E \$8.0M				O&M \$6.4M				Procurements \$2.3M				Quantities 124				Totals \$16.7M			
					RDT&E \$2.1M				O&M \$6.4M				Procurements \$8.7M				Quantities 22				Totals \$19.8M				RDT&E \$7.2M				O&M \$2.1M				Procurements \$6.7M				Quantities 124				Totals \$16.0M			
					RDT&E \$2.1M				O&M \$6.4M				Procurements \$8.7M				Quantities 22				Totals \$19.8M				RDT&E \$6.2M				O&M \$1.6M				Procurements \$6.6M				Quantities 800				Totals \$14.4M			
					RDT&E \$2.1M				O&M \$6.4M				Procurements \$8.7M				Quantities 22				Totals \$19.8M				RDT&E \$6.3M				O&M \$2.3M				Procurements \$10.1M				Quantities 10				Totals \$18.7M			

★	MDA Decision Approval (non-MS)	◆	Review	■	Documentation
▲	Milestone / Key Acquisition Event	▼	Assessments, Proposals		

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/ Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2272				
TPCS MODS FRP/FD	2	2012	2	2012
TPCS MODS IOC	3	2012	3	2012
TPCS MODS FOC	3	2013	3	2013
TCAC Fielding Decision	1	2016	1	2016
TCAC 5.0 MS C	4	2015	4	2015
IAS Tier II PCA	3	2015	4	2015
IAS MEF IAS Fielding Decision	3	2014	3	2014
IAS Tier II Fielding Decision	1	2016	1	2016
IAS Tier III SVR	1	2015	2	2015
IAS Tier III Fielding Decision	2	2015	2	2015
RREP ES IOC	1	2014	1	2014
RREP EA IOC	3	2014	3	2014
RREP FOC	1	2015	1	2015
SCI COMMS MDDR	3	2012	3	2012
SCI COMMS Procurement Decision	2	2013	2	2013
SCI COMMS MS C	4	2012	4	2012
SCI COMMS IOC	1	2014	1	2014
SCI COMMS FOC	4	2015	4	2015
TRSS Monitor System Upgrade (Fielding Decision)	3	2013	3	2013
TRSS Monitor System Upgrade IOC/FOC	3	2013	4	2013
TRSS PIK IOC	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/ Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CESAS AoA Approval	2	2013	2	2013
CESAS MS C/ FRP	1	2015	1	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	307.815	8.463	21.107	39.159	-	39.159	96.557	108.413	112.541	88.570	Continuing	Continuing
0457: <i>AIM-9X</i>	307.815	8.463	11.224	6.634	-	6.634	6.490	0.556	0.589	0.601	4.419	346.791
0458: <i>AIM-9X Block III</i>	0.000	0.000	9.883	32.525	-	32.525	90.067	107.857	111.952	87.969	Continuing	Continuing

MDAP/MAIS Code(s): 442,581,P911

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

A new start Project Unit was established in FY 2013 for AIM-9X Block III.

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. 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) with the Lot 11 (Block II LRIP 1) contract awarded in September 2011, and Lot 12 (Block II LRIP 2) awarded in December 2011. 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.

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 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	8.765	21.107	29.441	-	29.441
Current President's Budget	8.463	21.107	39.159	-	39.159
Total Adjustments	-0.302	0.000	9.718	-	9.718
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.129	0.000			
• SBIR/STTR Transfer	-0.173	0.000			
• Program Adjustments	0.000	0.000	9.916	-	9.916
• Rate/Misc Adjustments	0.000	0.000	-0.198	-	-0.198

Change Summary Explanation

Schedule:

Project Unit 0457: Completion of OT-C1 has been extended from 3rd Qtr FY 2013 to 1st Qtr FY 2014 as a result of the Operational Test Readiness Review (OTRR) held in April 2012. Updated program requirements leading up to the OTRR (including detailed OT Test Plan development) and provided during the OTRR determined the need to extend the OT-C1 period. LRIP-3 Production Contract award has been extended from 2nd Qtr FY 2013 to 3rd Qtr FY 2013 as a result of extended contract negotiations.

Project Unit 0458: The Block III acquisition and system development schedule has been updated to incorporate the discussions with DASN(AIR), PEO(T) Staff, and PMA functional leads at the initial Acquisition Coordination Team (A.C.T.) meeting for the AIM-9X Block III program held in June 2012, as well as the pre-Acquisition Review Board held in February 2013.

Cost: Funding increased in FY14 for Project Unit 0458 by \$9.916M to fully integrate the new rocket motor technologies into the AIM-9X weapons system and threshold platforms.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0457: <i>AIM-9X</i>	307.815	8.463	11.224	6.634	-	6.634	6.490	0.556	0.589	0.601	4.419	346.791
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

AIM-9X (Sidewinder) 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 infrared (IR) 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).

Milestone C decision for Low Rate Initial Production (LRIP) was held June 24, 2011, and the program has entered into LRIP contracts for Block II in FY 2011 and FY 2012. The program will enter the final LRIP in FY 2013, followed by Block II FRP in FY 2014 and beyond.

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

	FY 2012	FY 2013	FY 2014
Title: Test and Evaluation of System	6.078	4.490	0.850
Articles:	0	0	0
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 2012 Accomplishments: Completed final phase of Operational Testing (OT) of missile software rehosting into new AIM-9X components. Completed Integrated (Development and Operational) Testing and began OT of the follow-on missile software (v9.3) for the AIM-9X missile integration.			
FY 2013 Plans: Continue OT.			
FY 2014 Plans: Complete OT and await final report in support of Full Rate Production and fielding of missile. Determine potential of Verification of Correction of Deficiencies. Develop T&E requirements for Block II program Capabilities Production Document.			
Title: Product Development	2.036	6.332	5.696

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>		PROJECT 0457: <i>AIM-9X</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
		FY 2012	FY 2013	FY 2014
Articles:		0	0	0
Description: Continuation of Primary Hardware Development/Pre-Planned Product Improvement efforts for the AIM-9X fuze. Includes Systems Engineering / Program management, as well as support required to ensure AIM-9X missile integration with threshold US Navy aircraft platforms. Includes efforts to update missile components in order to comply with Insensitive Munitions (IM) requirements as established by Joint Requirements Oversight Council memo dated 11 February 2009.				
FY 2012 Accomplishments: Continued refinement of v9.3 Software Algorithm and Code Development in support of the AIM-9X missile testing and integration effort with threshold US Navy aircraft platforms, as well as study IM alternatives and risk reduction methods.				
FY 2013 Plans: Continue support of AIM-9X Block II integration. Study IM alternatives and risk reduction methods. Continue support of OT anomaly resolution.				
FY 2014 Plans: Continue support of AIM-9X Block II integration. Continue support of OT anomaly resolution. Identify Product Development requirements for Block II program Capabilities Production Document objectives.				
Title: Transportation & Travel for Program Management		0.187	0.102	0.088
		0	0	0
Description: Transportation / Travel for AIM-9X effort.				
FY 2012 Accomplishments: Funded transportation and travel costs associated with supporting the AIM-9X missile program.				
FY 2013 Plans: Continue 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.				
Title: Support		0.162	0.300	0.000
		0	0	
Description: Studies and Analysis				
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Performed studies and analysis in support of Advanced Development of AIM-9X Sidewinder.			
FY 2013 Plans: Continue studies and analysis in support of Advanced Development of AIM-9X Sidewinder.			
Accomplishments/Planned Programs Subtotals	8.463	11.224	6.634

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• WPN 2209: <i>Sidewinder</i>	50.198	80.226	117.208		117.208	125.339	124.533	133.108	134.448	858.538	2,048.885
• MPAF 3479: <i>Sidewinder</i>	88.454	88.020	119.904		119.904	134.456	133.066	136.706	115.266	1,413.484	2,781.649
• RDTE, AF 41: <i>Sidewinder</i>	7.885	8.234	15.460		15.460	30.110	22.866	12.983	13.217	6.165	391.560

Remarks

D. Acquisition Strategy

Block I: The Low Rate Initial Production (LRIP), LOT 4, Firm-Fixed-Price (FFP) contract was awarded in April 2004. Assistant Secretary of the Navy for (Research Development & Acquisitions) approved the Full-Rate Production (FRP) decision in May 2004. FRP 1, LOT 5 contract was awarded November 2004. FRP 1, LOT 5 through FRP 3 LOT 7 contracts were awarded November 2006. Rewards or penalties are provided depending on Raytheon Missile Systems Performance relative to the Procurement Price Commitment Curve (PPCC) for LOTs 5 through 7 (FY 2005 through FY 2007). FRP 4 LOT 8 (FY 2008) contract was re-negotiated outside of the PPCC, and was awarded in January 2008. The FRP 5 LOT 9 (FY 2009) contract was awarded in June 2009, and incorporated the new electronics unit into the Captive Air Training Missile resolving critical obsolescence issues, as well as a low quantity of test articles to prove out the capability and producibility of the AIM-9X missile. The FRP 6 Lot 10 (FY 2010) contract was awarded in June 2010 to procure Block I All Up Round missiles as well as additional tactical test articles.

Block II: Milestone C decision for LRIP was held on June 24th 2011, and the program has entered into LRIP contracts for Block II in FY 2011 and FY 2012. The program will enter the final LRIP in FY 2013, followed by Block II full rate production (FRP) in FY 2014 and beyond.

E. Performance Metrics

The AIM-9X Sidewinder program is meeting the cost, schedule, performance, funding and life cycle sustainment in accordance with the Acquisition Program Baseline. Contractor is meeting production schedule.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Aircraft Integration	C/CPFF	The Boeing Company:St. Louis, MO	6.996	0.173	Jul 2012	2.510	Dec 2012	1.721	Dec 2013	-		1.721	2.882	14.282	14.282
Aircraft Integration	WR	NAWCWD:China Lake, CA	4.087	0.094	Nov 2011	2.233	Nov 2012	1.616	Nov 2013	-		1.616	2.977	11.007	
Munition Improvement Study	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	0.000	0.000		0.000		2.359	Dec 2013	-		2.359	0.000	2.359	2.353
Systems Engineering	WR	NAWCWD:China Lake, CA	37.181	1.769	Nov 2011	1.589	Nov 2012	0.000		-		0.000	0.000	40.539	
Prior Year Prod Dev cost no longer funded in the FYDP	Various	Various:Various	210.294	0.000		0.000		0.000		-		0.000	0.000	210.294	
Subtotal			258.558	2.036		6.332		5.696		0.000		5.696	5.859	278.481	

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)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Studies & Analyses	C/CPFF	NSMA:Arlington, VA	0.000	0.162	Sep 2012	0.300	Feb 2013	0.000		-		0.000	0.000	0.462	0.462
Subtotal			0.000	0.162		0.300		0.000		0.000		0.000	0.000	0.462	0.462

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Navy Test & Eval (Govt Op Test - WD)	WR	NAWC WD:China Lake, CA	0.814	0.000		0.000		0.000		-		0.000	0.000	0.814	
Oper Test & Eval (OPTEVFOR)	WR	OPTEVFOR:Norfolk, VA	2.861	2.450	Nov 2011	1.604	Oct 2012	0.850	Oct 2013	-		0.850	6.796	14.561	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Improvement Process	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	0.000	3.628	Mar 2012	2.886	Dec 2012	0.000		-		0.000	0.000	6.514	6.514
Prior year T&E cost no longer funded in the FYDP	Various	Various:Various	35.051	0.000		0.000		0.000		-		0.000	0.000	35.051	
Subtotal			38.726	6.078		4.490		0.850		0.000		0.850	6.796	56.940	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Transportation - Material	WR	NAVAIR:Patuxent River, MD	0.086	0.060	Nov 2011	0.050	Oct 2012	0.050	Oct 2013	-		0.050	0.000	0.246	
Travel - Obligation throughout the year	WR	NAWCAD:Patuxent River, MD	2.412	0.127	Oct 2011	0.052	Oct 2012	0.038	Oct 2013	-		0.038	0.000	2.629	
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various:Various	8.033	0.000		0.000		0.000		-		0.000	0.000	8.033	
Subtotal			10.531	0.187		0.102		0.088		0.000		0.088	0.000	10.908	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Cost Totals		307.815	8.463		11.224		6.634		0.000	6.634	12.655	346.791	

Remarks
Breakout of Block I and Block II costs:

USN	Prior Yrs	FY12	FY13
Block I	281,425		
Block II	26,390	8,463	11,224
Total	307,815	8,463	11,224

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TACTICAL AIM MISSILES Block I & II				
T&E Milestones - Block II: Development Test: v9.3 Development Test (DT-B1)	1	2012	2	2012
T&E Milestones - Block II: Operational Test: v9.3 Integrated Development/Operational Test (IT-B1)	1	2012	2	2012
T&E Milestones - Block II: Operational Test: v9.3 Operational Test (OT-C1)	3	2012	1	2014
Production Milestones - Block II: Contract Awards: Low Rate Initial Production (LRIP 2) Award (WPN)	1	2012	1	2012
Production Milestones - Block II: Contract Awards: Low Rate Initial Production (LRIP 3) Award (WPN)	3	2013	3	2013
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 1) Award	2	2014	2	2014
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 2) Award	2	2015	2	2015
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 3) Award	2	2016	2	2016
Production Deliveries: Full Rate Production Deliveries Lot 10	1	2012	4	2012
Production Deliveries: Low Rate Initial Production Lot 11 / LRIP 1 Qty 63	4	2012	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: Full Rate Production Lot 14 FRP 1 Qty 225	4	2015	4	2016
Production Deliveries: Full Rate Production Lot 15 FRP 2 Qty 225	4	2016	4	2017
Production Deliveries: Full Rate Production Lot 16 FRP 3 Qty 225	4	2017	4	2018
Production Deliveries: Full Rate Production Lot 17 FRP 4 Qty 226	4	2018	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0458: <i>AIM-9X Block III</i>	0.000	0.000	9.883	32.525	-	32.525	90.067	107.857	111.952	87.969	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

Note
Project Unit is a new start in FY 2013.

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 kinematics, lethality, enhanced Infrared Counter-Measure performance against emerging advanced threats, and improved Insensitive Munitions (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 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 2012	FY 2013	FY 2014
<p>Title: Product Development</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2013 Plans: Establish AIM-9X Block III IPT. Complete the Counter-Air Weapons Study Analysis of Alternatives, conduct Alternative System Review and select best value preferred material solution alternative. Develop draft program Technology Development Strategy (TDS), Capabilities Description Document (CDD), and Acquisition Program Baseline (APB). Commence early science and technology risk reduction activities to mature common technological components required for rocket motor, warhead, and insensitive munitions enabling technologies. Complete Milestone A with approved TDS, draft CDD, and APB. Award contracts /</p>	0.000	9.470 0	28.788 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>		PROJECT 0458: <i>AIM-9X Block III</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
task orders for development of competitive prototypes for AIM-9X Block III. Low cost warhead prototypes will be developed with down-selection of best available option. Conduct System Requirements Review to refine draft CDD and program requirements.				
FY 2014 Plans: Begin Engineering Manufacturing Development (EMD) of the AIM-9X Block III with completion of risk reduction activities. Award contracts/task orders for EMD hardware and software (S/W) systems for the AIM-9X Block III. Complete risk reduction efforts for insensitive munitions (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 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.				
Title: Support				
Articles:				
				0.270 0
FY 2014 Plans: Engineering technical support services associated with AIM-9X Sidewinder Block III.				
Title: Test and Evaluation				
Description: Test and evaluation of two improved IM warhead concepts and two improved IM rocket motor grain concepts for the AIM-9X Block III missile to meet IM improvement and tactical kinematic and lethality performance objectives.				
FY 2014 Plans: Begin developmental testing of technologies introduced to improve safety, kinematics and lethality of the AIM-9X Block III missile. Begin developmental testing of improved warhead PBXN-112 explosive fill with a reduced sensitivity digital detonator. Testing will evaluate current warhead (WDU-17/B) with container mitigation for IM response to slow cook-off. Static rocket motor firings for candidate motor concepts will also be executed to determine performance of highly loaded grain and conventional grain in a dual pulse firing sequence. Results of developmental testing and evaluation will directly inform selection of warhead and rocket motor candidates for a Milestone B down select for the Block III.				
Title: Transportation & Travel for Program Management				
Articles:				
				0.413 0
				0.922 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
FY 2013 Plans: Transportation and travel costs associated with supporting the AIM-9X Block III missile program.				
FY 2014 Plans: Management Support, transportation of government furnished materials, and travel costs associated with supporting the AIM-9X Block III missile program.				
Accomplishments/Planned Programs Subtotals		0.000	9.883	32.525
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 at Milestone(MS) B, Engineering & Manufacturing Development. Competitive prototyping to develop common core technologies will occur from FY 2014 to FY 2015. In FY 2015 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 Capabilities Description Document and draft program Acquisition Program Baseline; which will be established by FY 2013.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Blk III Primary Hdw Development #1	C/FPIF	TBD:TBD	0.000	0.000		3.802	Feb 2013	0.000		-		0.000	0.000	3.802	3.802
Blk III Primary Hdw Development #2	C/FPIF	TBD:TBD	0.000	0.000		3.802	Feb 2013	0.000		-		0.000	0.000	3.802	3.802
Primary Hardware EMD	C/FPIF	TBD:TBD	0.000	0.000		0.000		23.706	Jun 2014	-		23.706	Continuing	Continuing	Continuing
Blk III Systems Engineering	WR	NAWCWD:China Lake, CA	0.000	0.000		0.866	Nov 2012	0.756	Nov 2013	-		0.756	Continuing	Continuing	Continuing
Blk III Munition Improvement Study	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	0.000	0.000		0.600	Nov 2012	0.000		-		0.000	0.000	0.600	0.600
Blk III Gov't Engineering Support	WR	NAWCAD:Patuxent River, MD	0.000	0.000		0.400	Nov 2012	0.400	Nov 2013	-		0.400	Continuing	Continuing	Continuing
Aircraft Integration	SS/CPFF	The Boeing Company:St. Louis, MO	0.000	0.000		0.000		1.963	Dec 2013	-		1.963	Continuing	Continuing	Continuing
Aircraft Integration	SS/CPFF	Lockheed Martin:Fort Worth, TX	0.000	0.000		0.000		1.963	Dec 2013	-		1.963	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		9.470		28.788		0.000		28.788			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Studies and Analysis	WR	NSMA:Arlington, VA	0.000	0.000		0.000		0.270	Nov 2013	-		0.270	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		0.270		0.000		0.270			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DEV Test & Eval - Gov't	WR	NAWC WD:China Lake, CA	0.000	0.000		0.000		1.018	Nov 2013	-		1.018	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>
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TACTICAL AIM MISSILES Block III	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestone - Blk III							MDD ◆				MS-A ▲								MS-B ▲									
Systems Development - Blk III	IM Risk Reduction																											
	Downselect Rocket Motor												Hardware Development E&MD															
Reviews									SRR ■		SFR ■		PDR ■						CDR ■		TRR ■							
T&E Milestones - Blk III																	Developmental Tests											

2014PB - 0207161N - 0458

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TACTICAL AIM MISSILES Block III				
Acquisition Milestone - Blk III: Material Development Decision	3	2013	3	2013
Acquisition Milestone - Blk III: Acquisition Milestone A	3	2014	3	2014
Acquisition Milestone - Blk III: Acquisition Milestone B	2	2016	2	2016
Systems Development - Blk III: IM Risk Reduction (Warhead + Rocket Motor)	1	2012	2	2015
Systems Development - Blk III: Systems Development Primary H/W Development Competitive	3	2014	1	2016
Systems Development - Blk III: Systems Development Primary EMD	2	2016	4	2018
Systems Development - Blk III: Reviews: System Requirements Review (SRR)	4	2014	4	2014
Systems Development - Blk III: Reviews: System Function Review (SFR)	2	2015	2	2015
Systems Development - Blk III: Reviews: Preliminary Design Review (PDR)	1	2016	1	2016
Systems Development - Blk III: Reviews: Critical Design Review (CDR)	2	2017	2	2017
Systems Development - Blk III: Reviews: Technical Readiness Review (TRR)	4	2017	4	2017
T&E Milestones - Blk III: Developmental Testing	4	2014	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	111.147	2.803	2.857	2.613	-	2.613	2.818	2.886	2.979	3.028	20.627	151.758
0981: <i>AMRAAM</i>	111.147	2.803	2.857	2.613	-	2.613	2.818	2.886	2.979	3.028	20.627	151.758

MDAP/MAIS Code(s): 185

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	2.913	2.857	2.774	-	2.774
Current President's Budget	2.803	2.857	2.613	-	2.613
Total Adjustments	-0.110	0.000	-0.161	-	-0.161
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.053	0.000			
• SBIR/STTR Transfer	-0.057	0.000			
• Rate/Misc Adjustments	0.000	0.000	-0.161	-	-0.161

Change Summary Explanation

Schedule: Additional software improvements introduced in FY12 have reduced the frequency of weapon fails. The production deliveries for Lots 22-25 were restructured due to issues with rocket motor performance.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0981: <i>AMRAAM</i>	111.147	2.803	2.857	2.613	-	2.613	2.818	2.886	2.979	3.028	20.627	151.758
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 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 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.

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

	FY 2012	FY 2013	FY 2014
<p>Title: Aircraft integration</p> <p align="right">Articles:</p> <p>Description: Aircraft integration activities and test and evaluation for Navy unique requirements.</p> <p>FY 2012 Accomplishments: Continued aircraft integration activities and test and evaluation for Navy unique requirements. Includes additional flight test requirements for AIM-120D Operational Test.</p> <p>FY 2013 Plans: Continue aircraft integration activities and test and evaluation for Navy unique requirements.</p> <p>FY 2014 Plans: Continue aircraft integration activities and test and evaluation for Navy unique requirements.</p>	<p>1.611</p> <p>0</p>	<p>0.850</p> <p>0</p>	<p>0.870</p> <p>0</p>
<p>Title: Identify potential improvements</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2012 Accomplishments:</p>	<p>0.386</p> <p>0</p>	<p>0.402</p> <p>0</p>	<p>0.426</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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. Conducted Operational Flight Profile efforts. FY 2013 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 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.			
Title: System Improvement Program (SIP) efforts Description: System engineering and test activities in AMRAAM Phase 4 program 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 2012 Accomplishments: Continued system engineering/aircraft integration activities for SIP with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements. Reduced requirement to meet higher priority flight test requirements for AIM-120D Operational Test. FY 2013 Plans: Continue 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.	0.806 0	1.605 0	1.317 0
Articles:			
Accomplishments/Planned Programs Subtotals	2.803	2.857	2.613

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	FY 2012	FY 2013	FY 2014 <u>Base</u>	FY 2014 <u>OCO</u>	FY 2014 <u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	<u>Cost To Complete</u>	<u>Total Cost</u>
• WPN/ 220600: <i>AMRAAM</i>	105.119	102.683	95.413		95.413	128.354	161.351	186.397	212.666	2,008.772	4,865.282
• MPAF/3479: <i>AMRAAM</i>	202.176	229.637	340.015		340.015	355.021	373.810	373.772	380.500	2,431.222	12,402.053

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE,AF/673777: <i>AMRAAM</i>	75.282	87.041	84.172		84.172	83.222	42.469	35.305	35.940	183.902	1,158.030

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

The AIM-120 AMRAAM program is meeting cost, schedule, performance, funding and life cycle sustainment in accordance with the Acquisition Program Baseline. Contractor is meeting the production schedule.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hdw Development (EGLIN)	SS/CPAF	RAYTHEON COMPANY:Tucson AZ	43.911	0.000		0.776	Jan 2013	0.546	Jan 2014	-		0.546	7.755	52.988	52.988
Award Fees (EGLIN)	SS/CPAF	Various:Various	6.253	0.000		0.128	Jan 2013	0.096	Jan 2014	-		0.096	1.368	7.845	7.845
Primary Hdw Development (DAHLGREN)	WR	NSWC DAHLGREN D C XDM1:Dahlgren VA	0.117	0.000		0.026	Nov 2012	0.026	Nov 2013	-		0.026	0.310	0.479	
Primary Hdw Development (NAWCAD)	WR	NAWCAD:Patuxent River MD	0.990	0.531	Nov 2011	0.467	Nov 2012	0.469	Nov 2013	-		0.469	5.113	7.570	
Primary Hdw Development (NAWCWD)	WR	NAWCWD:China Lake CA	0.716	0.100	Nov 2011	0.089	Dec 2012	0.088	Dec 2013	-		0.088	1.008	2.001	
Prior Years Dev Cost no longer funded in the FYDP	Various	Various:Various	22.670	0.000		0.000		0.000		-		0.000	0.000	22.670	
Subtotal			74.657	0.631		1.486		1.225		0.000		1.225	15.554	93.553	

Remarks
Remarks: Percentage of award fees actually awarded in past award fee periods is 15%

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support (NSMA)	WR	NAVY SYST MGT ACT:Arlington VA	3.047	0.186	Mar 2012	0.201	Mar 2013	0.212	Jan 2014	-		0.212	2.383	6.029	
Studies & Analyses - JHU/APL	SS/FFP	NAVSEASYSOM:Washington DC	1.260	0.200	May 2012	0.201	May 2013	0.214	May 2014	-		0.214	2.404	4.279	4.279
Prior Years Support costs no longer funded in the FYDP	Various	Various:Various	17.420	0.000		0.000		0.000		-		0.000	0.000	17.420	
Subtotal			21.727	0.386		0.402		0.426		0.000		0.426	4.787	27.728	

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AMRAAM				
Pre-Planned Product Improvement (P3I) Phase 4: Phase 4 SIP/SWUP: Phase 4 SIP/SWUP Start (P3I Follow-On)	1	2012	4	2018
Pre-Planned Product Improvement (P3I) Phase 4: System OT: F/A-18E/F Operational Test	3	2012	1	2014
Pre-Planned Product Improvement (P3I) Phase 4: IOC: IOC F/A18 E/F (Threshold)	1	2014	1	2014
Pre-Planned Product Improvement (P3I) Phase 4: IOC: IOC F/A18 C/D	3	2014	3	2014
Production Milestones: Contract Awards: Production Lot 26 Contract Award	2	2012	2	2012
Production Milestones: Contract Awards: Production Lot 27 Contract Award	2	2013	2	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 Deliveries: Production Deliveries - Lot 23	1	2012	2	2013
Production Deliveries: Production Deliveries - Lot 24	3	2012	2	2014
Production Deliveries: Production Deliveries - Lot 25	2	2013	4	2014
Production Deliveries: Production Deliveries - Lot 26	2	2014	4	2014
Production Deliveries: Production Deliveries - Lot 27	2	2015	2	2016
Production Deliveries: Production Deliveries - Lot 28	2	2016	2	2017
Production Deliveries: Production Deliveries - Lot 29	2	2017	2	2018
Production Deliveries: Production Deliveries - Lot 30	2	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	31.894	3.991	1.932	0.986	-	0.986	0.000	0.000	0.000	0.000	0.000	38.803
3134: <i>Intratheater Connectors (Contract Design)</i>	31.894	3.991	1.932	0.986	-	0.986	0.000	0.000	0.000	0.000	0.000	38.803

MDAP/MAIS Code(s): 247

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	4.108	1.932	1.038	-	1.038
Current President's Budget	3.991	1.932	0.986	-	0.986
Total Adjustments	-0.117	0.000	-0.052	-	-0.052
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.117	0.000			
• Program Adjustments	0.000	0.000	-0.041	-	-0.041
• Rate/Misc Adjustments	0.000	0.000	-0.011	-	-0.011

Change Summary Explanation

Schedule: IOC and completion of FOT&E delayed due to delivery delay of the first JHSV.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3134: <i>Intratheater Connectors (Contract Design)</i>	31.894	3.991	1.932	0.986	-	0.986	0.000	0.000	0.000	0.000	0.000	38.803
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

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

	FY 2012	FY 2013	FY 2014
Title: Intratheater Connectors (Contract Design)	3.991	1.932	0.986
Articles:	0	0	0
FY 2012 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Completed development of the Test and Evaluation Master Plan (TEMP) and the Total Ship Survivability Trial (TSST) plan. Completed Acceptance Trials (AT). FY 2013 Plans: Complete Post Delivery Test & Trials (PDT&T) to evaluate the performance of the JHSV. Conduct IOT&E. Conduct the Final Survivability Assessment of the JHSV. Conduct the TSST. FY 2014 Plans: Conduct FOT&E.			
Accomplishments/Planned Programs Subtotals	3.991	1.932	0.986

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• SCN/3043: <i>SCN Joint High Speed Vessel</i>	372.332	189.196	2.732		2.732	5.823	5.810	5.834	1.815	0.000	1,132.914
• SCN/5110: <i>SCN Joint High Speed Vessel Outfitting and Post Delivery</i>	0.202	29.730	24.303		24.303	27.718	19.306	15.307	10.508	0.000	128.330

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
Complete the test plan development for the Total Ship Survivability Trial (TSST). Complete 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 FY12 and FY13

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>
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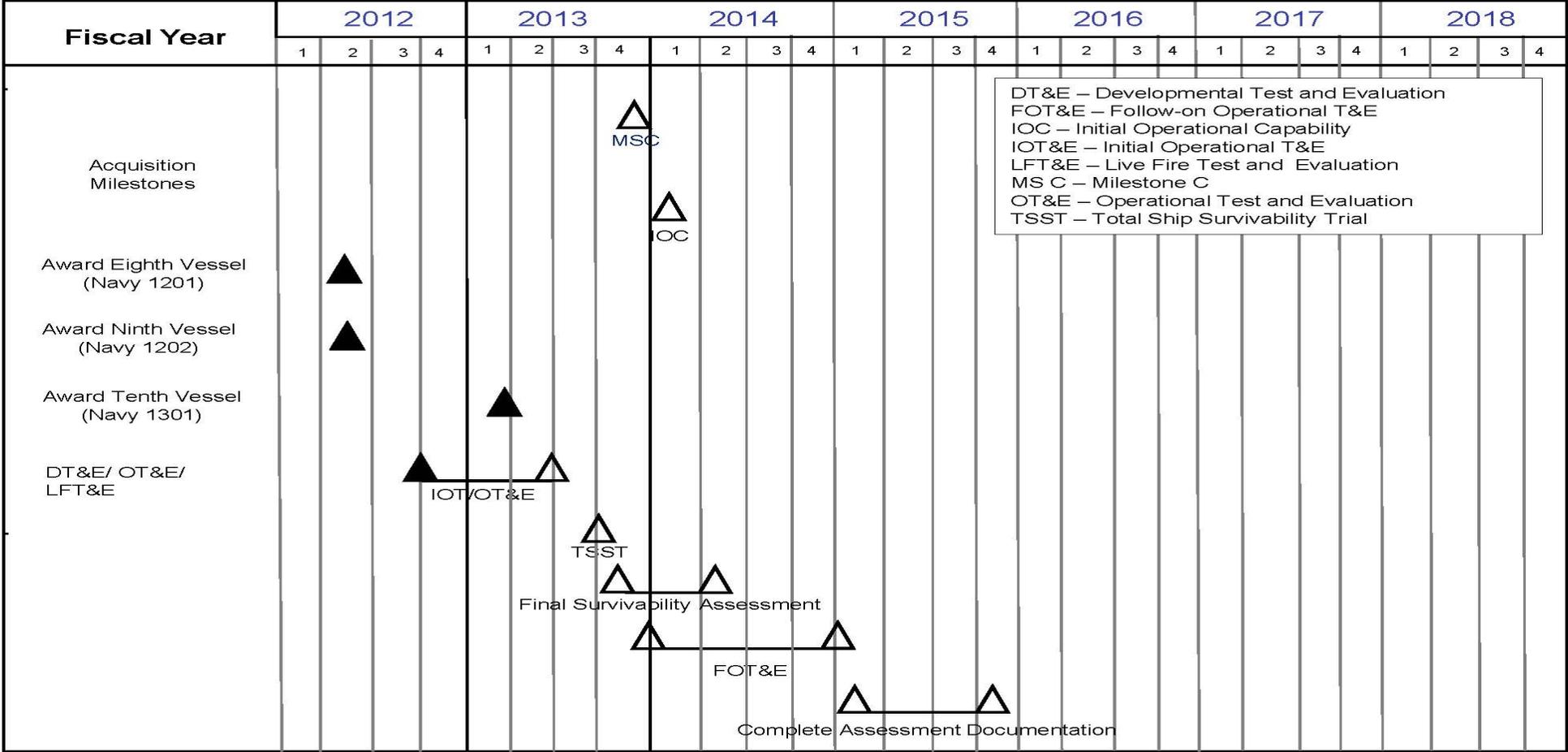
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Ship Integration	C/CPIF	Alion/CSC:VAR	6.638	0.000		0.000		0.000		-		0.000	0.000	6.638	
Systems Engineering	C/CPIF	CSC:VAR	3.984	0.000		0.000		0.000		-		0.000	0.000	3.984	
Studies & Analysis	C/FP	Austal:Mobile, AL	1.300	0.000		0.000		0.000		-		0.000	0.000	1.300	
Subtotal			11.922	0.000		0.000		0.000		0.000		0.000	0.000	11.922	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support	WR	NSWC-CD:Carderock, MD	2.000	0.000		0.000		0.000		-		0.000	0.000	2.000	
Integrated Logistics Support	C/CPIF	Alion:VAR	1.276	0.000		0.000		0.000		-		0.000	0.000	1.276	
Configuration/Acquisition Management	C/CPIF	Alion/CSC:VAR	2.738	0.000		0.000		0.000		-		0.000	0.000	2.738	
Technical Data	WR	NSWC-CD:Carderock, MD	0.755	0.000		0.000		0.000		-		0.000	0.000	0.755	
Subtotal			6.769	0.000		0.000		0.000		0.000		0.000	0.000	6.769	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test and Evaluation	WR	VAR:VAR	0.000	1.392	Jan 2012	0.073	Jan 2013	0.000	Jan 2014	-		0.000	0.000	1.465	
Operational Test & Evaluation	WR	COTF/MCOTEA/A TEC:VAR	2.927	2.295	Jan 2012	1.446	Jan 2013	0.986	Jan 2014	-		0.986	0.000	7.654	
Live Fire Test & Evaluation	WR	VAR:VAR	3.887	0.304	Jan 2012	0.413	Jan 2013	0.000	Jan 2014	-		0.000	0.000	4.604	
Subtotal			6.814	3.991		1.932		0.986		0.000		0.986	0.000	13.723	

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>
PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>	



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3134				
IOC	1	2014	1	2014
Milestone C/FRP Decision	4	2013	4	2013
Award Eighth Vessel (NAVY 1201)	2	2012	2	2012
Award Ninth Vessel (NAVY 1202)	2	2012	2	2012
Award Tenth Vessel (NAVY 1301)	1	2013	1	2013
IOT&E	4	2012	2	2013
HERO, HERP & HERF surveys	2	2012	2	2012
Final Survivability Assessment	4	2013	2	2014
FOT&E	1	2014	1	2015
Complete Assessment Documentation	1	2015	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303901N: <i>Sirius</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	57.222	31.812	15.369	-	15.369	15.744	15.556	16.232	16.451	Continuing	Continuing
4003: <i>CJR</i>	0.000	39.963	16.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	55.963
7196.: <i>Big Dipper</i>	0.000	17.259	15.812	15.369	-	15.369	15.744	15.556	16.232	16.451	Continuing	Continuing

MDAP/MAIS Code(s): 365

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	57.222	31.812	14.369	-	14.369
Current President's Budget	57.222	31.812	15.369	-	15.369
Total Adjustments	0.000	0.000	1.000	-	1.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	1.000	-	1.000

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303901N: <i>Sirius</i>	PROJECT 4003: <i>CJR</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4003: <i>CJR</i>	0.000	39.963	16.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	55.963
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303901N: <i>Sirius</i>	PROJECT 7196.: <i>Big Dipper</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
7196.: <i>Big Dipper</i>	0.000	17.259	15.812	15.369	-	15.369	15.744	15.556	16.232	16.451	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress. The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books. 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 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303906N: <i>Aquarius</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	13.287	17.221	34.532	-	34.532	37.939	38.262	39.009	39.533	Continuing	Continuing
7396: <i>Saturn</i>	0.000	13.287	17.221	34.532	-	34.532	37.939	38.262	39.009	39.533	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	12.037	17.221	34.440	-	34.440
Current President's Budget	13.287	17.221	34.532	-	34.532
Total Adjustments	1.250	0.000	0.092	-	0.092
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.250	0.000			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	0.092	-	0.092

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303908N: <i>Link Tangerine</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	1,267.751	1,133.604	1,132.180	-	1,132.180	1,216.536	1,245.836	1,270.972	1,295.160	Continuing	Continuing
3023: <i>Link Tangerine</i>	0.000	1,267.751	1,133.604	1,132.180	-	1,132.180	1,216.536	1,245.836	1,270.972	1,295.160	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	1,267.751	1,099.820	1,137.278	-	1,137.278
Current President's Budget	1,267.751	1,133.604	1,132.180	-	1,132.180
Total Adjustments	0.000	33.784	-5.098	-	-5.098
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	33.784	-5.098	-	-5.098

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303910N: <i>CMMA</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.989	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.989
2956: <i>CMMA</i>	0.000	0.989	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.989

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	1.220	0.000	0.000	-	0.000
Current President's Budget	0.989	0.000	0.000	-	0.000
Total Adjustments	-0.231	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.231	0.000			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	4,174.496	258.811	188.482	66.231	-	66.231	33.188	24.324	7.434	22.180	Continuing	Continuing
0728: <i>EHF SATCOM Terminals</i>	586.077	17.476	31.731	21.077	-	21.077	19.502	13.693	0.000	14.557	Continuing	Continuing
0731: <i>FLTSATCOM</i>	15.209	4.155	10.828	9.202	-	9.202	5.210	3.469	0.000	0.000	0.000	48.073
2472: <i>Mobile User Objective Sys (MUOS)</i>	3,573.210	237.180	145.923	35.952	-	35.952	8.476	7.162	7.434	7.623	130.912	4,153.872

MDAP/MAIS Code(s): 290,345

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

The Sensitive Compartmented Information Networks (SCI Networks) provides enabling technology for Intelligence, Cryptologic, and Information Warfare Systems with protected and reliable delivery of Special Intelligence (SI)/SCI data through a secure, controllable network interface with the Automated Digital Network System (ADNS)

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0303109N: *Satellite Communications (Space)*

architecture. This network connectivity allows cryptologic and intelligence personnel to fully interact with shore based nodes to provide support to their commanders, including situational awareness, indications and warning (I&W), enemy force intentions, intelligence preparation for the Battlefield, and Battle Damage Assessment (BDA).

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.

Internet Protocol version 6 (IPv6): Manage and resource/coordinate resourcing of experiments and pilot testing of IPv6 technologies to reduce acquisition and operational risk associated with the IPv6 Transition. Experiments identified are in direct support of and identified in the Navy Technical Transition Strategy for IPv6.

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.

FY14: 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 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 Information Assurance (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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	263.439	188.482	53.734	-	53.734
Current President's Budget	258.811	188.482	66.231	-	66.231
Total Adjustments	-4.628	0.000	12.497	-	12.497
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.593	0.000			
• SBIR/STTR Transfer	-7.221	0.000			
• Program Adjustments	0.000	0.000	-8.319	-	-8.319
• Rate/Misc Adjustments	0.000	0.000	20.816	-	20.816

Change Summary Explanation

Schedule:

EHF SATCOM Terminals (project 0728)

Reflects adjustments to ATIP Development and Integration; A2AD Development and associated test events; FRP DR and FOC milestone dates; Airborne XDR FOT&E; PY7 procurements and deliveries; and satellite launches.

Mobile User Objective System (project 2472)

MUOS schedule reflects adjustments to Launch date for satellite #5; test events (including End-to-End integration and test), and Full Operating Capability (FOC). The schedule also removes references to On-Orbit Capability (OOC) per Acquisition Program Baseline (APB) approved in July 2012.

Technical:

No significant technical changes.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0728: <i>EHF SATCOM Terminals</i>	586.077	17.476	31.731	21.077	-	21.077	19.502	13.693	0.000	14.557	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: NMT Development	17.476	31.731	21.077
Articles:	0	0	0
Description: Overall program efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of satellite communications-related program insertion. They also include Navy Multiband Terminal (NMT) development for System Design and Development (SDD) for ship, shore, and submarine platforms.			
FY 2012 Accomplishments:			
Completed the development of Q/Ka, Ship X/Ka, and submarine X-band capabilities. Continued the Developmental Testing (DT) and Operational Testing (OT) of Q/Ka, submarine X-band, and Ship X/Ka capabilities into the NMT system. Prepared for 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). Began the development and integration of the Advanced Time Delay Multiple Access Interface Processor (ATIP) into the NMT Terminal. Performed system modifications to correct deficiencies			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>discovered during testing. Continued on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system.</p> <p>FY 2013 Plans: Complete the Developmental Testing (DT) and Operational Testing (OT) of Q/Ka, Ship X/Ka, and submarine X-band capabilities into the NMT system. Complete 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). Continue 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. Achieve Initial Operational Capability milestone.</p> <p>FY 2014 Plans: 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.</p> <p>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).</p>			
Accomplishments/Planned Programs Subtotals	17.476	31.731	21.077

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/3216: <i>Navy Multiband Terminal (NMT)</i>	107.242	184.825	215.952		215.952	278.146	128.841	57.129	58.003	64.180	1,267.478

Remarks

D. Acquisition Strategy
Navy Multiband Terminal concept exploration contracts were awarded in FY 2001. Two System Development and Demonstration (SDD) contracts were competitively awarded in FY 2004 for the development and demonstration of four prototype terminals per vendor (eight total). In FY 2007, a down select to Raytheon occurred for

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0303109N: <i>Satellite Communications (Space)</i>	0728: <i>EHF SATCOM Terminals</i>

the development, demonstration and procurement of 20 Engineering Development Models (EDMs) which will incorporate integrated multi-band capabilities for Q/Ka band, Submarine X-Band, and Ship X/Ka frequency band communication requirements.

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Hardware Development	C/CPAF	Various:Various	126.499	0.000		0.000		0.000		-		0.000	0.000	126.499	
Hardware Development	C/FFP	Harris:Melbourne, FL	6.136	0.000		0.000		0.000		-		0.000	0.000	6.136	
NMT EDM Development	C/CPAF	Raytheon:Marlborough, MA	198.680	0.000		0.000		0.000		-		0.000	0.000	198.680	
Hardware Development	WR	SSC PAC:San Diego, CA	1.009	0.000		0.000		0.000		-		0.000	0.000	1.009	
Ancillary Hardware Development	C/CPAF	Raytheon:Marlborough, MA	55.923	0.000		0.000		0.000		-		0.000	0.000	55.923	
Software Development	WR	NUWC:Newport, RI	8.581	0.000		0.000		0.000		-		0.000	0.000	8.581	
Software Development	C/CPAF	Raytheon:Marlborough, MA	41.453	8.902	Jan 2012	9.568	Jan 2013	6.920	Jan 2014	-		6.920	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC PAC:San Diego, CA	22.088	0.000		0.000		0.000		-		0.000	0.000	22.088	
Systems Engineering	WR	NUWC:Newport, RI	25.206	3.650	Nov 2011	1.548	Nov 2012	1.033	Nov 2013	-		1.033	Continuing	Continuing	Continuing
Systems Engineering	C/CPAF	Linquest:San Diego, CA	34.905	0.000		0.000		0.000		-		0.000	0.000	34.905	
Systems Engineering	C/CPAF	Systech:San Diego, CA	0.000	1.784	Nov 2011	2.200	Nov 2012	1.454	Nov 2013	-		1.454	Continuing	Continuing	Continuing
Software Development	C/CPAF	Unknown:Unknown	0.000	0.000		14.400	Mar 2013	8.200	Mar 2014	-		8.200	Continuing	Continuing	Continuing
Subtotal			520.480	14.336		27.716		17.607		0.000		17.607			

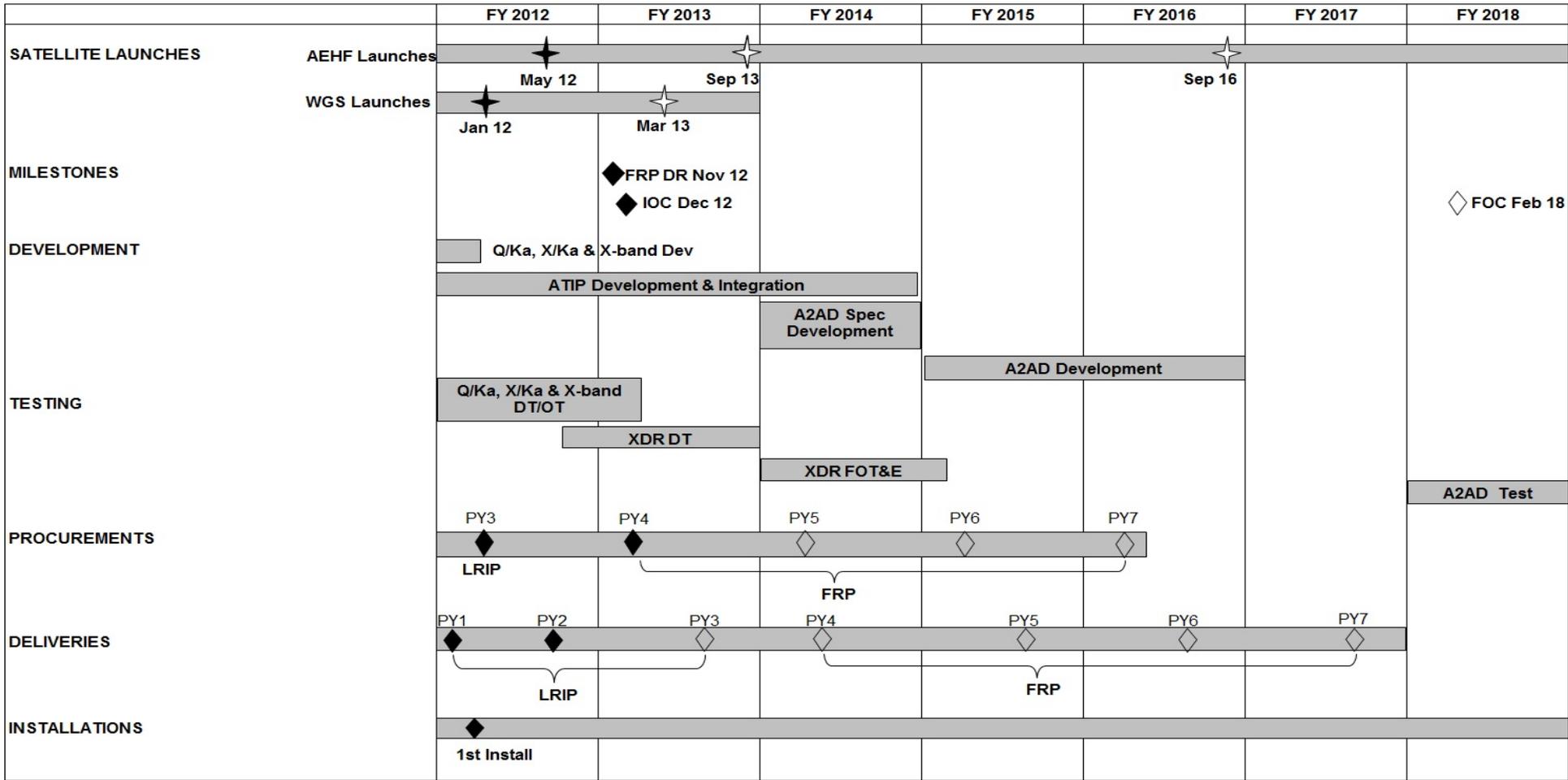
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Development Support	WR	SSC PAC:San Diego, CA	11.412	0.000		0.000		0.000		-		0.000	0.000	11.412	
Logistics Support	WR	SSC PAC:San Diego, CA	3.555	0.000		0.000		0.000		-		0.000	0.000	3.555	
Studies & Analysis	WR	NUWC:Newport, RI	6.869	0.000		0.000		0.000		-		0.000	0.000	6.869	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT								
1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				PE 0303109N: Satellite Communications (Space)				0728: EHF SATCOM Terminals								
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Information Assurance	WR	SSC PAC:San Diego, CA	3.886	0.000		0.000		0.000		-		0.000	0.000	3.886		
Subtotal			25.722	0.000		0.000		0.000		0.000		0.000	0.000	25.722		
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	WR	SSC PAC:San Diego, CA	17.341	1.468	Nov 2011	1.481	Nov 2012	0.990	Nov 2013	-		0.990	Continuing	Continuing	Continuing	
Operational Test & Evaluation 1	WR	COMOPTEVFOR:Norfolk, VA	3.866	0.200	Nov 2011	0.500	Nov 2012	1.000	Nov 2013	-		1.000	Continuing	Continuing	Continuing	
Developmental Test & Evaluation	C/CPAF	Raytheon:Marlborough, MA	0.000	0.898	Nov 2011	1.340	Nov 2012	0.890	Nov 2013	-		0.890	Continuing	Continuing	Continuing	
Subtotal			21.207	2.566		3.321		2.880		0.000		2.880				
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contract Management	C/CPFF	BAH:San Diego	8.194	0.247	Nov 2011	0.300	Nov 2012	0.250	Nov 2013	-		0.250	Continuing	Continuing	Continuing	
Program Management	C/CPFF	BAH:San Diego	8.214	0.247	Nov 2011	0.300	Nov 2012	0.250	Nov 2013	-		0.250	Continuing	Continuing	Continuing	
Acquisition Management	WR	NCCA:Various	0.653	0.000		0.000		0.000		-		0.000	0.000	0.653		
Travel	Reqn	SPAWAR:Various	1.607	0.080	Nov 2011	0.094	Nov 2012	0.090	Nov 2013	-		0.090	Continuing	Continuing	Continuing	
Subtotal			18.668	0.574		0.694		0.590		0.000		0.590				
Project Cost Totals			586.077	17.476		31.731		21.077		0.000		21.077				

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)
		PROJECT 0728: <i>EHF SATCOM Terminals</i>



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 0728: <i>EHF SATCOM Terminals</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0728				
Q/Ka, X/Ka & X-band Development	1	2012	2	2012
Q/Ka, X/Ka & X-band DT/OT	1	2012	1	2013
ATIP Development & Integration	1	2012	4	2014
FRP DR	1	2013	1	2013
Procurement Year 3 (PY3)	2	2012	2	2012
LRIP PY1 Delivery	1	2012	1	2012
1st Install	1	2012	1	2012
AEHF Launch SV-2	3	2012	3	2012
WGS Launch #5	2	2012	2	2012
LRIP PY2 Delivery	3	2012	3	2012
Initial Operational Capability (IOC)	1	2013	1	2013
XDR DT	4	2012	4	2013
AEHF Launch SV-3	4	2013	4	2013
Procurement Year 4 (PY4)	1	2013	1	2013
WGS Launch #6	2	2013	2	2013
LRIP PY3 Delivery	3	2013	3	2013
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
FRP PY6 Delivery	3	2016	3	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AEHF Launch SV-4	4	2016	4	2016
NMT Full Operational Capability (FOC)	2	2018	2	2018
XDR FOT&E	1	2014	1	2015
A2AD Spec Development	1	2014	4	2014
A2AD Test	1	2018	4	2018
A2AD Development	1	2015	4	2016
Procurement Year 7 (PY7)	2	2016	2	2016
FRP PY7 Delivery	3	2017	3	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0731: <i>FLTSATCOM</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0731: <i>FLTSATCOM</i>	15.209	4.155	10.828	9.202	-	9.202	5.210	3.469	0.000	0.000	0.000	48.073
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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. 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.

(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.

Internet Protocol version 6 (IPv6): The management and coordination of experiments and pilot testing of IPv6 technologies to reduce acquisition and operational risk associated with the IPv6 Transition.

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

	FY 2012	FY 2013	FY 2014
Title: Maritime Integrated Broadcast Service (MIBS)	0.069	0.059	0.000
Articles:	0	0	
FY 2012 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 0731: <i>FLTSATCOM</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Provided Navy support for the new Common Integrated Broadcast (CIB) waveform Multiservice Operational Test and Evaluation (MOT&E). FY 2013 Plans: Complete Navy support for the Common Integrated Broadcast (CIB) waveform Multiservice Operational Test and Evaluation (MOT&E) including analysis and final reporting.			
Title: JMINI CS Articles:	4.086 0	10.769 0	9.202 1
FY 2012 Accomplishments: Concept exploration and development to support product improvement that extends product life cycle, enabling continued support for warfighter missions until alternate capabilities become available. Commenced Hardware and Software development efforts for the JMINI system refresh for solutions to the current obsolescence of the JMINI systems issue.			
FY 2013 Plans: Continue concept development and product improvement framework for a cost effective refresh, to extend the planned life cycle of the legacy JMINI program. Begin software development, integration, and testing.			
FY 2014 Plans: Continue software development, integration, and testing. Begin prototype development and testing.			
Accomplishments/Planned Programs Subtotals	4.155	10.828	9.202

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/2900: <i>Maritime Integrated Broadcast Service (MIBS)</i>	13.021	16.026	11.681		11.681	4.988	0.285	0.016	0.013	Continuing	Continuing
• OPN/3215: <i>Sat Comm - JMINI</i>	1.545	0.000	0.000		0.000	8.000	6.000	0.000	0.000	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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0731: <i>FLTSATCOM</i>
<p>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.</p> <p>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 installation.</p> <p>E. Performance Metrics</p> <p>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.</p> <p>Sensitive Compartmented Information (SCI) Networks: Develops a consolidated SCI architecture that reduces total ownership cost (TOC) of the afloat SI Local Area Network (LAN) systems and reduces the risk for implementation of CANES by introducing a Common Computing Environment (CCE) and an Afloat Cores Services (ACS) Architecture.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 0731: <i>FLTSATCOM</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JMINI Contractor Engineering Support	C/CPFF	Unknown:Not Specified	11.877	0.000		2.914	Apr 2013	3.864	Apr 2014	-		3.864	2.493	21.148	
JMINI Government Engineering	WR	SSC PAC:San Diego, CA.	0.590	3.786	Feb 2012	7.280	Apr 2013	5.038	Apr 2014	-		5.038	2.494	19.188	
JMINI Certification Authority	WR	SSC LANT:Charleston, SC	0.000	0.300	Aug 2012	0.575	Apr 2013	0.100	Apr 2014	-		0.100	0.000	0.975	
Subtotal			12.467	4.086		10.769		9.002		0.000		9.002	4.987	41.311	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IPv6 Support	WR	SSC PAC:San Diego	2.418	0.000		0.000		0.000		-		0.000	0.000	2.418	
Subtotal			2.418	0.000		0.000		0.000		0.000		0.000	0.000	2.418	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JMINI Interoperability Test	WR	JITC:Ft. Huachaca	0.000	0.000		0.000		0.200	Feb 2014	-		0.200	0.000	0.200	
MIBS Development Test & Evaluation	WR	SSC PAC:San Diego, CA.	0.310	0.050	Nov 2011	0.049	Nov 2012	0.000		-		0.000	0.000	0.409	
Subtotal			0.310	0.050		0.049		0.200		0.000		0.200	0.000	0.609	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MIBS Program Management	WR	SSC PAC:San Diego, CA.	0.014	0.019	Nov 2011	0.010	Nov 2012	0.000		-		0.000	0.000	0.043	

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0731: <i>FLTSATCOM</i>
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Fiscal Year	FY2012				FY2013				FY2014				FY2015				FY2016				FY2017				FY2018			
	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
Concept Development	Concept Development																											
Development & Integration					Software development, test, and integration																							
									Prototype development and testing																			
Test & Evaluation Milestones																	Operational Testing											
Production																	Production											
																					Install							
																									 Contract Award			

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0731: <i>FLTSATCOM</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0731				
Concept Development	2	2012	1	2013
Software development, test, and integration	1	2013	3	2015
Prototype development and testing	1	2014	3	2015
Operational Testing	4	2015	4	2016
Production Contract Award	3	2015	3	2015
Production	4	2015	2	2016
Install	2	2016	1	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2472: <i>Mobile User Objective Sys (MUOS)</i>	3,573.210	237.180	145.923	35.952	-	35.952	8.476	7.162	7.434	7.623	130.912	4,153.872
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

FY14: 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 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 Information Assurance (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.

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

	FY 2012	FY 2013	FY 2014
Title: Mobile User Objective Sys (MUOS)	237.180	145.923	35.952
Articles:	0	0	0
FY 2012 Accomplishments:			
Completed work on the assembly, integration and testing of satellite 1. Completed satellite 1 shipment, launch vehicle mate operations, launch and on-orbit testing. Completed work on the assembly, integration and testing of satellite 2. Completed installation and testing of initial software versions at Geraldton and Northwest. Began installation of hardware at Niscemi. Began fixes to ground software resulting from site testing, Information Assurance Vulnerability Alerts, and system testing to prepare for launch 2. Continued development and initial testing of the follow-on version of the MUOS waveform.			
FY 2013 Plans:			
Complete factory testing and launch site preparations, ship to launch site, conduct launch site testing, perform launch vehicle mate operations, launch of satellite 2 and perform on-orbit testing. Complete installation of hardware at Northwest. Complete			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
installation and testing of software updates at Wahiawa, Geraldton, Northwest, and Niscemi in support of Launch 2. Complete acceptance testing of the MUOS follow-on waveform. Conduct IA waveform assessment and remediation of findings. Implement 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 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 Information Assurance (IA) vulnerabilities identified during the Information Assurance Certification & Validation (IACV) effort for Geraldton, Wahiawa, and Northwest. Conduct new IACVs at all sites to obtain IATO extensions.			
Accomplishments/Planned Programs Subtotals	237.180	145.923	35.952

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• WPN/2433: <i>Mobile User Objective System (MUOS)</i>	238.215	21.454	23.014		23.014	253.018	40.879	10.355	10.198	778.966	2,932.233

Remarks

D. Acquisition Strategy

Research Development Test & Evaluation, Navy (RDT&E,N) funds in FY12 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 FY12 and beyond used for production of the remaining four satellites and launch services for all six satellites.

E. Performance Metrics

FY 2012 and beyond: Continue preparation for launch of satellites 1 and 2; 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
RRDD AOS Contract	C/CPAF	Lockheed Martin (LM):Sunnyvale, CA	3,162.915	216.221	Nov 2011	128.383	Nov 2012	25.113	Nov 2013	-		25.113	144.807	3,677.439	Continuing
CE Contracts & Demos	C/FFP	LM / Raytheon / Spec Astro / Boeing:VAR	21.320	0.000		0.000		0.000		-		0.000	0.000	21.320	Continuing
CAD Contracts	C/FFP	LM / Raytheon:VAR	105.154	0.000		0.000		0.000		-		0.000	0.000	105.154	Continuing
AoA for MUOS	MIPR	Aerospace:EI Segundo, CA	2.782	0.000		0.000		0.000		-		0.000	0.000	2.782	Continuing
Government Studies	MIPR	Aerospace:EI Segundo, CA	0.711	0.000		0.000		0.000		-		0.000	0.000	0.711	Continuing
Crypto Procurement	MIPR	NSA:Fort Meade, MD	3.703	0.000		0.000		0.000		-		0.000	0.000	3.703	Continuing
UHF Augmentation	C/CPAF	Lockheed Martin (LM):Sunnyvale, CA	0.491	0.000		0.000		0.000		-		0.000	0.000	0.491	Continuing
Subtotal			3,297.076	216.221		128.383		25.113		0.000		25.113	144.807	3,811.600	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
UFO TT&C Terminal Upgrades	WR	SSC PAC:San Diego, CA	10.691	0.000		0.000		0.000		-		0.000	0.000	10.691	Continuing
Facilities Modifications	WR	SSC LANT:Norfolk, VA	2.623	0.150	Dec 2011	0.000		0.000		-		0.000	0.000	2.773	Continuing
Australian Site Prep	C/FFP	Boeing:Brisbane, AUS	25.471	0.000		0.000		0.000		-		0.000	0.000	25.471	Continuing
Studies & Analyses (EELV)	MIPR	SMC/FMAIC:EI Segundo, CA	0.825	0.000		0.000		0.000		-		0.000	0.000	0.825	Continuing
ISCS Integration	WR	NAVSOC:Point Mugu, CA	7.178	0.000		0.000		0.000		-		0.000	0.000	7.178	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Narrowband SATCOM SE Group (NSSEG) - MUOS E2E	WR	SSC LANT:Charleston, SC	1.869	0.623	Oct 2011	0.000		0.000		-		0.000	0.000	2.492	Continuing
Subtotal			48.657	0.773		0.000		0.000		0.000		0.000	0.000	49.430	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	WR	SSC PAC:San Diego, CA	11.178	4.143	Oct 2011	3.407	Dec 2012	5.500	Nov 2013	-		5.500	0.000	24.228	Continuing
Operational Test & Evaluation	WR	OPTEVFOR:Norfolk, VA	3.034	1.338	Oct 2011	0.550	Dec 2012	1.750	Nov 2013	-		1.750	0.000	6.672	Continuing
Subtotal			14.212	5.481		3.957		7.250		0.000		7.250	0.000	30.900	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	C/CPAF	Accenture:San Diego, CA	135.030	0.000		0.000		0.000		-		0.000	0.000	135.030	Continuing
Contractor Engineering Support	C/CPFF	Vector Planning and Services, Inc.:San Diego, CA	0.000	10.917	May 2012	8.914	Aug 2013	2.324	Aug 2014	-		2.324	0.000	22.155	Continuing
Government Engineering	WR	SSC PAC:San Diego, CA	30.866	2.324	Nov 2011	1.326	Dec 2012	0.345	Nov 2013	-		0.345	16.800	51.661	Continuing
Program Mgmt Support	C/CPAF	Booz Allen Hamilton:McLean, VA	41.226	0.000		0.000		0.000		-		0.000	0.000	41.226	Continuing
Program Management Support	C/CPFF	Booz Allen Hamilton:McLean, VA	0.000	1.423	Oct 2011	3.143	Dec 2012	0.820	Oct 2013	-		0.820	0.000	5.386	Continuing

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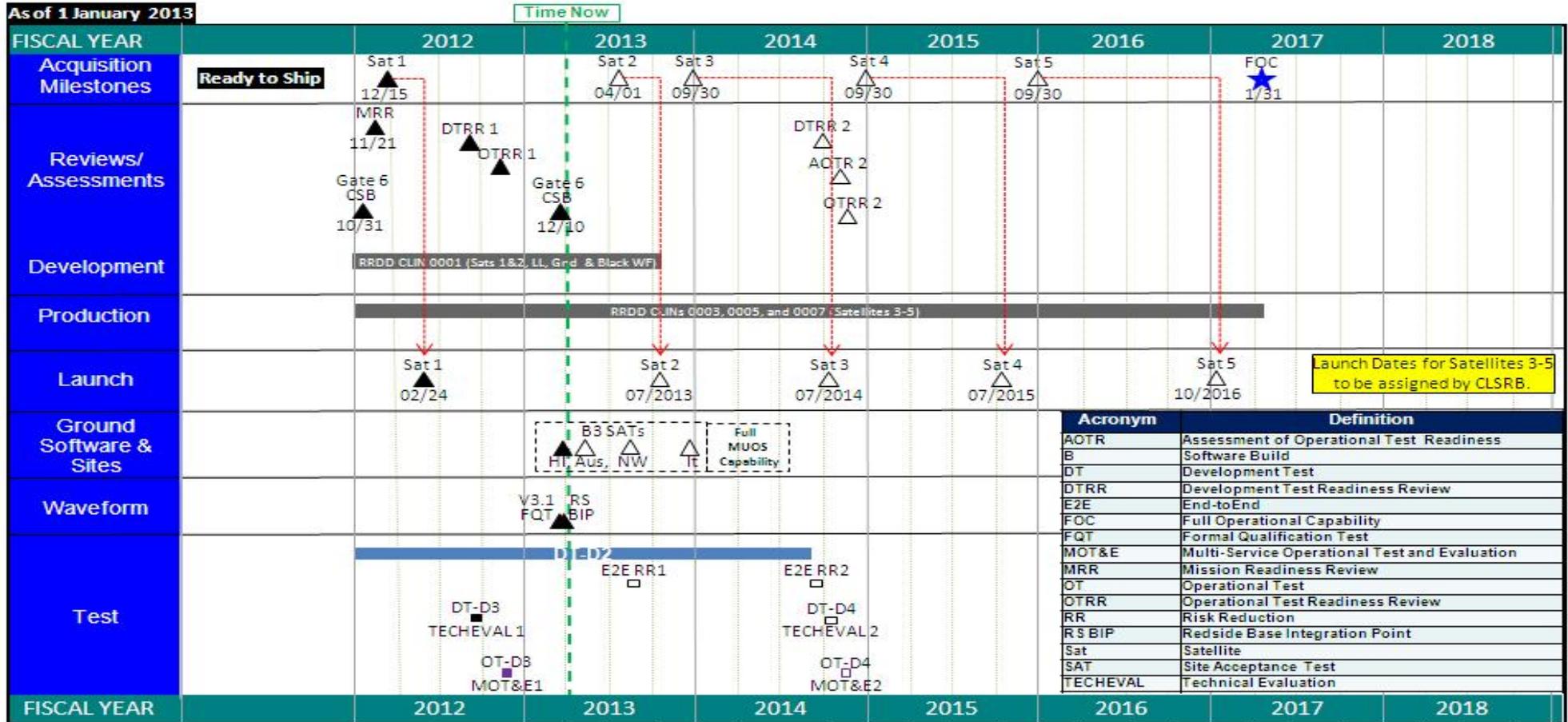
Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0303109N: Satellite Communications
 (Space)

PROJECT
 2472: Mobile User Objective Sys (MUOS)



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2472				
Gate 6/Configuration Steering Board (CSB) 1	1	2012	1	2012
Mission Readiness Review (MRR)	1	2012	1	2012
Ready to Ship date #1	1	2012	1	2012
Launch of Satellite #1 (MUOS 1)	2	2012	2	2012
Development Test Readiness Review (DTRR) 1	3	2012	3	2012
DT-D3 Tech Eval 1	4	2012	4	2012
Operational Test Readiness Review (OTRR) #1	4	2012	4	2012
OT-D3 Multi-Service Operational Testing & Evaluation (MOT&E 1)	4	2012	4	2012
Redside Waveform V3.1 FQT	1	2013	1	2013
Australia Build 3.1 (B3 SAT)	1	2013	2	2013
Redside Waveform V3.1 BIP (RS BIP)	1	2013	1	2013
Gate 6/Configuration Steering Board (CSB) 2	1	2013	1	2013
Wahiawa Build 3.1 (B3 SAT)	1	2013	2	2013
Northwest Build 3.1 (B3 SAT)	2	2013	3	2013
Ready to Ship date #2	3	2013	3	2013
End-to-End Risk Reduction #1 (E2E RR-1)	3	2013	3	2013
Italy Build 3.1	4	2013	4	2013
Launch of Satellite #2 (MUOS 2)	4	2013	4	2013
Ready to Ship date #3	4	2013	4	2013
End-to-End Risk Reduction #2 (E2E RR-2)	3	2014	4	2014
Development Test Readiness Review (DTRR) 2	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
DT-D4 Tech Eval 2	4	2014	4	2014
Launch of Satellite #3 (MUOS 3)	4	2014	4	2014
Operational Test Readiness Review (OTRR) #2	4	2014	4	2014
Assessment of Operational Test Readiness (AOTR)	4	2014	4	2014
OT-D4 Multi-Service Operational Testing & Evaluation (MOT&E 2)	4	2014	4	2014
Ready to Ship date #4	4	2014	4	2014
Launch of Satellite #4 (MUOS 4)	4	2015	4	2015
Ready to Ship date #5	4	2015	4	2015
Launch of Satellite #5 (MUOS 5)	1	2017	1	2017
Full Operational Capability (FOC)	2	2017	2	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303911N: <i>Cyber</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	1.993	1.790	2.328	-	2.328	2.373	2.428	2.478	2.511	Continuing	Continuing
1849: <i>INTELLIGENCE PROC R&D</i>	0.000	1.993	1.790	2.328	-	2.328	2.373	2.428	2.478	2.511	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	1.993	1.790	2.322	-	2.322
Current President's Budget	1.993	1.790	2.328	-	2.328
Total Adjustments	0.000	0.000	0.006	-	0.006
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	0.006	-	0.006

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	87.740	24.039	16.749	24.476	-	24.476	22.710	23.227	23.525	23.962	Continuing	Continuing
0725: <i>Communication Automation</i>	0.000	0.000	1.334	1.002	-	1.002	1.017	0.996	1.018	1.035	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	12.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.000
9C87: <i>CANES Integration</i>	87.740	12.039	15.415	23.474	-	23.474	21.693	22.231	22.507	22.927	256.828	484.854

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ended in FY 2012. MIP requirements transitioned to PE 0303138N beginning in FY 2013.

Project 0725 Communication Automation Automated Digital Network System (ADNS) funding was realigned from PE 0204163N to CANES PE 0303138N FY13 and out.

Project 9999 Congressional Adds realigned from CANES FY12 OPN LI 2915.

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 NAVY to dominate the Cyber Warfare domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, 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 existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) 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 (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and aircraft. In addition, approximately 36 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>
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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 ADNS field prior to or concurrently with CANES due to 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 a different ship class design baseline.

In FY 2014, CANES RDT&E investment will support the developmental efforts for Technical Insertion (TI) software baselines. Perform system engineering efforts to complete functional baselines and updates to technical data packages. Continue testing events at Enterprise Engineering and Certification (E2C) lab on Platform Sets 2, 3, and 4 and on the TI software baseline. Complete Initial Operational Test and Evaluation on unit level platforms. Perform Developmental Testing (DT) on force level baseline in support of Follow-On Test and Evaluation (FOT&E). Continue hosted system integration testing and Application Integration (AI). 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 ashore via radio paths and pier connectivity.

FY14 funds will be used for ADNS interface design development, integration for network application and Radio Frequency (RF) paths.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	24.855	16.749	15.852	-	15.852
Current President's Budget	24.039	16.749	24.476	-	24.476
Total Adjustments	-0.816	0.000	8.624	-	8.624
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.027	0.000			
• SBIR/STTR Transfer	-0.789	0.000			
• Program Adjustments	0.000	0.000	3.112	-	3.112
• Rate/Misc Adjustments	0.000	0.000	5.512	-	5.512

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *CANES (Cong)*

	FY 2012	FY 2013
Congressional Add Subtotals for Project: 9999	12.000	-
Congressional Add Totals for all Projects	12.000	0.000

Change Summary Explanation

Technical: N/A

Funding:

CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ended in FY 2012. MIP requirements transitioned to PE 0303138N beginning in FY 2013.

FY 2014 \$3.2M investment for LPD-17 platform development for inclusion in CANES Platform Set 4 baseline.

FY 2014 - 2018 \$41.4M Risk based adjustment based on prior year actual expenditures for follow on development.

Communication Automation Automated Digital Network System (ADNS) Project 0725 was realigned from Program Element 0204163N to 0303138N in FY13 and out due to architectural reliance with CANES.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0303138N: *Consolidated Afloat Network Ent Services(CANES)*

Schedule:
CANES down-select occurred on 1 February 2012 and an ensuing 23-day protest period caused the following efforts to be rephased: CANES Milestone C (MS C), Initial Operational Capability (IOC), Full Deployment Decision (FDD), Operational Assessment (OA), Unit Level Developmental Test (DT) and Initial Operational Test and Evaluation (IOT&E), Force Level DT and Follow-on Test and Evaluation (FOT&E), Full Deployment (FD) contract award, and Limited Deployment (LD) deliveries.

The ADNS INC III Submarine Operational Testing (OT) have been updated to reflect the correct milestone from 4QFY12 to 1QFY13.

The ADNS program will continue System Development efforts for interface design development and integration with network applications, future SATCOM and Radio Frequency (RF) paths. Production efforts will include fielding and sustaining INC II and III systems.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0725: <i>Communication Automation</i>	0.000	0.000	1.334	1.002	-	1.002	1.017	0.996	1.018	1.035	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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). 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.

FY14 funds will be used for ADNS interface design development, integration for network application and Radio Frequency (RF) paths.

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

	FY 2012	FY 2013	FY 2014
Title: Automated Digital Network System	0.000	1.334	1.002
Articles:		0	0
FY 2013 Plans:			
Continue the development of updated system and subsystem interface designs for integration with new SATCOM and RF paths as they emerge. Test and integrate the evolving network applications as they are incorporated into the C4I architecture; actions will include examining and 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 Line of Sight (LOS) links.			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Complete Video and Voice Over Secure Internet Protocol (VVoSIP) integration into the ADNS boundary. Complete Operational Testing on ADNS INC III Submarines.			
<i>FY 2014 Plans:</i> 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 Line of Sight (LOS) links.			
Accomplishments/Planned Programs Subtotals	0.000	1.334	1.002

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPN/2915: <i>CANES (ADNS Only)</i>	0.000	60.151	52.098		52.098	45.034	43.774	41.445	43.241	0.000	285.743
• OPN/3050: <i>Ship Comm Auto (ADNS Only)</i>	49.413	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	83.105

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering-ADNS	WR	SSC:PAC	0.000	0.000		0.220	Nov 2012	0.144	Nov 2013	-		0.144	Continuing	Continuing	Continuing
Integration and Test-ADNS	WR	SSC:PAC	0.000	0.000		0.788	Apr 2013	0.621	Dec 2013	-		0.621	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		1.008		0.765		0.000		0.765			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Dev Support-ADNS	WR	SSC:LANT	0.000	0.000		0.011	Apr 2013	0.007	Dec 2013	-		0.007	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.011		0.007		0.000		0.007			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Operational Test & Evaluation-ADNS	WR	COMOPTEVFOR:Norfolk, VA	0.000	0.000		0.132	Apr 2013	0.091	Nov 2013	-		0.091	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.132		0.091		0.000		0.091			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C/CPFF	TBD:TBD	0.000	0.000		0.183	Oct 2012	0.139	Oct 2013	-		0.139	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.183		0.139		0.000		0.139			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>			PROJECT 0725: <i>Communication Automation</i>			
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	0.000	0.000	1.334	1.002	0.000	1.002				

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>
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EXHIBIT R4, Schedule Profile	DATE: March 2013 PROJECT NUMBER AND NAME 0725 COMMUNICATIONS AUTOMATION - ADNS
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Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones		▲ Fielding Decision INC II Air					▲ Fielding Decision INC III Subs																					
System Development	<div style="background-color: #cccccc; border: 1px solid black; padding: 2px; margin-bottom: 2px;">Interface Design Development and Integration with Network Applications</div> <div style="background-color: #cccccc; border: 1px solid black; padding: 2px;">Interface Design Development and Integration with Future SATCOM and Radio Frequency (RF) paths</div>																											
Test & Evaluation Milestones <i>Operational Assessment (OA) Development Test Operational Test</i>		▲ OT INC II Air	▲ DT INC III Sub		▲ OT INC III Subs																							
Production	<div style="background-color: #cccccc; border: 1px solid black; padding: 2px; margin-bottom: 2px;">Fielding & Sustainment - INC</div> <div style="background-color: #cccccc; border: 1px solid black; padding: 2px; margin-bottom: 2px;">Fielding & Sustainment INC III Surface</div> <div style="background-color: #cccccc; border: 1px solid black; padding: 2px;">Fielding & Sustainment INC III Subs</div>																											
Deliveries																												

EXHIBIT R4, Schedule Profile HIBIT R4, Schedule Profile HIBIT R4, Schedule Profile

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0725				
ADNS: INCREMENT II_Airborne Fielding Decision	2	2012	2	2012
ADNS: INCREMENT III_Sub Fielding Decision	2	2013	2	2013
ADNS: INCREMENT III_Interface Design Development with Network Applications	1	2012	4	2018
ADNS: INCREMENT III_Interface Design Development with SATCOM and Radio Frequency (RF) paths	1	2012	4	2018
ADNS: INCREMENT II_Airborne Operational Testing (OT)	1	2012	1	2012
ADNS: INCREMENT III_Sub Developmental Testing (DT)	3	2012	3	2012
ADNS: Increment III_Sub Operational Testing (OT)	1	2013	1	2013
ADNS: INCREMENT IIa_Fielding and Sustainment (Inc II/IIa/IIb) Airborne	1	2012	1	2013
ADNS: INCREMENT II_Full Operational Capability	1	2013	1	2013
ADNS: INCREMENT III_Fielding and Sustainment Inc III Surface	1	2012	4	2018
ADNS: INCREMENT III_Sub Fielding and Sustainment	1	2013	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	12.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.000
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

Note
 Important to note that activities occurring in Project 9C87 are the same as Project 9999. Funds in Project 9999 are from a Navy request to Congress to transfer funding from CANES PE 0303138N LI 2915 to PE 0303138N Project 9C87 to fund Engineering and Manufacturing Development (EMD) efforts that shifted to FY12. In addition, the RDT&E will fund Operational Assessment efforts.

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 Navy to dominate the Cyber Warfare domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, 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 existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) 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 (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, approximately 36 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 ADNS field prior to or concurrently with CANES due to 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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9999: <i>Congressional Adds</i>
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streamlined acquisition, contracting, and 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 a different ship class design baseline.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2012	FY 2013
Congressional Add: CANES (Cong)	12.000	-
FY 2012 Accomplishments: Completed development of statutory and regulatory acquisition documentation in support of CANES Milestone C (MS C). Revised Cost Analysis Requirements Description (CARD) and Life Cycle Cost Estimate (LCCE) in support of Navy's Service Cost Position (SCP) for MS C. Conducted Developmental Test (DT) and Operational Assessment (OA) in support of MS C. Continued hosted system integration testing and Application Integration (AI) as they migrate to CANES baseline. Prepared Enterprise Engineering and Certification (E2C) lab for testing on Platform Sets 1 & 2 baselines and purchased necessary lab assets and test articles in support of testing events. Continued baseline development on Platform Sets 1 & 2 and began baseline development on Platform Sets 3 & 4. Completed down-selection process from two competing developers to one. Performed systems engineering efforts to complete functional baselines and updates to technical data packages.		
Congressional Adds Subtotals	12.000	0.000

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

N/A

Remarks

D. Acquisition Strategy

CANES is an ACAT IAM MAIS program. Formal program initiation occurred at Milestone B (2QFY11). The program office is employing a multiple-phase, multiple-award down-select contracting 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 February 1, 2012. Milestone C occurred in 1QFY13. In 1QFY14, a separate full and open production contract will be awarded for Full Deployment (FD).

E. Performance Metrics

Early RDT&E investment and sustainment of dual design contractors through the development phase saved 44% of Total Ownership Cost (TOC) over the life cycle of the program. Cost avoidance throughout the life of the program is based on performance gains that are measured (not quantified) by 1) reducing the number of networks through the use of mature, certified, cross domain technologies; 2) reducing the infrastructure footprint and associated costs for hardware afloat; and 3) providing increased capability to meet current and projected warfighter requirements.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9999: <i>Congressional Adds</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development	C/CPFF	Northrup Grumman:Herndon, VA	0.000	11.109	Feb 2012	0.000		0.000		-		0.000	0.000	11.109	
Systems Engineering	WR	SPAWAR Systems Center:San Diego, CA	0.000	0.754	Feb 2012	0.000		0.000		-		0.000	0.000	0.754	
Subtotal			0.000	11.863		0.000		0.000		0.000		0.000	0.000	11.863	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Operational Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA	0.000	0.047	Feb 2012	0.000		0.000		-		0.000	0.000	0.047	
Subtotal			0.000	0.047		0.000		0.000		0.000		0.000	0.000	0.047	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management & Acquisition Support	C/CPFF	Booz Allen Hamilton:San Diego, CA	0.000	0.090	Feb 2012	0.000		0.000		-		0.000	0.000	0.090	
Subtotal			0.000	0.090		0.000		0.000		0.000		0.000	0.000	0.090	

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	12.000	0.000	0.000	0.000	0.000	0.000	12.000	

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9C87: <i>CANES Integration</i>	87.740	12.039	15.415	23.474	-	23.474	21.693	22.231	22.507	22.927	256.828	484.854
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

Note
 CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ended in FY 2012. MIP requirements transitioned to PE 0303138N beginning in FY 2013.

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 NAVY to dominate Cyber Warfare domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, 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 existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) 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 (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, approximately 36 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 ADNS field prior to or concurrently with CANES due to 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 networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting, and test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics,

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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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 a different ship class design baseline.

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

	FY 2012	FY 2013	FY 2014
Title: CANES Integration	12.039	15.415	23.474
Articles:	0	0	0
FY 2012 Accomplishments:			
Completed development of statutory and regulatory acquisition documentation in support of CANES Milestone C (MS C). Revised Cost Analysis Requirements Description (CARD) and Life Cycle Cost Estimate (LCCE) in support of Navy's Service Cost Position (SCP) for MS C. Conducted Developmental Test (DT) and Operational Assessment (OA) in support of MS C. Continued hosted system integration testing and Application Integration (AI) as they migrate to CANES baseline. Prepared Enterprise Engineering and Certification (E2C) lab for testing on Platform Sets 1 & 2 baselines and purchased development on Platform Sets 3 & 4. Completed down-select process from two competing developers to one. Performed systems engineering efforts to complete functional baselines and updates to technical data packages.			
FY 2013 Plans:			
Complete Platform Sets 1, 2, 3 and 4 baseline development. Perform DT and Initial Operational Test and Evaluation (IOT&E) in support of Full Deployment Decision (FDD) in 1QFY14 on unit level platforms. Continue testing events at E2C lab on Platform Sets 1, 2, 3, 4 and on TI software baseline, and purchase necessary lab assets and test articles in support of testing events. Perform systems engineering efforts to complete functional baselines and updates to technical data packages. Continue hosted system integration testing and Application Integration (AI). Complete Operational Assessment (OA). Milestone C achieved 1QFY13.			
FY 2014 Plans:			
Initiate development for Technical Insertion (TI) software baselines. Perform system engineering efforts to complete functional baselines and updates to technical data packages. 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. Perform Developmental Testing (DT) on force level baseline in support of Follow On Test and Evaluation (FOT&E). Continue hosted system integration testing and AI. Achieve Full Deployment Decision (FDD).			
Accomplishments/Planned Programs Subtotals			
	12.039	15.415	23.474

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/2915: <i>CANES</i>	78.239	281.247	288.469		288.469	308.308	330.315	345.964	341.294	4,574.868	6,560.089
• OPN/2925: <i>CANES Intell</i>	73.363	79.427	59.652		59.652	65.329	33.983	56.755	49.707	1,012.331	1,433.670

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE/09C87: <i>CANES MIP</i>	6.602	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	15.936
• RDTE/9C87C: <i>CANES (Cong)</i>	12.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	12.000

Remarks

D. Acquisition Strategy

CANES is an ACAT IAM MAIS program. Formal program initiation occurred at MS B (2QFY11). 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 February 1, 2012. Milestone C achieved in 1QFY13. In 1QFY14, a separate full and open production contract will be awarded for Full Deployment (FD).

E. Performance Metrics

Early RDT&E investment and sustainment of dual design contractors through the development phase saved 44% of Total Ownership Cost (TOC) over the life cycle of the program. Cost avoidance throughout the life of the program is based on performance gains that are measured (not quantified) by 1) reducing the number of networks through the use of mature, certified, cross domain technologies; 2) reducing the infrastructure footprint and associated costs for hardware afloat; and 3) providing increased capability to meet current and projected warfighter requirements.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	C/CPFF	Lockheed Martin:San Diego, CA	20.962	1.367	Nov 2011	0.000		0.000		-		0.000	0.000	22.329	22.329
Primary Hardware Development	C/CPFF	Northrop Grumman:Herndon, VA	23.644	2.223	Nov 2011	7.428	Nov 2012	0.000		-		0.000	0.000	33.295	33.295
Primary Hardware Development	WR	SPAWAR Systems Center:San Diego, CA	9.703	2.681	Dec 2011	2.887	Nov 2012	17.533	Nov 2013	-		17.533	171.871	204.675	204.675
Primary Software Development	WR	SPAWAR Systems Center:San Diego, CA	6.468	1.576	Oct 2011	1.545	Dec 2012	1.800	Dec 2013	-		1.800	25.740	37.129	37.129
Systems Engineering	WR	SPAWAR Systems Center:San Diego, CA and Charleston, SC	13.986	2.189	Oct 2011	1.738	Nov 2012	2.025	Nov 2013	-		2.025	28.950	48.888	48.888
Systems Engineering	MIPR	US ARMY CECOM (MITRE):San Diego, CA	0.891	0.589	Oct 2011	0.851	Nov 2012	0.991	Nov 2013	-		0.991	14.176	17.498	17.498
Systems Engineering	C/CPFF	BAH:San Diego, CA	0.000	0.690	Nov 2011	0.000		0.000		-		0.000	0.000	0.690	0.690
Subtotal			75.654	11.315		14.449		22.349		0.000		22.349	240.737	364.504	364.504

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Studies & Design	MIPR	Washington HQ Services:Washington DC	0.650	0.000		0.000		0.000		-		0.000	0.000	0.650	0.650
Subtotal			0.650	0.000		0.000		0.000		0.000		0.000	0.000	0.650	0.650

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Test & Evaluation	MIPR	JITC:Fairfax, VA	0.333	0.410	Oct 2011	0.196	Nov 2012	0.196	Nov 2013	-		0.196	3.265	4.400	4.400
Operational Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA and Washington, DC	0.507	0.210	Feb 2012	0.252	Nov 2012	0.326	Nov 2013	-		0.326	4.197	5.492	5.492
Subtotal			0.840	0.620		0.448		0.522		0.000		0.522	7.462	9.892	9.892

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	WR	SPAWAR Systems Center:San Diego, CA and Charleston, SC	2.742	0.000		0.000		0.000		-		0.000	0.000	2.742	2.742
Program Management & Acquisition Support	C/CPFF	Systems Research & Application:San Diego, CA	3.969	0.104	Oct 2011	0.518	Dec 2012	0.603	Dec 2013	-		0.603	8.629	13.823	13.823
Financial Management Support	C/CPFF	INDUS Technology:San Diego, CA	1.167	0.000		0.000		0.000		-		0.000	0.000	1.167	1.167
Cost Estimation and Analyses	C/CPFF	Booz Allen Hamilton:San Diego, CA	1.420	0.000		0.000		0.000		-		0.000	0.000	1.420	1.420
Logistics Support	C/CPFF	TCI:San Diego, CA	1.298	0.000		0.000		0.000		-		0.000	0.000	1.298	1.298
Subtotal			10.596	0.104		0.518		0.603		0.000		0.603	8.629	20.450	20.450

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		87.740	12.039	15.415	23.474	0.000	23.474	256.828	395.496

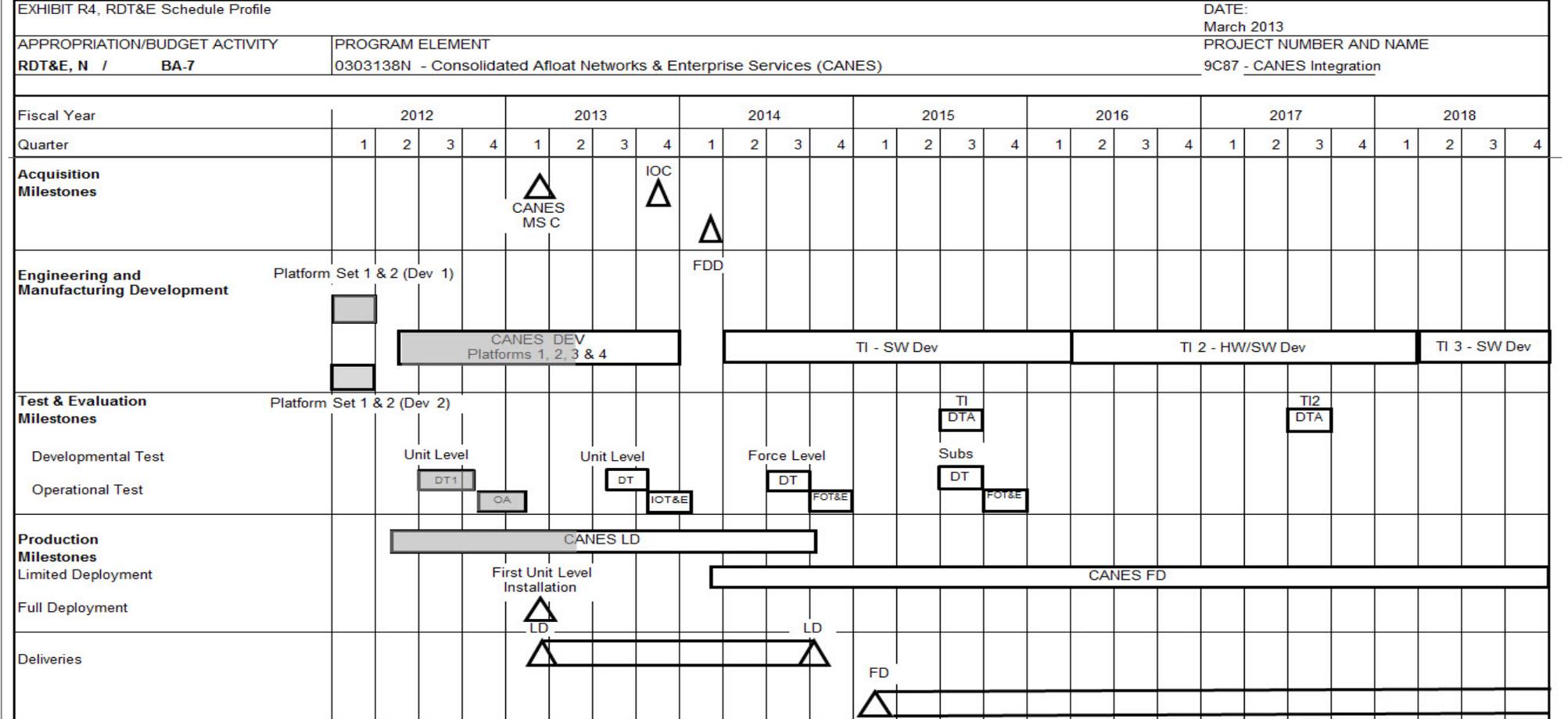
Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C87				
Acquisition Milestone - CANES MS C	1	2013	1	2013
Acquisition Milestone - Initial Operational Capability (IOC)	4	2013	4	2013
Acquisition Milestone - Full Deployment Decision Review (FDD)	1	2014	1	2014
Engineering and Manufacturing Development - Platform Set 1 & 2 (Dev 1)	1	2012	1	2012
Engineering and Manufacturing Development - Platform Set 1 & 2(Dev 2)	1	2012	1	2012
Engineering and Manufacturing Development - Platform Set 1, 2, 3 & 4	2	2012	4	2013
Engineering and Manufacturing Development - Technical Insertion (TI) Software Development	2	2014	1	2016
Engineering and Manufacturing Development - TI 2 Hardware (HW)/SW Development	2	2016	1	2018
Engineering and Manufacturing Development - TI 3 SW Development	2	2018	4	2018
Developmental Test (1) - Unit Level	3	2012	4	2012
Operational Test - Operational Assessment (OA)	4	2012	1	2013
Developmental Test (2) - Unit Level	3	2013	4	2013
Operational Test - Initial Operational Test & Evaluation (IOT&E)	4	2013	1	2014
Developmental Test - Force Level	3	2014	3	2014
Operational Test Force Level - FOT&E	4	2014	4	2014
Developmental Test - Sub	3	2015	3	2015
Operational Test - FOT&E Sub	4	2015	4	2015
Development Test Assist - TI	3	2015	3	2015
Development Test Assist- TI2	3	2017	3	2017
Production Milestone - Limited Deployment (LD)	2	2012	4	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestone - Full Deployment (FD)	1	2014	4	2018
Deliveries - Limited Deployment (LD)	1	2013	4	2014
Deliveries - Full Deployment (FD)	1	2015	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	253.780	38.747	26.307	23.531	-	23.531	27.548	26.217	25.802	26.215	Continuing	Continuing
0734: <i>Communications Security R&D</i>	250.782	24.081	23.641	21.130	-	21.130	24.865	23.544	23.034	23.429	Continuing	Continuing
3230: <i>Information Assurance</i>	2.998	2.666	2.666	2.401	-	2.401	2.683	2.673	2.768	2.786	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	12.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.000

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

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 protection of the Navy's National Security Systems and Information (NSSI).

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, Department of Defense (DoD) Directives 8500.01, O-8530.01, and 8570.01, the new DoD Instruction 8500.02, and CNSS Instruction 1253.

ISSP activities address the risk management of cyberspace defined in "The National Military Strategy for Cyberspace Operations", Chairman of the Joint Chiefs of Staff, Dec 2006, of defensive Information Operations (IO) defined in Joint Publication 3-13 including the capabilities to protect, detect, restore, and respond. ISSP supports the entire naval cyberspace domain from the mobile forward-deployed subscriber, through the ashore supporting critical information infrastructure, and the interconnection with other cyberspace domains. Navy cyberspace is a higher value and more vulnerable target due to the interconnectivity of naval and joint networks, connections to allied and coalition partners, connections to the public information infrastructure, and their use in naval and joint war fighting. Navy cyber systems face advanced attacks involving malicious changes to critical information, changes to the functionality of critical systems, denial of service (including jamming), and the destruction of systems and networks. Since many naval cyber systems are based on commercially available technologies, adversaries often have access to the technologies they seek to exploit.

Rapid changes in the underlying commercial and government cyber infrastructures makes cyber security an increasingly complex and dynamic problem. ISSP provides the Navy's warfighter the essential information trust characteristics of availability, confidentiality, integrity, authentication, and non-repudiation. Information

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	
<p>Assurance (IA)/Computer Network Defense (CND), key supporting cyber security activities, must evolve quickly to meet the rapidly evolving threats and vulnerabilities. Implementing ISSP requires rapid acquisition approaches to stay ahead of nation-states, terrorists, and criminal organization adversaries, among others.</p> <p>The Information Systems Security Program (ISSP) provides the Navy with the following cyber security elements: (1) defense of Navy's National Security Systems and Information (NSSI); (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 Service Providers (CNDSP) 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; and, (7) supporting assurance technologies, including the Public Key Infrastructure (PKI) and Key Management Infrastructure (KMI). The ISSP program 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, the ISSP program provides architectures, products, and services based on mission impacts, information criticality, threats, vulnerabilities, and required defensive countermeasure capabilities.</p> <p>All ISSP Research Development Test & Evaluation (RDT&E) efforts comply with the National Technology Transfer and Advancement Act of 1995 (Public Law 104-113) as implemented through Office of Management and Budget (OMB) Circular A-119 of February 10, 1998, DoD Instruction 4120.24, Defense Standardization Program (DSP), and DoD Instruction 4120.3-M, Defense Standardization Program Policies and Procedures. The predominant commercial standard bodies in ISSP-related matters include International Organization for Standardization, American National Standards Institute, Institute of Electrical and Electronics Engineers, Internet Engineering Task Force, World Wide Web Consortium, and National Institute of Standards and Technologies. The joint interoperability required in today's telecommunications systems makes standards compliance a must and the ISSP RDT&E program complies with the joint technical architecture. The FORCEnet architecture and standards documents reflect this emphasis on interoperable standards.</p> <p>The connection of FORCEnet with the DoD Global Information Grid (GIG) requires all ISSP RDT&E activities to adopt a minimum standard of "best commercial IA practices." The ISSP program examines commercial technologies to determine their fit within Navy architectures, provides feedback to vendors about what the Navy requires, and participates in the standard bodies themselves. When necessary to protect mission critical systems specified in the Clinger/Cohen Act, ISSP RDT&E develops or tailors commercial and government technologies, standards, and processes to meet Navy-unique requirements; prototypes systems or portions of systems and examines their utility in operational Navy settings; and, provides Information Assurance (IA) expertise and engineering to Navy and joint information system developments. All ISSP technology development efforts endeavor to solve specific Navy and joint IA problems using techniques that speed transition to procurement as soon as possible.</p> <p>Maritime Operations Center (MOC) will respond to new technologies and advanced hardware and software tools to support the development and deployment towards automated autonomous Computer Network Operations (CNO) Network Operations (NetOps).</p> <p>Justification for Budget Activity: This program is funded under Operational Systems Development because it encompasses engineering and manufacturing development for the upgrade and integration of existing, operational systems. This includes cryptographic systems required to protect information defined in Title 40 United States Code (USC) Chapter 25 Sec 1452, and implements requirements in Executive Orders 12333 and 12958 and National Security Decision Directive 145.</p>		

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>
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Major focus areas in FY14 (By Program):

Computer Network Defense (CND) - Continue to ensure that security of Navy networks meet the mandates and initiatives of DoD for securing the Global Information Grid (GIG). Continue to develop, integrate, and test defense-in-depth and situational awareness technologies for knowledge-empowered CND operations for afloat and ashore platforms. Continue

to develop new capabilities for Navy's Command and Control (C2) architecture and provide technical guidance to ensure CND requirements are met by Consolidated Afloat Network Enterprise Service (CANES). Continue the development and integration of DoD defined tools and capabilities including adaptive defense, security sensors, automation of reporting,

monitoring, analysis and response as well as providing modernized patch management, virtualization support, packet capture and processing, and host based security agent tools.

Cryptographic (Crypto)/Crypto Modernization (CM) - Initiate development of a Transmission Security (TRANSEC) replacement product for legacy devices. Initiate Intermediary Application (iApp) development efforts and incorporate functionality into specific Navy crypto devices, fill devices support products, or Personal Digital Assistants (PDA). Complete Full Development effort for the Link-22 Modernized Link Level Communications Security (COMSEC) (MLLC) and begin planning transition to production. Conduct Navy system test on VINSON/Advanced Narrowband Digital Voice Terminal (ANDVT) Cryptographic Modernization (VACM) Low Rate Initial Production (LRIP) units. Complete Navy VACM training material development, and all required pre-installation documentation, materials and acquisition support. Continue providing security engineering support for modernization of space crypto systems, embeddable crypto strategies, Unmanned Vehicle/low power crypto, Next Generation crypto initiatives, disposable crypto for tactical apps, Layer 2 encryption, and Tactical Secure Voice (TSV) cross-banding. Continue NSA Certification Authority and acquisition authority for all CM products.

Key Management Infrastructure (KMI) - Continue capability, verification testing support to KMI Capability Increment (CI) CI-2 Spiral 2 software. Continue transition strategy and define requirements for incorporation of other KMI roles in Navy architecture (e.g., Controlling Authority, Command Authority). 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 COMSEC Material Work Station/Data Management Device and other next generation fill devices to the KMI environment. Continue engineering the Navy Enterprise system to a centralized configuration management and crypto unit inventory tracking tool, which will improve Electronic Key Management System (EKMS) Tier 3 Simple Key Loaders (SKL), Tactical Key Loaders (TKL), KMI, and Crypto product management. Continue development engineering and testing to the Intermediary Application (iApp) which will enhance KMI secure communications. Continue shipboard bandwidth study with Spiral 2 Software in support of KMI Delivery Only Client (DOC) architecture in the afloat operation environment.

Public Key Infrastructure (PKI) - Develop Secret Internet Protocol Router Network (SIPRNet) PKI solutions, including the SIPRNet Validation Authority and Cryptographic Logon(CLO) capability to non-Microsoft systems and Microsoft non-Domain services. Research and test Defense Information Systems Agency (DISA) Online Certificate Status Protocol (OCSP) enhancements for certificate authentication in the Navy afloat and ashore environments. Ensure compatibility and interoperability of PKI with Computer Network Defense (CND) systems architecture. Ensure Navy compliance with new PKI related cryptographic algorithms and certificates changes on the Common Access Card (CAC), Alternate Logon Token (ALT), and SIPRNet hardware token. Research and develop tools to support certificates for Non-Person Entity (NPE) devices and tactical/austere environments. Research Identity and Access Management (IdAM) technologies to increase

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

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information security on the Global Information Grid (GIG). Investigate virtualization of Navy Certificate Validation Infrastructure (NCVI) servers with Hardware Security Modules.

Information Assurance (IA) Services - Continue to provide security systems engineering support for the development of Department of Defense (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, & Intelligence (C4I) systems. This includes the expanded requirements to provide complete Identity and Access Management (IdAM) solutions, expanded spectrum monitoring, and data object security and provenance labeling as required in the current DODI 8500.2 and the new DODI 8500.02 IA controls.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	37.196	26.307	26.532	-	26.532
Current President's Budget	38.747	26.307	23.531	-	23.531
Total Adjustments	1.551	0.000	-3.001	-	-3.001
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.094	0.000			
• SBIR/STTR Transfer	-1.543	0.000			
• Program Adjustments	0.000	0.000	0.093	-	0.093
• Rate/Misc Adjustments	0.000	0.000	-3.094	-	-3.094

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Cyber Security Research (Cong)*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2012	FY 2013
	12.000	-
	12.000	0.000
	12.000	0.000

Change Summary Explanation

- CND Inc 2 IOC was achieved in advance of schedule, moved from 4QFY12 to 3QFY12.
- CND Inc 2 IOT&E slipped from 3QFY12 to 4QFY12 due to delayed receipt of Operational Test results.
- CND Inc 2 LRIP slipped from 3QFY12 to 4QFY12 due to delayed receipt of Operational Test results.
- CND Inc 2 FRP Decision slipped from 4QFY12 to 1QFY13 due to delayed Acquisition Decision Memorandum (ADM) approval.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0303140N: *Information Sys Security Program*

CRYPTO KG-45A FOC slipped from 1QFY13 to 4QFY13 due to delay in fielding onboard 1 CG platform.
CRYPTO VACM MS C slipped from 3QFY13 to 4QFY13 due to software delays per US Air Force (USAF) Program Office. Milestones are driven by USAF as the lead service.
CRYPTO VACM IOC slipped from 3QFY14 to 4QFY14 due to software development delays.
CRYPTO VACM LRIP slipped from 3QFY13 to 4QFY13 due to software development delays.
CRYPTO VACM FRP Decision slipped from 4QFY13 to 3QFY14 due to software development delays and contracting strategy moving to USAF contract sole source justification.
CRYPTO KW-46M Common Submarine Radio Room (CSRR) integration test end date slipped from 2QFY12 to 1QFY13 due to availability of Naval Undersea Warfare Center (NUWC) test lab.
CRYPTO VACM IOT&E end date slipped from 1QFY14 to 2QFY14 due to software development delays.

CRYPTO KG-45A deliveries end date shifted from 1QFY13 to 4QFY13 due to delay in fielding onboard 1 CG platform.
CRYPTO Link-22 MLLC Prototype delivery end date shifted from 2QFY12 to 3QFY12 due to contract performance issues (SAFENET).
CRYPTO VACM LRIP deliveries shifted from 3QFY13 to 2QFY14 due to change in delivery schedule.
CRYPTO VACM FRP delivery start date shifted from 1QFY14 to 4QFY14 due to software development delays.

TKL IOC slipped from 1QFY13 to 2QFY13 and FOC slipped from 1QFY15 to 2QFY15 due to late Acquisition Decision Memorandum (ADM) approval and contract award.
KMI CI-2 IOC is a NSA driven milestone and equipment was funded by NSA at limited Navy sites; IOC shifted from 3QFY12 to 4QFY12 due to NSA test schedule delays.
KMI CI-2 FOC slipped from 1QFY17 to 3QFY18 to align to Chief of Naval Operations (CNO) ship availabilities.
KMI CI-2 IOT&E is a NSA driven milestone and equipment was funded by NSA at limited Navy sites; slipped from 3QFY12 to 4QFY12 due to NSA test schedule delays.

TKL production First Article (FA) test was completed 2QFY12.
TKL Full Rate Production (FRP) Decision slipped from 3QFY12 to 1QFY13 due to Milestone Decision Authority (MDA) decision on FRP events.
KMI CI-2 Spiral 1 LRIP contract was awarded 4QFY12.
KMI Spiral 1 FRP slipped from 1QFY13 to 2QFY13 due to NSA test schedule delays.
KMI Spiral 2 FRP slipped from 1QFY14 to 4QFY14 due to NSA schedule delays.
EKMS Phase V SW delivery end date shifted from 1QFY13 to 2QFY13 due to final fielding.
SKL delivery end date shifted from 3QFY13 to 4QFY15 due to later fielding of Next Generation Fill Devices to coincide with KMI Over the Network Key (OTNK) capability.
TKL delivery start date shifted from 1QFY13 to 3QFY13 due to delay in Full Rate Fielding Decision (FRFD).
KMI CI-2 Spiral 1 LRIP deliveries shifted from 4QFY12 to 1QFY14 through 3QFY14 due to NSA test schedule delays.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>
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KMI CI-2 Spiral 2 delivery start date shifted from 3QFY13 to 4QFY14 due to NSA schedule changes; Delivery end date shifted from 1QFY17 to 3QFY18 due to CNO availabilities of ships.

Next Generation Fill Device delivery start date shifted from 1QFY13 to 1QFY16 to support Crypto Mod initiative for KMI awareness and will coincide with NSA KMI OTNK capability in FY15.

Funding: FY 2014 \$3M reduction will descope Cyber Security Research efforts (\$2.5M) and Crypto systems engineering efforts (\$0.5M).
Technical: N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0734: <i>Communications Security R&D</i>	250.782	24.081	23.641	21.130	-	21.130	24.865	23.544	23.034	23.429	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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) program provides Information Assurance (IA) solutions for the Navy forward deployed, highly mobile information subscriber. FORCENet relies upon an assured information infrastructure, and the ISSP RDT&E program architects, engineers, and provides the level of robustness consistent with risks faced. The ISSP addresses engineering design, development, modeling, test, and evaluation for the unique IA challenges associated with the highly mobile, dispersed, bandwidth limited, and forward-tactical connected United States (US) Navy communications systems.

ISSP RDT&E personnel work closely with the Navy's Information Operations (IO) - Exploit (Signals Intelligence (SI)) and IO - Attack (Information Warfare (IW)) communities. ISSP RDT&E-developed systems dynamically change the Navy's current information assurance posture, based upon operational indications and warnings. To ensure interoperability, ISSP RDT&E products integrate fully with the FORCENet and maritime cryptologic architectures. ISSP RDT&E-developed systems can provide the trigger for offensive warfare activities.

This project includes a rapidly evolving design and application engineering effort to modernize national security-grade (Type-1) 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).

North Atlantic Treaty Organization (NATO) Improved Link Eleven (NILE) is a cooperative development project for Link 22 involving 7 nations: United States, Germany, France, United Kingdom, Canada, Italy and Spain. The US is responsible for all coordination of Information Security (INFOSEC) activities under the NILE project. In addition, the US controls the release of the crypto capability to the nations and all potential 3rd parties. The current Link 22 crypto (Link Level Crypto (LLC)) is obsolete and needs to be modernized per NSA and CJCS Crypto Modernization mandates.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
<p>In addition to protecting national security information, ISSP RDT&E efforts must provide enterprise-wide assurance for statutorily protected information under the Privacy Act of 1974, Computer Matching and Privacy Protection Act of 1988, Medical Records Confidentiality Act of 1995, Model State Public Health Privacy Act, 45 Code of Federal Regulation subtitle A sub-chapter C, parts 160-164, 1999, and the Federal Education Records Privacy Act. ISSP RDT&E efforts must also provide assurance to the broad spectrum of sensitive but-unclassified information such as financial, personnel, contractor proprietary, and procurement sensitive. ISSP RDT&E must also provide solutions to the most advanced state-sponsored and criminal-intent advanced persistent threats, including those to platform Information Technology (IT), weapons systems, Industrial Control (ICS), and Supervisory Control and Data Acquisition (SCADA).</p> <p>The Information Systems Security Program (ISSP) today includes more than legacy Communication Security (COMSEC) and network security technology. Information Assurance (IA) or defensive Information Operations (IO) exist to counter a wide variety of threats. ISSP activities cover all telecommunications systems, and RDT&E projects must provide protection, detection, and reaction capabilities to the operational commander. ISSP Research Development Test & Evaluation (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 DODI 8500.02, CNSSI 1253, and NIST SP 800-53 IA control set, focused primarily on espionage and sabotage capable, state-sponsored advanced persistent threats. Additional efforts will include the implementation of data object security labeling and provenance metadata, also required by DODI 8500.02, which is a major enabler for cross domain data sharing.</p> <p>Few technology areas change as fast as telecommunications and computers, and IA must keep pace. This results in the continuing need to evaluate, develop, and/or test IA products and approaches. Technology-based efforts include developing or applying: (1) new secure voice prototypes; (2) technology for a new family of programmable COMSEC and Transmission Security (TRANSEC) modules; (3) security appliances and software for switched and routed networks; (4) technology to interconnect networks of dissimilar classification, known as Cross Domain Solutions; (5) techniques for assuring code and data residing in and transiting the Navy's computing base and information store; and (6) Public Key Infrastructure (PKI) and associated access control technologies such as SmartCards and similar security tokens; (7) Electronic Key Management System (EKMS) 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.</p> <p>ISSP efforts conclude with continuously monitored, certified, and accredited systems supported within Navy cyber operational environments. Achieving and maintaining this milestone requires:</p> <ul style="list-style-type: none"> * Evolving techniques for defense of National Security Systems (NSS) and Information against advanced persistent threats, including process, control, and sensor layers; * Approved techniques for the assured separation of information levels and user communities, including allied, coalition, non-Governmental, Defense Industrial Base, and other public partners; * Rapid deployment of technologies supporting the Navy's Computer Network Defense Service Providers (CNDSP) operations; * Hardware and software to assure end-to-end resilience of the Navy's telecommunications infrastructure and availability of the critical wireless spectrum resource; * High robustness interfaces with joint user and platform cyberspace domains, using a defense-in-depth architecture; 		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
<p>* COMSEC and process isolation techniques for securing the critical computing base and information store.</p> <p>The cyberspace domain has virtually eliminated the traditional distinction between telecommunications and information systems. Because cyber security is a cradle-to-grave enterprise-wide discipline, this program applies the set of best practices embodied within the Committee on National Security Systems Instruction (CNSSI) 1253.</p> <p>Of special note is the Navy's cyber security role in the joint Cryptographic Modernization Program, required by Chairman of the Joint Chiefs of Staff Instructions (CJCSI) 6510.02D, providing high assurance and other cryptographic technologies protecting cyber systems. The parallel Security Management Infrastructure (SMI) program develops, evaluates, and applies new emerging technologies and enhanced capabilities to the EKMS/KMI.</p> <p>Additional efforts will focus on the architecture, design, and development of systems to manage the security parameters (e.g., cryptographic keys) necessary to the operation of the systems developed by the secure data and secure voice portions of the ISSP. This includes the application of EKMS/KMI Infrastructure technology, and the development of improved techniques for key and certificate management.</p> <p>Information Systems Security Program (ISSP) Research Development Test & Evaluation (RDT&E) management will direct a program that:</p> <ul style="list-style-type: none"> * Ensures the Navy's cyber domain implements consistent joint and enterprise cyber security architecture; * Rapidly develops and deploys the latest versions of cyber security measures across all seven layers of the Information Organization of Standardization (ISO) Open Systems Interconnection Reference Model and for all Committee on National Security Systems Instruction (CNSSI) 1253 Information Assurance (IA) controls (best practices); * Ensures that all data within the Navy Enterprise is protected in accordance with its classification and mission criticality, as required by law; * Provides Fleet Cyber Command and Commander U.S. Tenth Fleet (C10F) with integrated tools and techniques to protect, detect, restore, and respond to cyber events and incidents; * Supports the Navy Computer Network Defense (CND) provider by enabling cyber situational awareness; * Defends against and detects the unauthorized modification or disclosure of data outside the Navy cyber domain, such as in the WikiLeaks incident; * Provides a risk-managed means of selectively allowing information to flow across the enclave boundary while ensuring proper marking and provenance; * Provides strong authentication of users accessing services from Navy cyberspace; * Defends against the unauthorized use of a host or application, particularly operating systems, control and process systems, and supervisory control and data acquisition systems; * Maintains cyber security configuration management of all hosts to track patches and system configuration changes; * Ensures adequate defenses against subversive acts of trusted people and systems, both internal and external; * Provides a Communications Security (COMSEC) infrastructure that supports key, privilege, and certificate management; and that enables positive identification of individuals utilizing network services; and, * Provides a continuous monitoring, analysis, assessment, situational awareness, and response infrastructure. 		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Maritime Operations Center (MOC) networks will operate and share information with multiple partners in varying circumstances. The MOCs will receive integrated tools to maintain a Network Operations (NetOps) Common Operational Picture (COP) and support Command and Control (C2) of the Communications Systems (CS) through the ability to analyze and develop Courses of Action (COA) to manage C2 cyberspace operations. This includes CYBER Surveillance, bandwidth monitoring, INTEL situational awareness tools, and network health monitoring. NetOps COP will provide a proactive view and enhanced security tool for use by CYBER network managers. NetOps COP ensures validity of the COP, network health, and provides operator synchronization with Information Operations (IO), and situational awareness of the cyber battle space. A combination of software tools, interoperable enabling hardware and processes will be provided to monitor and visualize network traffic and to provide a locally-generated, fused situational awareness picture for battle watch decision making. NetOps COP provides the Commander with near immediate risk assessment, actionable intelligence and immediate mitigation courses of action and attribution of on-going CS Protection events in order to enable the apportionment of forces with exacting control in response to national objectives.

FY 14 Highlights for Information Systems Security Programs (ISSP):

Computer Network Defense (CND) - Continue to implement Department of Defense (DoD)/Information Assurance (IA)/CND Enterprise Solutions Steering Group (ESSG) tools into Outside the Continental United States (US) Navy Enterprise Network (ONE-Net), Information Technology for the 21st Century (IT-21), and other networks such as Cyber Asset Reduction & Security (CARS) as required. Support the DoD/ESSG development and integration of CND capabilities into the Navy's architecture and support the addition of these capabilities into the Commander U.S. Tenth Fleet (C10F) Maritime Operations Center (MOC). Continue to integrate CND capabilities to perform near real-time analysis of events and Advanced Persistent Threats (APT). Update the Computer Network Defense (CND) Information Assurance (IA) suites with adaptive defense, security sensors, incident reporting, correlation, packet capture and processing, and situational awareness capabilities. Achieve cost and performance efficiencies by consolidating IA services in the Outside the Continental United States (US) Navy Enterprise Network (ONE-Net) environment and by furthering efforts to virtualize CND capabilities. Continue to develop, integrate, and test defense-in-depth and situational awareness technologies for knowledge-empowered CND operations for afloat and ashore platforms. Promote Course of Action (COA) development analysis and execution to improve interoperability with the Global NetOps Information Sharing Environment. Develop enhancements and continue evaluation of needs derived from the CND Capabilities Steering Group to advance analysis and response to network threats. CND will continue to deploy integrated tools at the C10F MOC in order to maintain Cyber Situational Awareness (CSA) to support Command and Control (C2) of the Communications Systems (CS). CSA provides near immediate risk assessments, actionable intelligence and immediate mitigation COAs and attribution of on-going CS protection events in order to enable the apportionment of forces with exacting control in response to national objectives. Develop and further Joint Capability Technology Demonstration (JCTD) delivered capability to adaptively manage risks to operational networks throughout an Area of Responsibility to provide defense-in-depth by functionally segmenting networks through the deployment of Virtual Secure Enclaves (VSE) and utilization of black core transport services to protect key cyber terrain.

Cryptographic (Crypto)/Crypto Modernization (CM) - Initiate development of a Transmission Security (TRANSEC) replacement product for legacy devices. Initiate Intermediary Application (iApp) development efforts and incorporate functionality into specific Navy crypto devices, fill devices support products, or Personal Digital Assistants (PDA). Complete Full Development effort for the Link-22 Modernized Link Level Communications Security (COMSEC) (MLLC) and begin planning transition to production. Conduct Navy system test on VINSON/Advanced Narrowband Digital Voice Terminal (ANDVT) Cryptographic Modernization (VACM) Low Rate Initial Production (LRIP) units. Complete Navy VACM training material development, and all required pre-installation documentation, materials and acquisition support.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

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Continue providing security engineering support for modernization of space crypto systems, embeddable crypto strategies, Unmanned Vehicle/low power crypto, Next Generation crypto initiatives, disposable crypto for tactical apps, Layer 2 encryption, and Tactical Secure Voice (TSV) cross-banding. Continue National Security Agency (NSA) certification authority and acquisition authority for all CM products.

Key Management Infrastructure (KMI) - Continue capability, verification testing support to KMI Capability Increment (CI) CI-2 Spiral 2 software. Continue transition strategy and define requirements for incorporation of other KMI roles into Navy architecture (e.g., Controlling Authority, Command Authority). 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 COMSEC Material Work Station/Data Management Device and other next generation fill devices to the KMI environment. Continue engineering the Navy Enterprise system to a centralized configuration management and crypto unit inventory tracking tool, which will improve Electronic Key Management System (EKMS) Tier 3 Simple Key Loaders (SKL), Tactical Key Loaders (TKL), KMI and Crypto product management. Continue development engineering and testing to the Intermediary Application (iApp) which will enhance KMI secure communications. Begin shipboard bandwidth study in support of KMI Delivery Only Client (DOC) architecture in the afloat operational environment.

Public Key Infrastructure (PKI) - Develop Secret Internet Protocol Router Network (SIPRNet) PKI solutions, including the SIPRNet Validation Authority and Cryptographic Logon (CLO) capability to non-Microsoft systems and Microsoft non-Domain services. Research and test Defense Information Systems Agency (DISA) Online Certificate Status Protocol (OCSP) enhancements for certificate authentication in the Navy afloat and ashore environments. Ensure compatibility and interoperability of PKI with CND systems architecture. Ensure Navy compliance with new PKI related cryptographic algorithms and certificate changes on the Common Access Card (CAC), Alternate Logon Token (ALT), and SIPRNet hardware token. Research and develop tools to support certificates for Non-Person Entity (NPE) devices and tactical/austere environments. Research Identity and Access Management (IdAM) technologies to increase information security on the Global Information Grid (GIG). Investigate virtualization of Navy Certificate Validation Infrastructure (NCVI) servers with Hardware Security Modules.

Information Assurance (IA) Services - Continue to provide security systems engineering support for the development of Department of Defense (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 C4I systems. This includes the expanded requirements to provide complete Identity and Access Management (IdAM) solutions, expanded spectrum monitoring, and data object security and provenance labeling as required in current DODI 8500.2 and the new DODI 8500.02 IA controls.

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

	FY 2012	FY 2013	FY 2014
Title: Computer Network Defense (CND)	7.844	9.871	7.539
Articles:	0	0	0
FY 2012 Accomplishments:			
Incorporated DoD mandated network security tools into the next sub-increment of CND afloat and ashore design. Efforts included deployments of Host Based Security Systems (HBSS) to afloat Non-Secure Internet Protocol Router Network (NIPRNet) enclaves, network mapping and leak detection solutions, and configuration compliance and remediation tools. Developed the Navy implementation of DoD-mandated tools and capabilities with the guidance of the Navy CND Capabilities Integrated Product Team (IPT). Began CND Increment 2 technology insertion cycles (rapid acquisition) to address current and emergent real world threats,			

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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<p>performance improvements, and end-of-life issues. Continued meeting Increment 2 Capability Production Document (CPD) performance parameters and addressed key system attributes. Supported Developmental Test (DT), Initial Operational Test and Evaluation (IOT&E) and associated readiness reviews required for CND Increment 2 to achieve Full-Rate Production (FRP) decision.</p> <p>FY 2013 Plans: Continue to ensure that security of Navy networks will meet DOD mandates and initiatives for securing the Global Information Grid (GIG). Continue to develop, integrate, and test defense-in-depth and situational awareness technologies for knowledge-empowered CND operations for afloat and shore installations. Continue to support the development and deployment of new capabilities into the Navy's architecture and provide technical guidance to ensure CND requirements are met by Consolidated Afloat Networks and Enterprise Services (CANES). Continue to support DoD defined tools and capabilities including automation of reporting, monitoring, analysis and response as well as providing modernized patch management and host based security agent tools. Continue to integrate CND capabilities to perform near real-time analysis of events and Advanced Persistent Threat (APT). Update the CND Information Assurance (IA) suites with adaptive defense, incident reporting, correlation, and situational awareness capabilities. Promote Course of Action (COA) development analysis and execution to improve interoperability with the Global Network Operations (NetOps) Information Sharing Environment. Develop enhancements and continue evaluation of needs derived from the CND Capabilities Steering Group to advance analysis and response to network threats.</p> <p>Commander United States Tenth Fleet (C10F) Maritime Operations Center (MOC) - Leverage the Ozone Widget framework and the US Cyber Command Cyber Pilot architecture to deliver visualization and analysis tools in support of NetOps Common Operational Picture (COP) at the C10F MOC.</p> <p>FY 2014 Plans: Continue to ensure that security of Navy networks meet Department of Defense (DoD) mandates and initiatives for securing the GIG. Continue to develop, integrate, and test defense-in-depth and situational awareness technologies for knowledge-empowered Computer Network Defense (CND) operations for afloat and shore 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 Consolidated Afloat Network Enterprise Service (CANES). Continue the development and integration of DoD defined tools and capabilities including adaptive defense, security sensors, automation of reporting, monitoring, analysis, and response, as well as providing modernized patch management and host based security agent tools. Continue to implement DoD/Information Assurance (IA)/CND Enterprise Solutions Steering Group (ESSG) tools into Outside the Continental US Navy Enterprise Network (ONE-Net), Information Technology for the 21st Century (IT-21), and other networks such as Cyber Asset Reduction & Security (CARS) as required. Support the DoD/ESSG development and integration of CND capabilities into the Navy's architecture and support the addition of these capabilities into the Commander United States Tenth Fleet (C10F) MOC. Continue to integrate CND capabilities to perform near real-time analysis of events and Advanced Persistent Threat (APT). Update the CND IA suites with adaptive</p>			
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>		PROJECT 0734: <i>Communications Security R&D</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>defense, incident reporting, correlation, packet capture and processing, and situational awareness capabilities. Achieve cost and performance efficiencies by consolidating IA services in the ONE-Net environment and by furthering efforts to virtualize CND capabilities. Promote Course of Action (COA) development analysis and execution to improve interoperability with the Global NetOps Information Sharing Environment. Develop enhancements and continue evaluation of needs derived from the CND Capabilities Steering Group to advance analysis and response to network threats. Determine optimal technical and governance solutions for interception of outbound encrypted traffic, allowing for inspection and control. CND will continue to deploy integrated tools at the C10F MOC in order to maintain Cyber Situational Awareness (CSA) to support C2 of the Communications Systems (CS). CSA provides near real time risk assessments, actionable intelligence, mitigation COAs and attribution of on-going CS Protection events. Develop a Joint Capability Technology Demonstration (JCTD)-delivered capability to adaptively manage risks to operational networks throughout an Area of Responsibility to provide defense-in-depth by functionally segmenting networks through the deployment of Virtual Secure Enclaves (VSE) and utilization of black core transport services to protect key cyber terrain.</p> <p>Title: Crypto/Crypto Modernization (CM)</p> <p align="right">Articles:</p>		10.251 0	8.052 0	7.857 0
<p>FY 2012 Accomplishments: Continued research, evaluation, and prioritization of cryptographic products in coordinaton with the Information Systems Security Program (ISSP) Office and the National Security Agency (NSA). Continued identifying strategies to reduce the overall crypto inventory within the Department of the Navy (DoN) to realize long term cost savings. Continue to support the on-going Cryptographic Joint Algorithm Integrated Product Team (IPT) and representing the Navy at the Crypto Products Team (CPT) IPT. Provided consistent Information Assurance (IA) engineering support for the development and integration of Crypto Mod (CM) products. Researched disposition and replacement of devices on the Crypto Priority (Red) List. Conducted research into making modern crypto devices Key Management Infrastructure (KMI) aware (e.g., iApp development). Continued supporting the development for the Link-16 CM through: (1) performing technical Analysis of Alternatives (AoA) for vendor Type 1 Crypto devices and security architecture implementations; (2) conducting security risk analysis; (3) reviewing security requirement specifications/ test plans; (4) developing systems engineering documents into technical documentation to ensure the implementation of robust IA solutions; and (5) providing Subject Matter Experts (SME)technical support to multi-functional Link-16 CM development teams. Provided Link-22 cryptographic modernization management and engineering support to the Modernized Link Level Communications Security (COMSEC) (MLLC) effort, to include finalizing development of various engineering documents and specifications to support development, as well as testing, of the Link-22 Proof of Concept units. North Atlantic Treaty Organization (NATO) Improved Link Eleven (NILE) is a cooperative development project for Link-22 involving 7 nations: United States, Germany, France, United Kingdom, Canada, Italy and Spain. The United States (US) is responsible for all coordination of Information Security (INFOSEC) activities under the NILE project. In addition, the US controls the release of the crypto capability to the nations and all potential 3rd parties. The current Link-22 crypto Link Level Crypto (LLC), is obsolete and needs to be</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>

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

	FY 2012	FY 2013	FY 2014
<p>modernized per NSA and CJCS Crypto Modernization mandates. Funds will keep the Modernized Link Level Crypto (MLLC) effort on schedule. Facilitated KW-46 Modernization Enterprise Change Request (ECR) process to consolidate test reports for the Material Licensing Tracking System (MLTS) testing at Naval Undersea Warfare Center (NUWC), and assist with fielding. KW-46M work entailed integration testing, Emergency Action Message (EAM) and Targeting Change Message (TCM) certifications, and integration into the Common Submarine Radio Room (CSRR). Continued Secure Voice (SV) RDT&E efforts and Naval Research Laboratory's (NRL) research into Secure Voice (SV) emerging technologies and related technical products. Provided technical support from the Navy perspective to Air Force led VINSON/Advanced Narrowband Digital Voice Terminal Crypto Modernization (VACM) program, as well as continued support to Office of Secretary of Defense (OSD) Chief Information Officer (CIO) Nuclear Command & Control, Nuclear Command Control & Communications (NC2/NC3) Crypto Modernization (CM). Began coordinating a Crypto Mod plan for Transmissions Security (TRANSEC) modernization with NSA and other services. Began investigating Government off the Shelf (GOTS)/Commercial off the Shelf (COTS) crypto technology refresh strategies, updating OPNAVINST 2300.4G, identifying baseline for Crypto graphic equipment suite for Afloat environment, space systems/embeddable crypto modernization strategy, and system engineering support for Unmanned Aerial Vehicle (UAV)/Lower Powercryptographic solutions. Provided acquisition support, National Security Agency (NSA) Certification Authority, and data testing.</p> <p>FY 2013 Plans:</p> <p>Continue research, evaluation, and prioritization of cryptographic products for modernization. Continue coordination with NSA and support to the Cryptographic Joint Algorithm Integrated Product Team (IPT). Continue identifying strategies to reduce the overall crypto inventory within the Department of the Navy (DoN) to realize long term cost savings. Continue to provide research into replacement/modernization of devices on the Crypto Priority (Red) list. Continue providing systems engineering services in support of execution of the Link-22 Modernized Link Level COMSEC (MLLC) Full Development effort. This will include interfacing with the NATO NILE Program Management Office (PMO), NSA, Northrup Grumman (NG) and the vendor to ensure all development activities continue as scheduled, all contract documentation is reviewed and that all program requirements are met. Conduct research into making modern crypto devices Key Management Infrastructure (KMI) Aware focusing on the Intermediary Application (iApp) (development or similar product). Provide consistent Information Assurance (IA) engineering support for the development and integration of CM products. Continue development for the Link-16 CM through performing technical Analysis of Alternatives (AoA) for vendor Type 1 Crypto devices and security architecture implementations. Complete all outstanding KW-46M integration testing to support installation as part of the Common Submarine Radio Room (CSRR) deployment. Continue Naval Research Laboratory's (NRL) research into Secure Voice (SV) technology and begin development of a cross-banding technology to support VINSON/Advanced Narrowband Digital Voice Terminal Crypto Modernization (VACM) introduction into Navy secure voice gateways architecture. Provide technical support on behalf of DoN, as well as supporting Air Force VACM Development Test (DT) and Operational Test (OT) and Navy system tests on production representative Engineering Development Models (EDM). Conduct Navy VACM Independent Logistics Assessment (ILA) and provide support to Milestone C (MS C) decision. Continue providing security engineering support for Office of Secretary of Defense (OSD) Chief</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>		PROJECT 0734: <i>Communications Security R&D</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
<p>Information Officer (CIO) NC2/ NC3 Crypto Modernization (CM) efforts on behalf of the Navy. Transition Transmission Security (TRANSEC) Request For Information (RFI) items into potential CM solutions and coordinate with the National Security Agency and other services. Complete the update of OPNAVINST 2300.4G. Continue investigation into crypto replacement strategies for ground terminals of space systems, as well as replacements for legacy/embeddable crypto. Complete initial system engineering support (Request for Information development) to Unmanned Vehicle/low power crypto options and determine way forward for Navy modernization. Research potential solutions for disposable crypto for tactical apps and Layer 2 encryption techniques. Continue providing support for National Security Agency (NSA) Certification Authority, acquisition support and data testing for all cryptographic modernization efforts.</p> <p>FY 2014 Plans: Initiate development of a TRANSEC replacement product for legacy devices. Initiate intermediary Application (iApp) development efforts and incorporate functionality into specific Navy crypto devices, fill devices, support products, and Personal Digital Assistants (PDA). Conduct Navy system test on VACM Low Rate Initial Production (LRIP) units. Complete Navy VACM training material development and all required pre-installation documentation and materials, and acquisition support. Continue providing security engineering support for modernization of space crypto systems, embeddable crypto modernization strategies, Unmanned Aerial Vehicle (UAV)/Lower Power crypto way ahead, Next Generation Crypto (Post 2018) initiatives, disposable crypto for tactical apps, Layer 2 encryption and Tactical Secure Voice (TSV) cross-banding. Complete Full Development effort for the Link-22 Modernized Link Level Communications Security (COMSEC) (MLLC) and begin planning transition to production. This includes close coordination efforts with North Atlantic Treaty Organization (NATO) Improved Link Eleven (NILE) Program Management Office (PMO), NATO Nations, NSA, and the vendor to ensure all development activities continue as scheduled, all contract documentation is reviewed, and that all program requirements are met. Continue providing for NSA Certification Authority, acquisition authority, and data testing for all CM efforts.</p>				FY 2012	FY 2013	FY 2014
<p>Title: Key Management Infrastructure (KMI)</p> <p align="right">Articles:</p>				2.532 0	2.665 0	2.643 0
<p>FY 2012 Accomplishments: Continued transition strategy and defined requirements for incorporation of other Key Management Infrastructure (KMI) roles into Navy architecture (e.g., Controlling Authority, Command Authority). Continued supporting KMI transition working group meetings, developing white papers and supporting documentation for KMI. Began engineering and development efforts for KMI Capability Increment (CI) CI-2 Spiral 2 Spin 1 for incorporation into Navy architectures and networks. Tested KMI Manager Client(MGC)/Advanced Key Processors (AKP) at selected pilot sites in support of National Security Agency (NSA) full rate production decision. Provided requirements definition support to the development of the next generation fill device. Migrated Communications Security (COMSEC) Material Work Station/Data Management Device and other next generation fill devices to the KMI environment. Provided research and analysis to a centralized configuration management and crypto unit inventory tracking tool which will</p>						

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>		PROJECT 0734: <i>Communications Security R&D</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>improve Electronic Key Management System (EKMS) and Crypto product management. Began research and analysis to the Intermediary application (iApp) which will enhance KMI secure communications.</p> <p>FY 2013 Plans: Begin capability, engineering development and verification testing support to Key Management Infrastructure (KMI) Capability Increment (CI)-2 Spiral 2 Spin 2. Continue transition strategy and define requirements for incorporation of other KMI roles into Navy architecture (e.g., Controlling Authority, Command Authority). Continue supporting KMI transition working group meetings, developing white papers and supporting documentation for KMI. Continue requirements definition support to the development of the next generation fill device. Continue Migrating Communications Security (COMSEC) Material Work Station/Data Management Device and other next generation fill devices to the KMI environment. Begin shipboard bandwidth study in support of KMI Manager Client (MGC) architecture in the afloat operational environment. Begin to define capability requirements for KMI CI-3. Provide 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. Provide engineering and analysis to the Intermediary Application (iApp) which will enhance KMI secure communications. Define KMI Delivery Only Client (DOC) solution requirements.</p> <p>FY 2014 Plans: Continue capability, verification testing support to KMI CI-2 Spiral 2 software. Continue transition strategy and define requirements for incorporation of other KMI roles into Navy architecture (e.g., Controlling Authority, Command Authority). 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 COMSEC Material Work Station/Data Management Device and other next generation fill devices to the KMI environment. Continue engineering the Navy Enterprise system to a centralized configuration management and crypto unit inventory tracking tool, which will improve EKMS Tier 3 Simple Key Loader (SKL), Tactical Key Loader (TKL), KMI, and Crypto product management. Continue development engineering and testing to the Intermediary Application (iApp) which will enhance KMI secure communications. Continue shipboard bandwidth study with Spiral 2 Software in support of KMI MGC and begin bandwidth study in support of KMI DOC architecture in the afloat operational environment.</p>				
<p>Title: Public Key Infrastructure (PKI)</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Researched, analyzed and evaluated Public Key Infrastructure (PKI) enabled products such as Virtual Private Networks (VPN), routers, switches, servers, and Secret Internet Protocol Router Network (SIPRNet) Token Management System for their suitability to support Navy needs for Non-Person Entity (NPE) certificates and Global Information Grid (GIG) identity management and protection requirements. Provided systems engineering support for SIPRNet Public Key Infrastructure (PKI) enabling to Navy</p>		0.381 0	0.404 0	0.409 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Programs of Record (POR) for integration. This included research, analysis, and evaluation of PKI enabled products and methods to support the manual and automatic enrollment and issuance of PKI NPE certificates to Navy servers and devices. Evaluated Defense Information Systems Agency's (DISA) auto-enrollment and registration services for Phases II and III of Department of Defense (DoD) PKI-enabled Implementation. Researched, analyzed, and evaluated PKI enabled products for non-Microsoft devices and systems (e.g., Linux, Apple, servers, router, switches). Explored enhancements of PKI related cryptographic algorithms. Researched advancements of Navy Certificate Validation Infrastructure (NCVI) configurations to utilize DISA's Robust Certificate Validation Services (RCVS) capability for Online Certificate Status Protocol (OCSP).</p> <p>FY 2013 Plans: Continue to research, analyze and evaluate Public Key (PK)-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 Global Information Grid (GIG) identity management and protection requirements. Continue to provide systems engineering support for SIPRNet Public Key Infrastructure (PKI) enablement to Navy Program of Record (POR) for integration to include research and support for non-Microsoft systems PKI solutions. Continue to support the manual and automatic enrollment and issuance of PKI NPE certificates to Navy servers and devices. Continue to evaluate Defense Information Systems Agency's (DISA) auto-enrollment and registration services for Department of Defense (DoD) PKI enabled devices. Continue 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 (e.g., SHA-256, Elliptic Curve Cryptography). Test and evaluate DISA Online Certificate Status Protocol (OCSP) enhancements for certificate authentication in the Navy afloat and ashore environment. Continue to ensure interoperability of PKI with Computer Network Defense (CND) systems architecture.</p> <p>FY 2014 Plans: Develop Secret Internet Protocol Router Network (SIPRNet) PKI solutions, including the SIPRNet Validation Authority and Cryptographic Logon (CLO) capability to non-Microsoft systems and Microsoft non-Domain services. Research and test DISA OCSP enhancements for certificate authentication in the Navy afloat and ashore environments. Ensure compatibility and interoperability of PKI with CND systems architecture. Ensure Navy compliance with new PKI related cryptographic algorithms and certificate changes on the Common Access Card (CAC), Alternate Logon Token (ALT), and SIPRNet hardware token. Research and develop tools to support certificates for Non-Person Entity (NPE) devices and tactical/austere environments. Research Identity and Access Management (IdAM) technologies to increase information security on the GIG. Investigate virtualization of Navy Certificate Validation Infrastructure (NCVI) servers with Hardware Security Modules.</p>				
Title: Information Assurance (IA) Services		2.573	2.649	2.682
		Articles: 0	0	0
FY 2012 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>		PROJECT 0734: <i>Communications Security R&D</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2012
<p>Provided security systems engineering support for the development of Department of Defense (DoD) and Department of the Navy (DoN) Information Assurance (IA) architectures and the transition of new technologies to address Navy IA challenges. Provided updates to the Navy Information Assurance (IA) master plan that reflect emerging priorities and addressed Navy specific threats. Coordinated IA activities across the virtual System Command (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 Outside the Continental United States (OCONUS) networks. Provided IA risk analysis and recommended risk mitigation strategies for Navy critical networks and Command, Control, Communications, Computers & 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 developed guidance and procedures for the design and integration of risk mitigation strategies via appropriate Information Assurance (IA) controls.</p> <p>FY 2013 Plans: Continue to provide security systems engineering support for the development of Department of Defense (DoD) and Department of the Navy (DoN) IA architectures and the transition of new technologies to address Navy IA challenges. Provide updates to the Navy IA master plan that 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 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. 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.</p> <p>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 the Navy IA master plan that reflect emerging priorities and address Navy specific threats. Coordinate 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. 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. Extensive effort will be placed on rapidly providing solutions</p>				FY 2013
				FY 2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
required for the new DODI 8500.02, CNSSI 1253, and NIST SP 800-53 IA control set, focused primarily on espionage and sabotage capable, state-sponsored advanced persistent threats.			
Title: Maritime Operations Center (MOC)	0.500	0.000	0.000
Articles:	0		
FY 2012 Accomplishments: Maritime Operations Center (MOC) funding transitioned to the Computer Network Defense (CND) funding line to continued development of Cyber MOC capabilities. MOC conducted an Analysis of Alternatives (AoA), evaluated the 10th Fleet operational data feeds, prepared a project plan to integrate these feeds to a set of Network Operations (NetOps) Common Operational Picture (COP) tools, and maximized NetOps watch standard effectiveness.			
Accomplishments/Planned Programs Subtotals	24.081	23.641	21.130

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/3415: <i>Info Sys Security Program (ISSP)</i>	93.960	144.104	133.530		133.530	149.744	138.948	93.142	95.397	Continuing	Continuing

Remarks

D. Acquisition Strategy

EKMS Phase V - The Electronic Key Management System (EKMS) program is linked to the National Security Agency's (NSA's) strategy in implementing EKMS in evolutionary phases and migrating to Key Management Infrastructure (KMI). NSA is the lead for the joint EKMS effort and has been developing and certifying EKMS devices and capabilities in an evolutionary approach. EKMS Phase V is a major component evolving to KMI Capability Increment 2 (CI-2). Products that are procured and fielded include: Tactical Key Loader, Simple Key Loader, Next Generation Fill devices.

Key Management Infrastructure (KMI) - KMI is the next generation EKMS system that is net centric in nature, providing the infrastructure for management, ordering and distribution of key material as well as directly supporting the key requirements of all Crypto modernization efforts. Products that are procured and fielded include: Advanced Key Processor (AKP), Management Client (MGC - computer , printer, scanner, monitors, key boards, hard drives, Type -1 tokens, card reader and mice), and High Assurance Internet Protocol Encryption devices. Navy will continue to provide and refine Navy unique requirements into the NSA KMI CI-2 Spiral 2 Spin 2 capability. In parallel, KMI will: (1) continue to define Navy operational architecture and requirements for roll-out (limited) of this new capability in the Fiscal Year 2014; (2) provide and refine Navy unique requirements into the NSA KMI CI-3 Capability Development Document (CDD); and (3) investigate alternative KMI architecture implementations for submarine and other communities within the Navy.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
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<p>Cryptographic Modernization (CM) - The procurement and fielding of Modernized Crypto devices such as the KG-3X Inc 2, KG-45A, AN-PYQ-20 (formerly KL-51M), KW-46M, KG-175D, KG-175A, Very High Frequency (VHF)/Ultra High Frequency (UHF) Wideband Tactical Secure Voice Cryptologic Equipment (VINSON)/Advanced Narrowband Digital Voice Terminal (ANDVT) Cryptographic modernization (VACM), KIV-7M WALBURN and SAVILLE Communications Security (COMSEC) Crypto Serial Replacement will provide replacements of legacy crypto in accordance with the Chairman of the Joint Chiefs of Staff (CJCS) mandate (CJCS Instruction 6510) as well as the NSA's planned decertification, which improves the security of the Navy's data in transit.</p> <p>Computer Network Defense (CND) - The CND program procures equipment to secure Navy information system networks. Procurements within the CND equipment line include: Firewall components which provide protection for networks from unauthorized users, Virtual Private Networks (VPN) which provide encrypted "Point-to-Point" virtual communication networks, Intrusion Prevention Systems (IPS), Administrator Access Control, Network Security tools and Filtering routers. 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.</p> <p>E. Performance Metrics</p> <p>Key Management Infrastructure (KMI):</p> <ul style="list-style-type: none"> * Install KMI Manager Client/Advanced Key Processor (MGC/AKP) Spiral 1 at selected pilot sites to support Initial Operational Capability (IOC). MGC/AKP Spiral 2 installs delayed to FY15 due to NSA Spiral 2 capability schedule change. * Conduct Navy MGC/AKP Spiral 2 testing across relevant networks (e.g., Navy/Marine Corp Internet/Next Generation(NMCI/NGEN), Integrated Shipboard Network System/Consolidated Afloat Networks and Enterprise Services (ISNS/CANES), Base Level Information Infrastructure Outside the Continental United States (OCONUS) Navy Enterprise Network (BLII ONEnet)) to support Navy-wide deployment in preparation for FY15 Spiral 2 fielding. * Complete engineering efforts and test planning for the KMI CI-2 (Spiral 2) transition planned to begin FY15. * Provide and refine Navy unique requirements into the NSA KMI CI-3 Capability Development Document (CDD). <p>Cryptographic Modernization (CM):</p> <ul style="list-style-type: none"> * 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.). <p>Computer Network Defense (CND):</p> <ul style="list-style-type: none"> * Provide the ability to protect from, react to, and restore operations after an intrusion or other catastrophic event through validated Contingency Plans (CP) for 100% of CND systems. 		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
<p>* 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.</p> <p>* Defend against the unauthorized use of a host or application, particularly operating systems, by development and/of integration of host-based intrusion prevention system design solutions for 100% of authorized Navy enclaves.</p> <p>* Continue to develop and provide Cyber Situational Awareness (CSA) to the Commander United States Tenth Fleet (C10F) Maritime Operations Center (MOC).</p> <p>Information Assurance (IA) services:</p> <p>* 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).</p> <p>* 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.</p> <p>* Coordinate IA activities across the Navy Enterprise via the IA Trusted Agent (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.</p> <p>Maritime Operations Center (MOC):</p> <p>*Develop and provide Network Operations (NetOps) Common Operational Picture (COP) for C10F.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	WR	SSC PAC/ SSC LANT:San Diego, CA/ Charleston, SC	22.710	7.932	Dec 2011	7.534	Dec 2012	4.968	Dec 2013	-		4.968	Continuing	Continuing	Continuing
Systems Engineering	WR	NRL:Washington, DC	0.600	0.278	Dec 2011	0.280	Dec 2012	0.247	Dec 2013	-		0.247	Continuing	Continuing	Continuing
Systems Engineering - Link 22	C/CPAF	Northrup Grumman:Washington, DC	0.000	0.599	Nov 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Primary Hardware Development - Link 22	C/CPAF	SAFENET:Columbia, MD	0.000	2.600	Aug 2012	0.000		0.000		-		0.000	0.000	2.600	
Systems Engineering (MOC)	WR	SSC PAC:San Diego, CA	0.000	0.500	Dec 2011	1.000	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC:Newport, RI	0.608	0.000		0.000		0.119	Dec 2013	-		0.119	Continuing	Continuing	Continuing
Systems Engineering	WR	FNMOCC:Monterey, CA	0.480	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering (NCDOD)	WR	SSC LANT:Charleston, SC	0.000	0.000		0.000		0.100	Dec 2013	-		0.100	0.000	0.100	
Software Development	C/CPAF	SAIC:San Diego, CA	32.877	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Software Development	WR	SSC PAC/ SSC LANT:San Diego, CA/ Charleston, SC	11.029	0.000		0.000		0.632	Dec 2013	-		0.632	Continuing	Continuing	Continuing
Software Development	WR	NRL:Washington, DC	19.196	1.299	Dec 2011	1.322	Dec 2012	1.475	Dec 2013	-		1.475	Continuing	Continuing	Continuing
Primary Hardware Development (PY)	WR	Various:Various	102.136	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Primary Hardware Development	WR	SSC PAC:San Diego, CA	2.554	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Primary Hardware Development	WR	NRL:Washington, DC	0.970	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			193.160	13.208		10.136		7.541		0.000		7.541			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Architecture	WR	SSC PAC/ SSC LANT:San Diego, CA/ Charleston, SC	0.000	0.849	Dec 2011	0.856	Dec 2012	1.062	Dec 2013	-		1.062	Continuing	Continuing	Continuing
Requirements Analysis	WR	NRL:Washington, DC	0.000	0.978	Dec 2011	0.988	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Studies & Design	WR	NRL:Washington, DC	0.000	0.777	Dec 2011	0.783	Dec 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Studies & Design	WR	SSC PAC/ SSC LANT:San Diego, CA/ Charleston, SC	0.000	1.674	Dec 2011	1.691	Dec 2012	2.753	Dec 2013	-		2.753	Continuing	Continuing	Continuing
Systems Engineering Spt	WR	NRL:Washington, DC	0.000	0.183	Dec 2011	0.185	Dec 2012	0.175	Dec 2013	-		0.175	Continuing	Continuing	Continuing
Systems Engineering Spt	WR	SSC PAC/ SSC LANT:San Diego, CA/ Charleston, SC	1.678	1.183	Dec 2011	3.690	Dec 2012	3.153	Dec 2013	-		3.153	Continuing	Continuing	Continuing
Architecture	C/CPFF	BAH:San Diego, CA	0.000	0.774	Dec 2011	0.000		0.795	Nov 2013	-		0.795	0.000	1.569	
Requirements Analysis	C/CPFF	BAH:San Diego, CA	0.000	0.000		0.782	Dec 2012	0.805	Dec 2013	-		0.805	0.000	1.587	
Subtotal			1.678	6.418		8.975		8.743		0.000		8.743			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System DT&E	WR	NUWC:Newport, RI	0.623	0.075	Dec 2011	0.076	Dec 2012	0.119	Dec 2013	-		0.119	Continuing	Continuing	Continuing
System DT&E	WR	SSC LANT:Charleston, SC	0.000	0.260	Dec 2011	0.999	Dec 2012	0.826	Dec 2013	-		0.826	Continuing	Continuing	Continuing
System DT&E	WR	SSC PAC:San Diego, CA	34.778	0.000		0.978	Dec 2012	0.727	Dec 2013	-		0.727	Continuing	Continuing	Continuing
System OT&E	WR	COTF:Norfolk, VA	0.125	0.115	Dec 2011	0.116	Dec 2012	0.361	Dec 2013	-		0.361	Continuing	Continuing	Continuing
Subtotal			35.526	0.450		2.169		2.033		0.000		2.033			

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones			▲																									
CND Inc 2 IOC (Note 1)			▲																									
CND Inc 2 FOC																												
CND Inc 2 FOC																												
Test & Evaluation Milestones																												
Operational Test (O/T)																												
CND Inc 2 IOT&E (Note 2)				▲																								
CND Inc 2 IOT&E				▲																								
Production Milestones																												
CND Inc 2 LRIP Start/Complete (Note 3)																												
CND Inc 2 LRIP Complete																												
CND Inc 2 FRP Decision (Note 4)																												
CND Inc 2 FRP Decision																												
Deliveries																												
CND Inc 2 Delivery	▲																											
CND Inc 2 Deliveries	▲																											

Note 1: CND Inc 2 IOC achieved in advance of schedule, moved from 4QFY12 TO 3QFY12.
 Note 2: CND Inc 2 IOT&E slipped from 3QFY12 TO 4QFY12 due to delayed receipt of Operational Test results.
 Note 3: CND Inc 2 LRIP slipped from 3QFY12 to 4QFY12 due to delayed receipt of Operational Test results.
 Note 4: CND Inc 2 FRP Decision slipped from 4QFY12 to 1QFY13 due to delayed Acquisition Decision Memorandum (ADM) approval.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
CRYPTO KG-45A (Note 1)																												
CRYPTO KW-46M CSRR																												
CRYPTO VACM (Note 2 & 3)																												
CRYPTO VACM LRIP (Note 4)																												
CRYPTO VACM FRP Decision (Note 5)																												
Test & Evaluation Milestones																												
Operational Test (O/T)																												
CRYPTO KW-46M CSRR (Note 6)																												
CRYPTO VACM IOT&E (Note 7)																												

Note 1: CRYPTO KG-45A FOC slipped from 1QFY13 to 4QFY13 due to delay in fielding onboard 1 CG platform.
 Note 2: CRYPTO VACM MS C slipped from 3QFY13 to 4QFY13 due to software development delays per US Air Force (USAF) Program Office. Milestones are driven by USAF as the lead service.
 Note 3: CRYPTO VACM IOC slipped from 3QFY14 to 4QFY14 due to software development delays.
 Note 4: CRYPTO VACM LRIP slipped from 3QFY13 to 4QFY13 due to software development delays.
 Note 5: CRYPTO VACM FRP Decision slipped from 4QFY13 to 3QFY14 due to software development delays and contracting strategy moving to USAF contract sole source justification.
 Note 6: CRYPTO KW-46M Common Submarine Radio Room (CSRR) integration test end date slipped from 2QFY12 to 1QFY13 due to availability of Naval Undersea Warfare Center (NUWC) test lab.
 Note 7: CRYPTO VACM IOT&E end date slipped from 1QFY14 to 2QFY14 due to software development delays.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Fiscal Year	2012				2013				2014				2015				2016				2017				2018							
	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				
Deliveries																																
CRYPTO KG-3X Inc 2	▲		▲																													
CRYPTO AN-PYQ-20 (formerly KL-51M)																																
CRYPTO AN-PYQ-20 Deliveries																																
CRYPTO KG-45A (Note 1)																																
CRYPTO KG-45A Deliveries																																
CRYPTO Link - 22 MLLC (Note 2)	▲		▲																													
CRYPTO Link - 22 MLLC Prototype Delivery																																
CRYPTO Link - 22 MLLC Full Scale Delivery																																
CRYPTO VACM LRIP Deliveries (Note 3)																																
CRYPTO VACM LRIP Deliveries																																
CRYPTO VACM FRP Deliveries (Note 4)																																
CRYPTO VACM FRP Deliveries																																

Note 1: CRYPTO KG-45A Deliveries end date shifted from 1QFY13 to 4QFY13 due to delay in fielding onboard 1 CG platform.
 Note 2: CRYPTO Link-22 MLLC Prototype delivery end date shifted from 2QFY12 to 3QFY12 due to contract performance issues (SAFENET).
 Note 3: CRYPTO VACM LRIP deliveries shifted from 3QFY13 to 2QFY14 due to change in delivery schedule.
 Note 4: CRYPTO VACM FRP delivery Start Date shifted from 1QFY14 to 4QFY14 due to software development delays.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Fiscal Year	2012				2013				2014				2015				2016				2017				2018																							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																				
Acquisition Milestones																																																
EKMS Phase V																					△																											
																					EKMS Phase V FOC																											
TKL (Note 1)					△								△																																			
					TKL IOC								TKL FOC																																			
KMI CI-2 (Note 2 & 3)	▲				▲																				△																							
	KMI CI-2 MS C		KMI CI-2 Spiral 1 IOC																		KMI CI-2 Spiral 2 FOC																											
Test & Evaluation Milestones																																																
Operational Test (O/T)																																																
KMI CI-2 IOT&E (Note 4)			▲																																													
			KMI CI-2 IOT&E																																													
KMI CI-2 OA2	▲																																															
	KMI CI-2 OA2																																															

Note 1: TKL IOC slipped from 1QFY13 to 2QFY13 and FOC slipped from 1QFY15 to 2QFY15 due to late Acquisition Decision Memorandum (ADM) approval and contract award.
 Note 2: KMI CI-2 IOC is a NSA driven milestone and equipment was funded by NSA at limited Navy sites; IOC shifted from 3QFY12 to 4QFY12 due to NSA test schedule delays;
 Note 3: KMI CI-2 FOC slipped from 1QFY17 to 3QFY18 to align to Chief of Naval Operations (CNO) ship availabilities.
 Note 4: KMI CI-2 IOT&E is a NSA driven milestone and equipment was funded by NSA at limited Navy sites; slipped from 3QFY12 to 4QFY12 due to NSA test schedule delays.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
	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
Production Milestones																												
TKL (Notes 1, 2)	▲				▲																							
	TKL FA Test				TKL FRP																							
KMI CI-2 (Note 3, 4 & 5)					▲		△						△															
					KMI CI-2 Spiral 1 LRIP Contract Award		KMI CI-2 Spiral 1 FRP (HW)						KMI CI-2 Spiral 2 FRP (SW)															
Deliveries																												
EKMS Phase V SW (Note 6)	EKMS Phase V SW								△																			
EKMS SKL (Note 7)									SKL Deliveries								△											
TKL (Note 8)					△				TKL Deliveries				△															
KMI CI-2 (Note 9 & 10)									△		△		△						KMI CI-2 Spiral 2 Deliveries									
									KMI CI-2 Spiral 1 LRIP Deliveries								△				Next Gen Fill Device Deliveries							
Next Generation Fill Device (Note 11)																	△				Next Gen Fill Device Deliveries							

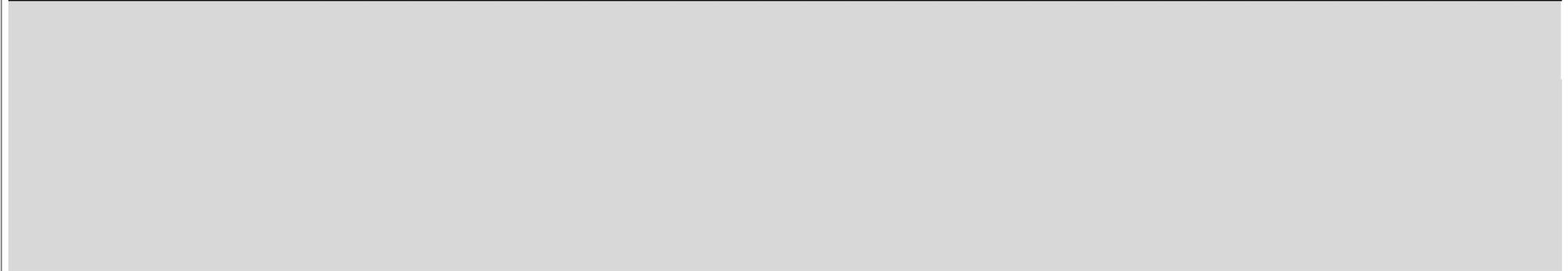
Note 1: TKL production First Article (FA) test was completed 2QFY12.
 Note 2: TKL Full Rate Production (FRP) Decision slipped from 3QFY12 to 1QFY13 due to MDA (Milestone Decision Authority) decision on FRP events.
 Note 3: KMI CI-2 Spiral 1 LRIP contract was awarded 4QFY12.
 Note 4: KMI Spiral 1 FRP slipped from 1QFY13 to 2QFY13 due to NSA test schedule delays.
 Note 5: KMI Spiral 2 FRP slipped from 1QFY14 to 4QFY14 due to NSA schedule delays.
 Note 6: EKMS Phase V SW delivery end date delayed from 1QFY13 to 2QFY13 due to final fielding.
 Note 7: SKL Delivery end date shifted from 3QFY13 to 4QFY15 due to later fielding of Next Generation Fill Devices to coincide with KMI Over the Network Key (OTNK) capability.
 Note 8: TKL Delivery start date shifted one quarter from 1QFY13 to 3QFY13 due to delay in Full Rate Fielding Decision (FRFD).
 Note 9: KMI CI-2 Spiral 1 LRIP deliveries shifted from 4QFY12 to 1QFY14 through 3QFY14 due to NSA test schedule delays.
 Note 10: KMI CI-2 Spiral 2 delivery start date shifted from 3QFY13 to 4QFY14 due to NSA schedule changes; Delivery end date shifted from 1QFY17 to 3QFY18 due to CNO availabilities of ships.
 Note 11: Next Generation Fill Device delivery start date shifted from 1QFY13 to 1QFY16 to support Crypto Mod initiative for KMI awareness and will coincide with NSA KMI OTNK capability in FY15.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Fiscal Year	2012				2013				2014				2015				2016				2017				2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
PKI Inc 2, Spiral 1 & 2		▲																										
		PKI Inc 2, Spiral 1 & 2 IOC																										
PKI Inc 2, Spiral 3 IOC							▲																					
							PKI Inc 2, Spiral 3 IOC																					
PKI Inc 2 FOC											▲																	
											PKI Inc 2 FOC																	



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0734				
CND - Inc 2 IOC	3	2012	3	2012
CND - Inc 2 FOC	4	2016	4	2016
CND - Inc 2 IOT&E	4	2012	4	2012
CND - Inc 2 LRIP	1	2012	4	2012
CND - Inc 2 FRP Decision	1	2013	1	2013
CND - Inc 2 Delivery	1	2012	4	2018
CRYPTO KG-45A - FOC	4	2013	4	2013
CRYPTO KW-46M CSRR - IOC	2	2012	2	2012
CRYPTO VACM - MS C	4	2013	4	2013
CRYPTO VACM - IOC	4	2014	4	2014
CRYPTO VACM - LRIP	4	2013	4	2013
CRYPTO VACM - FRP Decision	3	2014	3	2014
CRYPTO KW-46M CSRR - NUWC Integration Test	2	2012	1	2013
CRYPTO VACM - IOT&E	4	2013	2	2014
CRYPTO KG-3X - Inc 2 Deliveries	1	2012	4	2012
CRYPTO AN-PYQ-20 (formerly KL-51M) - Deliveries	1	2012	1	2013
CRYPTO KG-45A - Deliveries	1	2012	4	2013
CRYPTO Link-22 - MLLC Prototype Delivery	2	2012	3	2012
CRYPTO Link-22 - MLLC Full Scale Delivery	3	2014	3	2014
CRYPTO VACM - LRIP Deliveries	2	2014	2	2014
CRYPTO VACM - FRP Deliveries	4	2014	4	2018

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
EKMS - Phase V FOC	3	2014	3	2014
TKL - IOC	2	2013	2	2013
TKL - FOC	2	2015	2	2015
KMI CI-2 - MS C	1	2012	1	2012
KMI CI-2 - Spiral 1 IOC	4	2012	4	2012
KMI CI-2 - Spiral 2 FOC	3	2018	3	2018
KMI CI-2 - IOT&E	4	2012	4	2012
KMI CI-2 - OA2	3	2012	3	2012
TKL - FA Test	2	2012	2	2012
TKL - FRP Decision	1	2013	1	2013
KMI CI-2 - Spiral 1 LRIP Contract Award	4	2012	4	2012
KMI CI-2 - Spiral 1 FRP HW	2	2013	2	2013
KMI CI-2 - Spiral 2 FRP SW	4	2014	4	2014
EKMS - Phase V SW	1	2012	2	2013
EKMS - SKL Deliveries	1	2012	4	2015
TKL - Deliveries	3	2013	2	2015
KMI CI-2 - Spiral 1 LRIP Deliveries	1	2014	3	2014
KMI CI-2 - Spiral 2 Deliveries	4	2014	3	2018
Next Generation Fill Device	1	2016	4	2018
PKI - Inc 2 Spiral 1 & 2 IOC	1	2012	1	2012
PKI - Inc 2 Spiral 3 IOC	3	2013	3	2013
PKI - Inc 2 FOC	2	2014	2	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 3230: <i>Information Assurance</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3230: <i>Information Assurance</i>	2.998	2.666	2.666	2.401	-	2.401	2.683	2.673	2.768	2.786	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The goal of the Navy Information Systems Security Program (ISSP) 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. Information Assurance (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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 3230: <i>Information Assurance</i>
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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 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 interoperability 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.

Major focus areas in FY14: Continue development of new network security demands addressing nation-state level sponsored activity. Incorporate security services to thwart DNS attacks, distributed denial of service, botnet and other sophisticated attacks.

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

	FY 2012	FY 2013	FY 2014
Title: Information Assurance	2.666	2.666	2.401
Articles:	0	0	0
FY 2012 Accomplishments:			
Continued the development of new network security technology focused on addressing nation state level sponsored activity and successfully characterized several attacks/profiles to improve detection rates of the technology and to support attribution of threat actions across network boundaries. Continued the development of a new high assurance boundary controller to protect Navy and Marine Corps data and resources from attack ensuring the security services include, at a minimum, encryption and data malware analysis in the boundary controller as well as the ability to adjust routing of communications based on network threat-action levels. Continued the development of mobile security techniques that introduce time- and location-based security parameters for geo-location and asset protection and management. 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. Completed the development of a high-assurance computing environment for Navy and Marine Corps use based on trusted platform technology. Completed the development of the appropriate core code, security messages and assurance functions required to ensure platform hardware and software protection. Completed the development of new key and enabling technologies to address specific Navy and Marine Corps needs. Ensure the new solutions address distribution and management in bandwidth limited environments and tactical environments. Initiated the development of critical cryptographic technology that support Navy unique platforms and requirements ensuring the technology addresses the limited size, weight and			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>		PROJECT 3230: <i>Information Assurance</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2012
<p>power issues, and multiple data classification processing requirements, as well as, providing on-the-fly programmability of mission data and key material to support various missions.</p> <p>FY 2013 Plans: Continue the development of new network security technology focused on addressing nation-state level sponsored activity. Continue characterizing attacks/profiles to increase detection rates of the technology- focusing on embedded malicious code and exfiltration of data from host environments. Continue development of attribution technology, focusing on nation-state activities across network boundaries that obfuscate traffic using techniques such as anonymization. Continue 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. Continue 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. Continue 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 classification processing requirements, as well as providing on-the-fly programmability of mission data and key material to support various missions. 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. Initiate 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. Initiate 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.</p> <p>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 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. 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 Global Positioning System (GPS)-constrained environments. Continue the development of critical cryptographic technology to support</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>		PROJECT 3230: <i>Information Assurance</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
<p>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 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.</p>				FY 2012	FY 2013	FY 2014
Accomplishments/Planned Programs Subtotals				2.666	2.666	2.401
C. Other Program Funding Summary (\$ in Millions)						
N/A						
Remarks						
D. Acquisition Strategy						
N/A						
E. Performance Metrics						
Protection of Navy and joint information and information systems from hostile exploitation and attack						

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	12.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.000
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Computer Network Defense (CND) accelerates and improves the cyber security, situational awareness, and efficiencies of OCONUS Naval Enterprise Network (ONE-Net) and Information Technology for the 21st Century (IT-21) networks. Efforts focus on enabling development of Navy high speed tactical network sensors. Efforts also include the conduct of systems engineering and architect Theater Network Operations and Security (TNSOC) modifications required to support ONE-Net environment security enhancements and network efficiencies. Funding establishes a lab environment that can support the development of Ozone Widget framework tools. Also, CND develops the architecture and integrated tools that support the automation of certification and accreditation processes in-line with Defense Information Systems Agency (DISA) imperatives for continuous network monitoring and risk scoring. Funding is used to determine optimal technical and governance solution for interception of outbound encrypted traffic, allowing for inspection and control. Last, CND will be updated development lab hardware will be updated to ensure Charleston Network Operations Center (CHASNOC), SSC Pacific Afloat, and End-to-End (E2C) labs contain the most current CND cyber security technologies. This also promoted comprehensive implementation of Host Based Security Systems (HBSS) and other DoD mandated tools and capabilities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2012	FY 2013
Congressional Add: Cyber Security Research (Cong)	12.000	-
FY 2012 Accomplishments: Computer Network Defense (CND) accelerated and improved the cyber security, situational awareness, and efficiency of OCONUS Naval Enterprise Network (ONE-Net) and Information Technology for the 21st Century (IT-21) networks. Efforts focused on enabling development of Navy high speed tactical network sensors. Conducted systems engineering and architect Theater Network Operations and Security (TNSOC) modifications required to support ONE-Net environment security enhancements and network efficiencies. Established a lab environment that can support the development of Ozone Widget framework tools. Began the development of the architecture and integrated tools that support the automation of certification and accreditation processes in line with Defense Information Systems Agency (DISA) imperatives for continuous network monitoring and risk scoring. Determined optimal technical and governance solution for interception of outbound encrypted traffic, allowing for inspection and control. Updated the CND development lab hardware to ensure Charleston Network Operations Center (CHASNOC), SSC Pacific Afloat, and End-to-End (E2C) labs		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 9999: <i>Congressional Adds</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013
contain the most current CND cyber security technologies. This also promoted comprehensive implementation of Host Based Security Systems (HBSS) and other DoD mandated tools and capabilities.		
Congressional Adds Subtotals	12.000	0.000

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

N/A

Remarks

D. Acquisition Strategy

Congressional Adds.

E. Performance Metrics

Congressional Adds.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 9999: <i>Congressional Adds</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	WR	SSC PAC:San Diego, CA	0.000	0.064	May 2012	0.000		0.000		-		0.000	0.000	0.064	
Primary Hardware Development	WR	NRL:Washington, DC	0.000	0.200	Apr 2012	0.000		0.000		-		0.000	0.000	0.200	
Primary Hardware Development	C/CPFF	SSC LANT:Charleston, SC	0.000	1.733	Jul 2012	0.000		0.000		-		0.000	0.000	1.733	
Software Development	WR	SSC PAC:San Diego, CA	0.000	2.600	Jul 2012	0.000		0.000		-		0.000	0.000	2.600	
Software Development	C/CPFF	DITC:Ft. Belvoir, VA	0.000	1.300	Jan 2013	0.000		0.000		-		0.000	0.000	1.300	
Systems Engineering	WR	SSC PAC:San Diego, CA	0.000	1.144	Oct 2012	0.000		0.000		-		0.000	0.000	1.144	
Systems Engineering	C/CPFF	ESC/CAA:Hanscomb AFB, MA	0.000	0.050	Oct 2012	0.000		0.000		-		0.000	0.000	0.050	
Subtotal			0.000	7.091		0.000		0.000		0.000		0.000	0.000	7.091	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Requirements Analysis	WR	SSC PAC:San Diego, CA	0.000	0.235	Nov 2012	0.000		0.000		-		0.000	0.000	0.235	
Requirements Analysis	C/CPFF	SSC LANT:Charleston, SC	0.000	0.103	Jun 2012	0.000		0.000		-		0.000	0.000	0.103	
Architecture	WR	SSC PAC:San Diego, CA	0.000	1.672	May 2012	0.000		0.000		-		0.000	0.000	1.672	
Studies & Design	WR	SSC PAC:San Diego, CA	0.000	0.315	Nov 2012	0.000		0.000		-		0.000	0.000	0.315	
Studies & Design	C/CPFF	BAH:San Diego, CA	0.000	0.234	Dec 2012	0.000		0.000		-		0.000	0.000	0.234	
Subtotal			0.000	2.559		0.000		0.000		0.000		0.000	0.000	2.559	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303150M: <i>WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	1.226	0.500	0.000	-	0.000	0.307	0.305	0.000	0.000	0.000	2.338
2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	0.000	1.226	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.226
4041: <i>Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)</i>	0.000	0.000	0.500	0.000	-	0.000	0.307	0.305	0.000	0.000	0.000	1.112

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	1.250	0.500	0.262	-	0.262
Current President's Budget	1.226	0.500	0.000	-	0.000
Total Adjustments	-0.024	0.000	-0.262	-	-0.262
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.024	0.000			
• Program Adjustments	0.000	0.000	0.000	-	0.000
• Rate/Misc Adjustments	0.000	0.000	-0.262	-	-0.262

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303150M: <i>WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	0.000	1.226	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.226
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: Joint Force Requirements Generator (JFRG)	1.226	0.000	0.000
Articles:	0		
FY 2012 Accomplishments: Supported the Joint Force Requirements Generator (JFRG) II/MAGTF Deployment Support System (MDSS) II ECP development.			
Accomplishments/Planned Programs Subtotals	1.226	0.000	0.000

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).

E. Performance Metrics

Technical: This exhibit reflects a break-out of GFM-DI efforts into unique USMC PE's.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303150M: <i>WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM</i>	PROJECT 4041: <i>Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4041: <i>Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)</i>	0.000	0.000	0.500	0.000	-	0.000	0.307	0.305	0.000	0.000	0.000	1.112
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: Joint Forces Requirements Generator (JFRG)	0.000	0.500	0.000
Articles:		0	
FY 2013 Plans: Will support Joint Forces Requirements Generator (JFRG) II/MAGTF Deployment Support System (MDSS) II ECP development.			
Accomplishments/Planned Programs Subtotals	0.000	0.500	0.000

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).

E. Performance Metrics

Technical: This exhibit reflects a break-out of GFM-DI efforts into unique USMC PE's.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303238N: <i>Consolidated Afloat Network Ent SVCS(CANES)-MIP</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	6.602	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.602
9C87: <i>CANES Integration</i>	0.000	6.602	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.602

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ended in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

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 NAVY to dominate the Cyber Warfare domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, 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 existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) 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 (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, approximately 36 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 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,

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303238N: <i>Consolidated Afloat Network Ent SVCS(CANES)-MIP</i>
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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 a different ship class design baseline.

CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ended in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

B. Program Change Summary (\$ in Millions)	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	6.602	0.000	0.000	-	0.000
Current President's Budget	6.602	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

Funding: CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ended in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303238N: <i>Consolidated Afloat Network Ent SVCS(CANES)-MIP</i>	PROJECT 9C87: <i>CANES Integration</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9C87: <i>CANES Integration</i>	0.000	6.602	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.602
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ended in FY12. MIP requirements transition to PE 0303138N beginning in FY13.

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 NAVY to dominate the Cyber Warfare domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, 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 existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) 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 (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, approximately 36 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 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, and test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines,

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303238N: <i>Consolidated Afloat Network Ent SVCS(CANES)-MIP</i>	PROJECT 9C87: <i>CANES Integration</i>
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logistics, and training efforts into a unified support structure. Platform sets 1, 2, 3, 4 define phases of CANES system development efforts. Each platform set consists of a different ship class design baseline.

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

	FY 2012	FY 2013	FY 2014
Title: CANES Integration	6.602	0.000	0.000
Articles:	0		
FY 2012 Accomplishments: Completed development of statutory and regulatory acquisition documentation in support of CANES Milestone C (MS C). Revised Cost Analysis Requirements Description (CARD) and Life Cycle Cost Estimate (LCCE) in support of Navy's Service Cost Position (SCP) for MS C. Conducted Operational Assessment (OA) in support of MS C. Continued hosted system integration testing and Application Integration (AI) as they migrate to CANES baseline. Prepared Enterprise Engineering and Certification (E2C) lab for testing on platform set 1 and 2 baselines. Performed systems engineering efforts following down select to complete functional baselines and updates to technical data packages.			
Accomplishments/Planned Programs Subtotals	6.602	0.000	0.000

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/2915: <i>CANES (Excluding ADNS)</i>	78.239	281.247	288.469		288.469	308.308	330.315	345.964	341.294	4,574.868	6,560.089
• OPN/2925: <i>CANES INTELL</i>	73.363	79.427	59.652		59.652	65.329	33.983	56.755	49.707	1,012.331	1,433.670
• RDTE/09C87: <i>CANES INTEGRATION (NON-MIP)</i>	12.039	15.415	23.474		23.474	21.693	22.231	22.507	22.927	256.828	484.854
• RDTE/9C87C: <i>CANES Congressional Add</i>	12.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	12.000

Remarks

D. Acquisition Strategy

CANES is an ACAT IAM MAIS. Formal program initiation occurred at MS B (2QFY11). 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. February 1, 2012 the Limited Deployment (LD) contract was awarded to Northrop Grumman (NG). Milestone C achieved in 1QFY13. In 1QFY14, a separate full and open production contract will be awarded for Full Deployment (FD).

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
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E. Performance Metrics

Early RDT&E investment and sustainment of dual design contractors through the development phase saved 44% of Total Ownership Cost (TOC) over the life cycle of the program. Cost avoidance throughout the life of the program is based on performance gains that are measured (not quantified) by 1) reducing the number of networks through the use of mature, certified, cross domain technologies; 2) reducing the infrastructure footprint and associated costs for hardware afloat; and 3) providing increased capability to meet current and projected warfighter requirements.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Product Development	C/CPFF	Northrup Grumman:Herndon, VA	0.000	1.818	Feb 2012	0.000		0.000		-		0.000	0.000	1.818	
Primary Product Development	C/CPFF	Lockheed Martin:San Diego, CA	0.000	1.400	Feb 2012	0.000		0.000		-		0.000	0.000	1.400	
Systems Engineering	WR	SPAWAR Systems Center Pacific:San Diego, CA	0.000	1.647	Feb 2012	0.000		0.000		-		0.000	0.000	1.647	
Systems Engineering	WR	SPAWAR Systems Center Atlantic:Charleston, SC	0.000	0.845	Feb 2012	0.000		0.000		-		0.000	0.000	0.845	
Subtotal			0.000	5.710		0.000		0.000		0.000		0.000	0.000	5.710	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Operational Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA	0.000	0.220	Mar 2012	0.000		0.000		-		0.000	0.000	0.220	
Subtotal			0.000	0.220		0.000		0.000		0.000		0.000	0.000	0.220	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program and Acquisition Support	C/CPFF	Booz Allen Hamilton:San Diego, CA	0.000	0.368	Feb 2012	0.000		0.000		-		0.000	0.000	0.368	
Program and Acquisition Support	C/CPFF	SRA:San Diego, CA	0.000	0.304	Mar 2012	0.000		0.000		-		0.000	0.000	0.304	
Subtotal			0.000	0.672		0.000		0.000		0.000		0.000	0.000	0.672	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	796.764	40.605	17.091	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	854.460
4021: <i>CJR System Engineering</i>	796.764	40.605	17.091	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	854.460

MDAP/MAIS Code(s): 365

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	40.605	17.091	0.000	-	0.000
Current President's Budget	40.605	17.091	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

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

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4021: <i>CJR System Engineering</i>	796.764	40.605	17.091	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	854.460
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
<p>Title: DESIGN AND RISK REDUCTION</p> <p style="text-align: right;">Articles:</p> <p>FY 2012 Accomplishments: - Continued installation of Mission Equipment on Ship - Integration of Mission Equipment on Ship</p> <p>FY 2013 Plans: - Integration of Mission Equipment on Ship</p>	<p>30.172</p> <p>0</p>	<p>10.835</p> <p>0</p>	<p>0.000</p>
<p>Title: SYSTEMS ENGINEERING</p> <p style="text-align: right;">Articles:</p> <p>FY 2012 Accomplishments: - Integration of non-prime mission equipment</p> <p>FY 2013 Plans: - Integration of non-prime mission equipment</p>	<p>3.954</p> <p>0</p>	<p>2.890</p> <p>0</p>	<p>0.000</p>
<p>Title: TEST AND EVALUATION</p> <p style="text-align: right;">Articles:</p> <p>FY 2012 Accomplishments: - Radar & ship integration and test</p>	<p>6.479</p> <p>0</p>	<p>3.366</p> <p>0</p>	<p>0.000</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
- Ship crew contracts after ship delivery			
<i>FY 2013 Plans:</i>			
- Radar & ship integration and test			
- Ship crew contracts after ship delivery			
Accomplishments/Planned Programs Subtotals	40.605	17.091	0.000

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0303901N/4003: <i>Cobra Judy</i> <i>Replacement</i>	39.963	16.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	143.714

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

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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Design and Risk Reduction	Allot	NAVSEA 05C:Washington DC	0.000	0.150	Oct 2011	0.000		0.000		-		0.000	0.000	0.150	
Design and Risk Reduction	C/CPIF	Raytheon:Sudbury, MA	579.893	27.772	Jan 2012	0.000		0.000		-		0.000	0.000	607.665	
Shipbuilding	C/FFP	PEO Ships:Washington, DC	100.815	0.000		0.000		0.000		-		0.000	0.000	100.815	
Design and Risk Reduction	WR	SPAWAR:San Diego, CA	6.823	2.250	Dec 2011	0.000		0.000		-		0.000	0.000	9.073	
Design and Risk Reduction	C/CPAF	MIT/TWS:Hanscom AFB, MA	0.500	0.000		0.000		0.000		-		0.000	0.000	0.500	
Subtotal			688.031	30.172		0.000		0.000		0.000		0.000	0.000	718.203	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Engineering	Various	Various:Various	8.764	0.000		0.000		0.000		-		0.000	0.000	8.764	
System Engineering	C/CPAF	BAE:Rockville, MD	0.840	0.000		0.000		0.000		-		0.000	0.000	0.840	
System Engineering	C/CPAF	GTRI:Atlanta, GA	2.368	0.500	Dec 2011	0.250	Mar 2013	0.000		-		0.000	0.000	3.118	
System Engineering	C/CPFF	JHU/APL:Laurel, MD	5.790	0.000		0.000		0.000		-		0.000	0.000	5.790	
System Engineering	C/CPAF	MIT/LL:Hanscom AFB, MA	6.914	0.000		0.000		0.000		-		0.000	0.000	6.914	
System Engineering	WR	NRL:Washington, DC	1.980	0.425	Oct 2011	0.000		0.000		-		0.000	0.000	2.405	
System Engineering	WR	NSWC CSS:Panama City, FL	2.942	0.000		0.000		0.000		-		0.000	0.000	2.942	
System Engineering	WR	NSWC DD:Dahlgren, VA	11.551	0.850	Dec 2011	0.000		0.000		-		0.000	0.000	12.401	
System Engineering	WR	NSWC PHD:Port Hueneme, CA	1.535	0.000		0.000		0.000		-		0.000	0.000	1.535	

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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Engineering	Allot	PEO Ships:Washington, DC	3.000	0.000		0.000		0.000		-		0.000	0.000	3.000	
System Engineering	WR	SEG:Columbia, MD	1.195	0.000		0.000		0.000		-		0.000	0.000	1.195	
Systems Engineering	WR	SPAWAR:San Diego,CA	5.659	0.000		0.220	Jan 2013	0.000		-		0.000	0.000	5.879	
Systems Engineering	WR	NSWC/CRANE:Crane, IN	0.407	0.000		0.014	Jan 2013	0.000		-		0.000	0.000	0.421	
System Engineering	WR	Military Sealift Command:Washington, DC	0.000	2.179	Feb 2012	3.128	Jan 2013	0.000		-		0.000	0.000	5.307	
Subtotal			52.945	3.954		3.612		0.000		0.000		0.000	0.000	60.511	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	Various	Various:Various	0.295	0.000		0.000		0.000		-		0.000	0.000	0.295	
Test and Evaluation	C/CPAF	Raytheon:Sudbury, MA	1.200	0.000		0.000		0.000		-		0.000	0.000	1.200	
Test and Evaluation	MIPR	AFOTEC:Peterson AFB, CO	0.415	0.000		0.318	Oct 2012	0.000		-		0.000	0.000	0.733	
Test and Evaluation	MIPR	COMOPTEVFOR:Norfolk, VA	0.315	0.000		0.000		0.000		-		0.000	0.000	0.315	
Test and Evaluation	MIPR	JITC:Fort Huachuca, AZ	0.225	0.000		0.000		0.000		-		0.000	0.000	0.225	
Test and Evaluation	WR	NSWC DD:Dahlgren, VA	2.019	0.000		0.000		0.000		-		0.000	0.000	2.019	
Test and Evaluation	Allot	PEO SHIPS:Washington, DC	0.452	0.000		0.000		0.000		-		0.000	0.000	0.452	

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>
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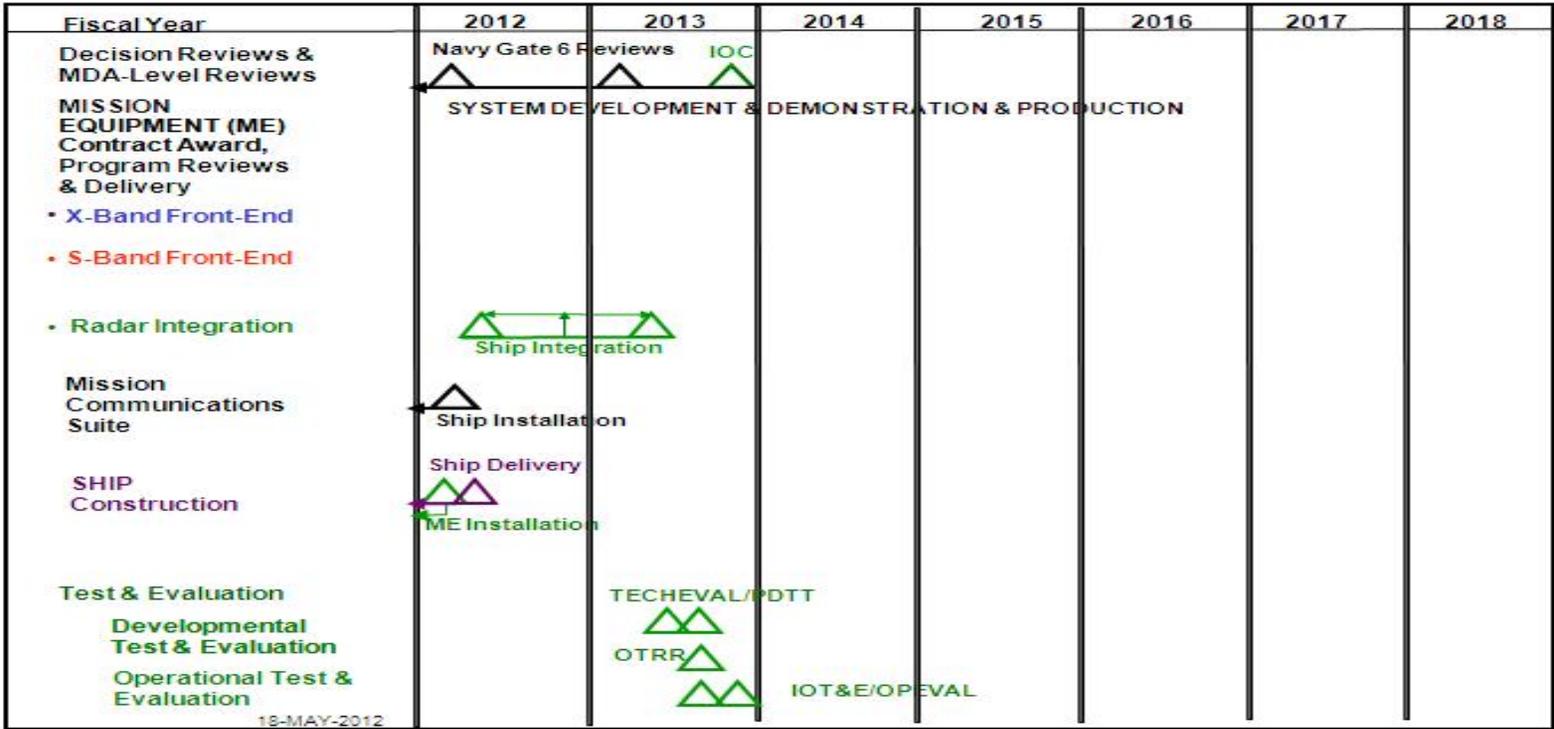
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	C/CPAF	TSC:Silver Spring, MD	0.422	0.000		0.000		0.000		-		0.000	0.000	0.422	
Test and Evaluation	C/CPAF	Riverside Research:New York, NY	2.071	1.979	Jan 2012	0.750	Jan 2013	0.000		-		0.000	0.000	4.800	
Test and Evaluation	WR	Military Sealift Command:Washington, DC	11.069	4.500	Oct 2011	4.151	Jan 2013	0.000		-		0.000	0.000	19.720	
Test and Evaluation	MIPR	Patrick AFB:PAFB, Florida	4.459	0.000		5.986	Oct 2012	0.000		-		0.000	0.000	10.445	
Test and Evaluation	MIPR	ARMY RESEARCH LAB:Adelphi, MD	0.084	0.000		0.084	Mar 2013	0.000		-		0.000	0.000	0.168	
Subtotal			23.026	6.479		11.289		0.000		0.000		0.000	0.000	40.794	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	C/CPAF	BAE Systems:Rockville, MD	12.233	0.000		0.000		0.000		-		0.000	0.000	12.233	
Program Management	C/CPFF	DTI:Arlington, VA	0.435	0.000		0.000		0.000		-		0.000	0.000	0.435	
Contractor Engineering	C/CPAF	BAE Systems:Rockville, MD	10.611	0.000		0.000		0.000		-		0.000	0.000	10.611	
Contractor Engineering	C/CPAF	Computer Science Corp:Falls Church, VA	3.255	0.000		0.000		0.000		-		0.000	0.000	3.255	
Contractor Engineering	C/CPAF	Systems Planning and Analysis:Alexandria, VA	3.595	0.000		2.190	Jan 2013	0.000		-		0.000	0.000	5.785	

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>
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18-MAY-2012

CDR – Critical Design Review
 DT&E – Developmental Test and Evaluation
 GFE – Gov't Furnished Equipment
 I&T – Integration and Test
 IBR – Integrated Baseline Review
 IPR – Interim Program Review
 IOC – Initial Operational Capability

IOT&E – Initial Operational Test and Evaluation
 ME – Mission Equipment
 MS – Milestone
 OPEVAL – Operational Evaluation
 OTRR – Operational Test Readiness Review
 PDR – Preliminary Design Review

PDTT – Post Delivery Test and Trials
 SDR – System Design Review
 SFE – S-Band Radar Front End
 TECHEVAL – Technical Evaluation
 TIF – Test and Integration Facility
 XFE – X-Band Radar Front End

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4021				
Decision Reviews & MDA-Level Reviews	1	2012	4	2013
Initial Operational Capability (IOC)	4	2013	4	2013
ME Ship Integration	2	2012	2	2013
Ship Delivery	2	2012	2	2012
TECHEVAL/ Post Delivery Test & Trials	2	2013	3	2013
OTRR	3	2013	3	2013
IOT&E/OPEVAL	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.820	0.810	0.742	-	0.742	0.885	0.890	60.911	0.919	Continuing	Continuing
0524: <i>Navy METOC Support (SPACE)</i>	0.000	0.820	0.810	0.742	-	0.742	0.885	0.890	0.902	0.919	Continuing	Continuing
1452: <i>GEO SAT</i>	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	60.009	0.000	0.000	60.009

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) altimetry satellite development efforts until FY 2017.

JUSTIFICATION FOR BUDGET ACTIVITY: BA-7: This program is funded under Operational System Development because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.904	0.810	3.408	-	3.408
Current President's Budget	0.820	0.810	0.742	-	0.742
Total Adjustments	-0.084	0.000	-2.666	-	-2.666
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.061	0.000			
• SBIR/STTR Transfer	-0.023	0.000			
• Program Adjustments	0.000	0.000	-2.579	-	-2.579
• Rate/Misc Adjustments	0.000	0.000	-0.087	-	-0.087

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>	PROJECT 0524: <i>Navy METOC Support (SPACE)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0524: <i>Navy METOC Support (SPACE)</i>	0.000	0.820	0.810	0.742	-	0.742	0.885	0.890	0.902	0.919	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2014 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 2012	FY 2013	FY 2014
Title: METOC Space-Based Sensing Capabilities	0.820	0.810	0.742
Articles:	0	0	0
FY 2012 Accomplishments:			
Conducted performance assessments, sensor calibrations and perform quality control on National Polar-orbiting Operational Environmental Satellite System Preparatory Project (NPP) and Defense Meteorological Satellite Program (DMSP) satellite sensor suits. Continued limited ground control and operations of the Coriolis spacecraft and monitor the Navy Satellite Based Wind Speed (WindSat) on-orbit payload.			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>	PROJECT 0524: <i>Navy METOC Support (SPACE)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue performance assessment on NPP and DMSP satellite sensor suits. Conduct assessment of planned Joint Polar Satellite System (JPSS) sensors for use in Navy Operational Environmental predictive models. Begin assessment of planned Defense Weather Satellite System (DWSS) program environmental satellite sensor capabilities. Begin 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: 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 for use in Navy Atmospheric and Oceanographic Prediction Models.			
Accomplishments/Planned Programs Subtotals	0.820	0.810	0.742

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTEN/0603207N/2342: <i>METOC DATA ASSIMILATION AND MOD</i>	10.295	11.127	10.250		10.250	10.890	10.816	11.036	11.170	Continuing	Continuing
• OPN/4226: <i>Meteorological Equipment</i>	30.278	18.339	19.118		19.118	19.107	20.297	19.429	21.303	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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>	PROJECT 0524: <i>Navy METOC Support (SPACE)</i>

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%.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>	PROJECT 0524: <i>Navy METOC Support (SPACE)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	WR	Naval Research Laboratory:Monterey, CA	0.000	0.660	Nov 2011	0.650	Nov 2012	0.597	Nov 2013	-		0.597	Continuing	Continuing	Continuing
Subtotal			0.000	0.660		0.650		0.597		0.000		0.597			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Support	WR	SSC Pacific:San Diego, CA	0.000	0.130	Nov 2011	0.130	Nov 2012	0.120	Nov 2013	-		0.120	Continuing	Continuing	Continuing
Subtotal			0.000	0.130		0.130		0.120		0.000		0.120			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Acquisition Management	C/CPFF	PSS/BAH:San Diego, CA	0.000	0.030	Nov 2011	0.030	Nov 2012	0.025	Nov 2013	-		0.025	Continuing	Continuing	Continuing
Subtotal			0.000	0.030		0.030		0.025		0.000		0.025			

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.820	0.810	0.742	0.000	0.742			

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>	PROJECT 1452: <i>GEO SAT</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1452: <i>GEO SAT</i>	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	60.009	0.000	0.000	60.009
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>	PROJECT 1452: <i>GEO SAT</i>

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.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305192N: <i>JT Military Intel Programs</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	4.099	8.617	4.804	-	4.804	5.210	5.288	5.354	5.426	Continuing	Continuing
2295: <i>JDISS/LOCE Integration</i>	0.000	4.099	8.617	4.804	-	4.804	5.210	5.288	5.354	5.426	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	4.099	8.617	3.782	-	3.782
Current President's Budget	4.099	8.617	4.804	-	4.804
Total Adjustments	0.000	0.000	1.022	-	1.022
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	1.022	-	1.022

Change Summary Explanation

Technical: Not applicable.
 Schedule: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	164.576	9.353	9.066	8.381	-	8.381	8.513	8.636	8.887	8.997	Continuing	Continuing
2478: <i>Tactical Control System</i>	164.576	9.353	9.066	8.381	-	8.381	8.513	8.636	8.887	8.997	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 non-lethal 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 in limited adverse weather. 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 of unmanned aerial vehicles imagery.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	9.353	9.066	8.387	-	8.387
Current President's Budget	9.353	9.066	8.381	-	8.381
Total Adjustments	0.000	0.000	-0.006	-	-0.006
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.006	-	-0.006

Change Summary Explanation

Schedule:

Updated Tactical Control System Schedule to coincide with Vertical Take-off Unmanned Aerial Vehicle (VTUAV) schedule milestones.

2768- VTUAV

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>

Initial Operating Capability, Full Rate Production Deployments and Operational Evaluation (OPEVAL) changed due to a Navy decision to prioritize warfighter requirements in Afghanistan and Urgent Operational Need (UON) locations ahead of OPEVAL. Additionally, the program will be procuring MQ-8C aircraft only between FY12 and FY18.

Radar RDC, Radar Integration Preliminary Design, and Specialty Payload Reviews changed due to Navy priorities and to align with fleet asset availability.

VTUAV EMD changed to align with the expected completion of development efforts and contract closeout.

Littoral Combat Ship (LCS) Integration Review changed to align with warfighter priorities and the LCS schedule.

Quick Reaction Assessments were changed due to Navy priority and MQ-8C program of record transition.

MUAS: Technical Interchange Meetings remain recurring meetings, but are no longer reported in the Vertical Take-off Unmanned Air Vehicle schedule.

TCS 3.0, 4.0 and 5.0 changed to reflect the revised software update schedule.

Technical: None

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2478: <i>Tactical Control System</i>	164.576	9.353	9.066	8.381	-	8.381	8.513	8.636	8.887	8.997	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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, and Command and Control of Naval Unmanned Aircraft Systems (UAS). TCS software operating on Ground Control Station hardware utilizing 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 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 will be incorporated into the MQ-8 Vertical Take-off and Landing Tactical Unmanned Air Vehicle (VTUAV) 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).

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 2012	FY 2013	FY 2014
Title: TCS Development and Integration	8.592	8.321	7.727
Articles:	0	0	0
FY 2012 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>		PROJECT 2478: <i>Tactical Control System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Continue TCS integration with MQ-8 development. Continue new TCS capabilities to support requirements for Littoral Combat Ship integration. Continue TCS STANAG 4586 compliance. Continue TCS C4ISR interface integration testing for MQ-8 systems. Continue hardware and operating system independence initiatives. Start modifications for Unmanned Aerial System (UAS) weapons control, RADAR Special Operations Forces (SOF) payloads, Navy payload integration, and MQ-8 Endurance Upgrade. Initiate technology refresh, LINUX transition, and move to service oriented architecture.</p> <p>FY 2013 Plans: Continue Tactical Control System (TCS) integration with MQ-8 development and Rapid Deployment Capability efforts. Continue new TCS capabilities to support requirements for Littoral Combat Ship (LCS) 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, SOF payloads, Navy payload integration, and MQ-8 Endurance Upgrade integration. Continue technology refresh, LINUX transition, and move to service oriented architecture.</p> <p>FY 2014 Plans: Continue TCS integration 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 commence Common Control Software Integration.</p>				
<p>Title: Technical and Engineering Services</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Continue government engineering support, contractor support, program support, and travel for the TCS program.</p> <p>FY 2013 Plans: Continue government engineering support, contractor support, program support, and travel for the TCS program.</p> <p>FY 2014 Plans: Continue government engineering support, contractor support, program support, and travel for the TCS program.</p>		0.761 0	0.745 0	0.654 0
Accomplishments/Planned Programs Subtotals		9.353	9.066	8.381
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>

D. Acquisition Strategy

The TCS program is developing Government owned, non-proprietary software that supports VTUAV 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 Tactical Control System (TCS) system. TCS will provide software modules for the Navy Common Control System (CCS) and the TCS tech refresh hardware will support Vertical Take-off and Landing Tactical Unmanned Air Vehicle migration to CCS software.

E. Performance Metrics

Successfully complete Coastal Battlefield Reconnaissance and Analysis Integration. Support MQ-8 Endurance Upgrade Rapid Deployment Capability integrated test. Successfully complete Littoral Combat Ship Integration. Complete Developmental and Operational Test. Successfully complete MQ-8 Weapons Rapid Deployment Capability Integration. Successfully complete payloads and RADAR Rapid Deployment Capabilities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Software Development 2	SS/CPIF	Raytheon:Falls Church,VA	0.000	8.077	Nov 2011	8.321	Nov 2012	7.727	Nov 2013	-		7.727	Continuing	Continuing	Continuing
Primary Software Development 1	C/CPAF	Raytheon:Falls Church,VA	137.616	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Award Fees	C/CPAF	Raytheon:Falls Church,VA	10.106	0.515	Jul 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			147.722	8.592		8.321		7.727		0.000		7.727			

Remarks

Awarded 85.6% of award fees in past award fee periods.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Test and Evaluation	WR	Various:Various	1.194	0.030	Nov 2011	0.026	Nov 2012	0.023	Nov 2013	-		0.023	Continuing	Continuing	Continuing
Subtotal			1.194	0.030		0.026		0.023		0.000		0.023			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	Various	Various:Various	2.683	0.213	Nov 2011	0.213	Nov 2012	0.187	Nov 2013	-		0.187	Continuing	Continuing	Continuing
Government Engineering Support	WR	Various:Various	8.947	0.255	Nov 2011	0.257	Nov 2012	0.227	Nov 2013	-		0.227	Continuing	Continuing	Continuing
Program Management Support	Various	Various:Various	3.806	0.218	Nov 2011	0.218	Nov 2012	0.194	Nov 2013	-		0.194	Continuing	Continuing	Continuing
Travel	WR	NAVAIR:PAXRV, MD	0.224	0.045	Oct 2011	0.031	Nov 2012	0.023	Nov 2013	-		0.023	Continuing	Continuing	Continuing
Subtotal			15.660	0.731		0.719		0.631		0.000		0.631			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
 Travel Contract Type is TO.

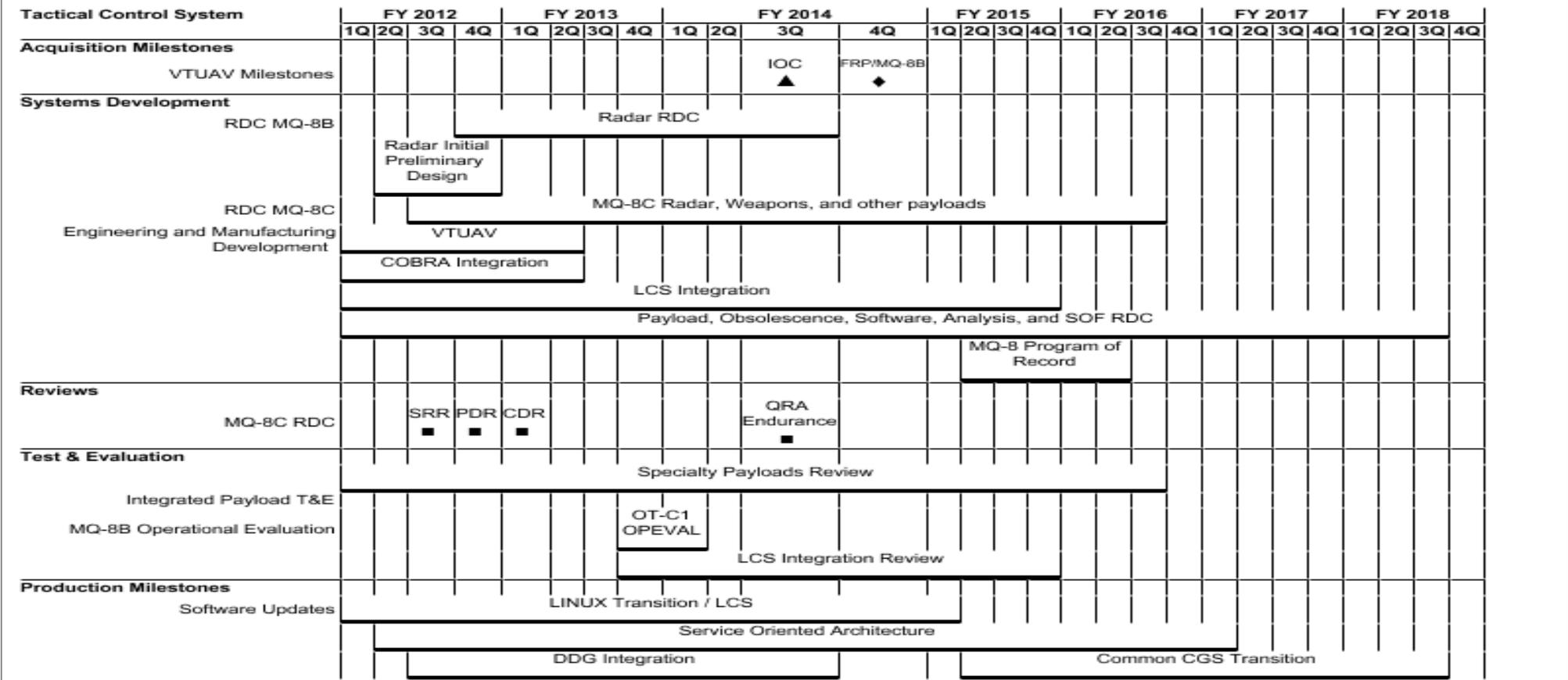
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	164.576	9.353	9.066	8.381	0.000	8.381			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Tactical Control System</i>				
Acquisition Milestones: VTUAV Milestones: Initial Operational Capability (IOC)	3	2014	3	2014
Acquisition Milestones: VTUAV Milestones: Full Rate Production	4	2014	4	2014
Systems Development: RDC MQ-8B: Radar RDC	4	2012	3	2014
Systems Development: RDC MQ-8B: Radar Initial Preliminary Design	2	2012	4	2012
Systems Development: RDC MQ-8C: MQ-8C Radar, Weapons, and other payloads	3	2012	3	2016
Systems Development: Engineering and Manufacturing Development: VTUAV	1	2012	2	2013
Systems Development: Engineering and Manufacturing Development: Coastal Battlefield Reconnaissance and Analysis Integration	1	2012	2	2013
Systems Development: Engineering and Manufacturing Development: Littoral Combat Ship Integration	1	2012	4	2015
Systems Development: Engineering and Manufacturing Development: Payload, Obsolescence, Software, Analysis, and SOF RDC	1	2012	3	2018
Systems Development: Engineering and Manufacturing Development: MQ-8 Program of Record	2	2015	2	2016
Reviews: MQ-8C RDC: System Readiness Review	3	2012	3	2012
Reviews: MQ-8C RDC: Preliminary Design Review	4	2012	4	2012
Reviews: MQ-8C RDC: Critical Design Review	1	2013	1	2013
Reviews: MQ-8C RDC: Quick Reaction Assessment Endurance MQ-8C	3	2014	3	2014
Test & Evaluation: Specialty Payloads Review	1	2012	3	2016
Test & Evaluation: MQ-8B Operational Evaluation: MQ-8B OT-C1	4	2013	1	2014
Test & Evaluation: MQ-8B Operational Evaluation: Littoral Combat Ship Integration Review	4	2013	4	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: Software Updates: TCS 3.0	1	2012	1	2015
Production Milestones: Software Updates: TCS 4.0	2	2012	1	2017
Production Milestones: Software Updates: TCS 5.0	2	2015	3	2018
Production Milestones: Software Updates: DDG Integration	3	2012	3	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206N: <i>Airborne Reconnaissance Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	20.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	20.000
9999: <i>Congressional Adds</i>	0.000	20.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	20.000

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities. These developments are driven by evolving collection requirements and technology advances. The developments allow for the necessary changes required to meet an integrated, objective airborne reconnaissance architecture as defined in the Integrated Airborne Reconnaissance Strategy (IARS) and amplified in the Airborne Reconnaissance Information Technical Architecture. The Advanced Sensors Development Program implements successful proof-of-concept efforts accomplished in the Advanced Technology Program, other Service/ Agency developments, and Congressionally-funded initiatives leading to producible sensor systems for airborne platforms. Upon successful sensor prototype demonstration, technology sensor developments are turned over to the Services for procurement and platform integration. This effort focuses on developments, which support sensor system interoperability and standardization of multi-Service and multi-platform applications. In addition, funds provide for the development/integration and operational assessment of components for the EP-3E and P-3 Special Projects Aircraft and follow-on candidate aircraft.

There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations, by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the IARS. These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan, published in November 1994.

Exhibits reflect Congressional Adds currently being executed as follows:

FY12 Congressional Add of \$20.000M is for a Central Command and Navy resourced Limited Objective Experiment for a Joint Combat Validation to investigate the potential usefulness/requirement and demonstrate the mission utility (Multi-Intelligence, Intelligence, Surveillance and Reconnaissance, Light Weaponization) and cost effectiveness of a Turbo Prop aircraft to support both General Purpose Forces and Special Operations in ongoing Operation Enduring Freedom combat operations and other Expeditionary roles and missions far from conventional support infrastructure such as large concrete runways and fuel supplies.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206N: <i>Airborne Reconnaissance Sys</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	20.000	0.000	0.000	-	0.000
Current President's Budget	20.000	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

 Congressional Add: *Combat Dragon II Demonstration (Cong)*

	FY 2012	FY 2013
	20.000	-
Congressional Add Subtotals for Project: 9999	20.000	0.000
Congressional Add Totals for all Projects	20.000	0.000

Change Summary Explanation

Technical: Not applicable.

Schedule: Not Applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206N: <i>Airborne Reconnaissance Sys</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	20.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	20.000
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Congressional Add

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2012	FY 2013
Congressional Add: Combat Dragon II Demonstration (Cong)	20.000	-
FY 2012 Accomplishments: N/A		
Congressional Adds Subtotals		0.000

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APN/0537: <i>EP-3E Series</i>	94.481	79.404	55.903		55.903	29.930	9.305	9.556	9.680	14.349	1,277.026
• APN/0567: <i>Special Projects Aircraft</i>	22.232	15.135	3.684		3.684	16.895	31.089	25.305	12.596	5.436	532.314

Remarks

D. Acquisition Strategy

Not Required for Congressional Adds

E. Performance Metrics

Not required for Congressional Adds.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206N: <i>Airborne Reconnaissance Sys</i>	PROJECT 9999: <i>Congressional Adds</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prototype Development	C/CPFF	Research Eng Dev LLC:Lexington Park, MD	0.000	5.760	Aug 2012	0.000		0.000		-		0.000	0.000	5.760	
Development	C/CPFF	JF Taylor:Lexington Park, MD	0.000	4.668	Sep 2012	0.000		0.000		-		0.000	0.000	4.668	
Development	C/CPFF	BAE:Nashua, NH	0.000	1.500	Sep 2012	0.000		0.000		-		0.000	0.000	1.500	
Development	C/CPFF	Precise Systems:Lexington Park, MD	0.000	1.001	Aug 2012	0.000		0.000		-		0.000	0.000	1.001	
Subtotal			0.000	12.929		0.000		0.000		0.000		0.000	0.000	12.929	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
COMBAT DRAGON SUPPORT	Various	FRC East:Cherry Point, NC	0.000	0.483	Oct 2012	0.000		0.000		-		0.000	0.000	0.483	
COMBAT DRAGON SUPT	Various	FRC SE:Jacksonville, FL	0.000	0.188	Nov 2012	0.000		0.000		-		0.000	0.000	0.188	
Subtotal			0.000	0.671		0.000		0.000		0.000		0.000	0.000	0.671	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Support	WR	NAWCAD:Patuxent River, MD	0.000	6.400	Aug 2012	0.000		0.000		-		0.000	0.000	6.400	
Subtotal			0.000	6.400		0.000		0.000		0.000		0.000	0.000	6.400	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206N: <i>Airborne Reconnaissance Sys</i>	PROJECT 9999: <i>Congressional Adds</i>
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	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	20.000	0.000	0.000	0.000	0.000	0.000	20.000	

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305207N: <i>Manned Reconnaissance Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	30.654	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	30.654
0117: <i>Reef Point</i>	0.000	0.000	12.462	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.462
3329: <i>Multi Intelligence Sensor Development</i>	0.000	0.000	18.192	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	18.192

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	0.000	30.654	35.402	-	35.402
Current President's Budget	0.000	30.654	0.000	-	0.000
Total Adjustments	0.000	0.000	-35.402	-	-35.402
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-6.510	-	-6.510
• Rate/Misc Adjustments	0.000	0.000	-28.892	-	-28.892

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305207N: <i>Manned Reconnaissance Sys</i>	PROJECT 0117: <i>Reef Point</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0117: <i>Reef Point</i>	0.000	0.000	12.462	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.462
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305207N: <i>Manned Reconnaissance Sys</i>	PROJECT 3329: <i>Multi Intelligence Sensor Development</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3329: <i>Multi Intelligence Sensor Development</i>	0.000	0.000	18.192	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	18.192
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	8.334	22.309	25.917	5.535	-	5.535	11.850	1.221	0.238	0.313	Continuing	Continuing
2268: <i>Distributed Common Ground System (DCGS-MC)</i>	8.334	22.309	25.917	5.535	-	5.535	11.850	1.221	0.238	0.313	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	23.785	25.917	15.559	-	15.559
Current President's Budget	22.309	25.917	5.535	-	5.535
Total Adjustments	-1.476	0.000	-10.024	-	-10.024
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.476	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-8.018	-	-8.018
• Rate/Misc Adjustments	0.000	0.000	-2.006	-	-2.006

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0305208M: *(U)Distributed Common Ground/Surface Systems*

Change Summary Explanation

FY14 decreased \$10.024M as a result of transitioning DCGS-MC Increment II Advanced Analytics/All Source development to the Intelligence Analysis System (PE 0206625M) and a decrease to integration efforts for DCGS-MC Increment I Geospatial Intelligence (GEOINT) optimization.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>	PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2268: <i>Distributed Common Ground System (DCGS-MC)</i>	8.334	22.309	25.917	5.535	-	5.535	11.850	1.221	0.238	0.313	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Effective FY14 the Increment II Advanced Analytics/All Source capability was realigned to Intelligence Analysis System (PE 0206625M).

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.

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

	FY 2012	FY 2013	FY 2014
Title: Testing and Evaluation Support	0.611	2.416	0.450
Articles:	0	0	0
FY 2012 Accomplishments:			
Conducted Developmental 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 (C4ISR related events) and Rapid Technology Insertion opportunities in support of the Increment II DCGS-MC functionality.			
FY 2013 Plans:			
Conduct Developmental and Operational Testing and a Technology Readiness Review in support of the Increment I DCGS-MC functionality. Conduct 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:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>		PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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.				
Title: Research and Development Efforts for Integration Efforts				
		Articles:	5.283 0	8.323 0
				2.965 0
FY 2012 Accomplishments: Conducted research and development efforts for DCGS-MC Increment I Ozone Widget framework, mature full motion video, multi-level security cross domain solutions and Ground Moving Target Indicator (GMTI) concepts. Began research and development activities associated with the replacement of Common Data Link (CDL) rapid technology insertion for Increment I. Continued the research and development activities surrounding requirements definition associated with DCGS-MC all source fusion, the Intelligence Analyst System, rapid technology insertion activities associated with advanced analytics, structured and non-structured data mining, analytical WIKI enhancements, multilevel security cross domain solutions, GMTI, and integration opportunities associated with follow-on versions of the DCGS Integration Backbone (DIB).				
FY 2013 Plans: Continue research and development efforts for advanced analytics, structured and un-structured data mining, expand services and development associated with the Ozone Widget framework, cloud computing, and DI2E services implementation. Evolve CDL Interface Box (CIB) investments, CDL enhancements, WIKI enhancements, full motion video, multi-level security cross domain solutions and GMTI implementation. Continue the research and development activities surrounding requirements definition associated with DCGS-MC all source fusion, the Intelligence Analyst System, rapid technology insertion activities associated with cloud computing, enhancement surrounding 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).				
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).				
Title: Engineering and Technical Services				
		Articles:	0.322 0	1.611 0
				1.420 0
FY 2012 Accomplishments: Conducted DCGS-MC Increment I agile aligned systems engineering reviews associated with System Requirements Review 2 (SRR2), System Functional Review (SFR), Preliminary Design Review (PDR), and Critical Design Review (CDR). Conducted				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>		PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>requirements analysis and review for the Increment II capability, integrating All Source capabilities into the DCGS-MC baseline. Identified and processed required engineering changes, due to emergent requirements and continuous security vulnerabilities to the DCGS-MC Increment I baseline.</p> <p>FY 2013 Plans: Conduct 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.</p> <p>FY 2014 Plans: Conduct system requirements analysis and review associated with DCGS-MC Increment I Optimization Engineering Change Proposals (ECPs), Configuration Control Boards, and agile aligned Preliminary Design Review (PDR).</p>				
<p>Title: Design and Development of Hardware and Enterprise Services</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Implemented initial design and development concepts for DCGS-MC Increment I and began initial design planning for Increment II All-Source capabilities into the DCGS-MC program baseline. Prepared for Increment I, agile aligned System Requirements Review 2 (SRR 2), System Functional Review (SFR), Preliminary Design Review (PDR) and Critical Design Review (CDR). Prepared for DCGS-MC Increment II Material Development Decision Review (MDDR). Continued to develop and evaluate Rapid Technology Insertion (RTI) prototype opportunities for migration into the DCGS-MC baseline using the DCGS Integration Backbone (DIB). Funded DCGS Management Office for continued DIB upgrades and Enterprise technology migration analysis.</p> <p>FY 2013 Plans: Conduct DCGS-MC Increment I system design and optimization efforts to support the migration of legacy GEOINT systems to a common hardware and software baseline. Implement initial design and planning activities for migrating the Intelligence Analysis System (IAS), All-Source capabilities for Increment II into the DCGS-MC program baseline. Prepare for DCGS-MC Increment II Preliminary Design Review (PDR) and Critical Design Review (CDR). Continue to develop and evaluate RTI prototype opportunities for migration into the DCGS baseline using the DIB. Fund DCGS Management Office for continued DIB upgrades and Enterprise technology migration analysis.</p> <p>FY 2014 Plans:</p>		16.093 0	13.567 0	0.700 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>	PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Effective FY14 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.			
Accomplishments/Planned Programs Subtotals	22.309	25.917	5.535

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/4767: <i>Distributed Common Ground Surface System</i>	10.789	18.291	9.494		9.494	21.434	1.968	2.183	1.500	Continuing	Continuing

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 B 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 in order to maintain maximum programmatic agility while reducing cost. Capabilities will be delivered via clearly defined and militarily useful increments.

E. Performance Metrics

Milestone reviews.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>	PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DCGS	WR	Naval Research Lab:Washington, DC	1.114	0.681	Mar 2012	3.000	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
DCGS	WR	SPAWAR:Charleston, SC	0.000	12.578	Dec 2011	10.567	Mar 2013	2.765	Dec 2013	-		2.765	0.000	25.910	
DCGS	C/FFP	DMO:Hanscom AFB, MA	0.000	0.300	Apr 2012	0.000		0.200	Dec 2013	-		0.200	0.000	0.500	
DCGS	WR	ASPO:Alexandria, VA	0.000	2.600	Jul 2012	0.000		0.000		-		0.000	0.000	2.600	
Subtotal			1.114	16.159		13.567		2.965		0.000		2.965			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DCGS	C/CPFF	NSMA:Stafford, Virginia	5.363	3.466	Nov 2011	3.323	Nov 2012	0.000		-		0.000	0.000	12.152	
DCGS	C/FFP	CEOSS:Stafford, Virginia	0.000	1.451	Jan 2012	5.000	Feb 2013	0.000		-		0.000	0.000	6.451	
DCGS	WR	NSWC:Dahlgren, VA	0.150	0.300	Aug 2012	0.700	Oct 2012	0.300	Nov 2013	-		0.300	0.000	1.450	
DCGS	WR	NRL:Washington, DC	0.625	0.000		0.911	Dec 2012	0.400	Dec 2013	-		0.400	0.000	1.936	
Subtotal			6.138	5.217		9.934		0.700		0.000		0.700	0.000	21.989	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DCGS	C/FFP	MCOTEA:QUANTICO, VA	1.082	0.431	Aug 2012	2.174	Apr 2013	0.300	Mar 2014	-		0.300	0.000	3.987	

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

DATE: April 2013

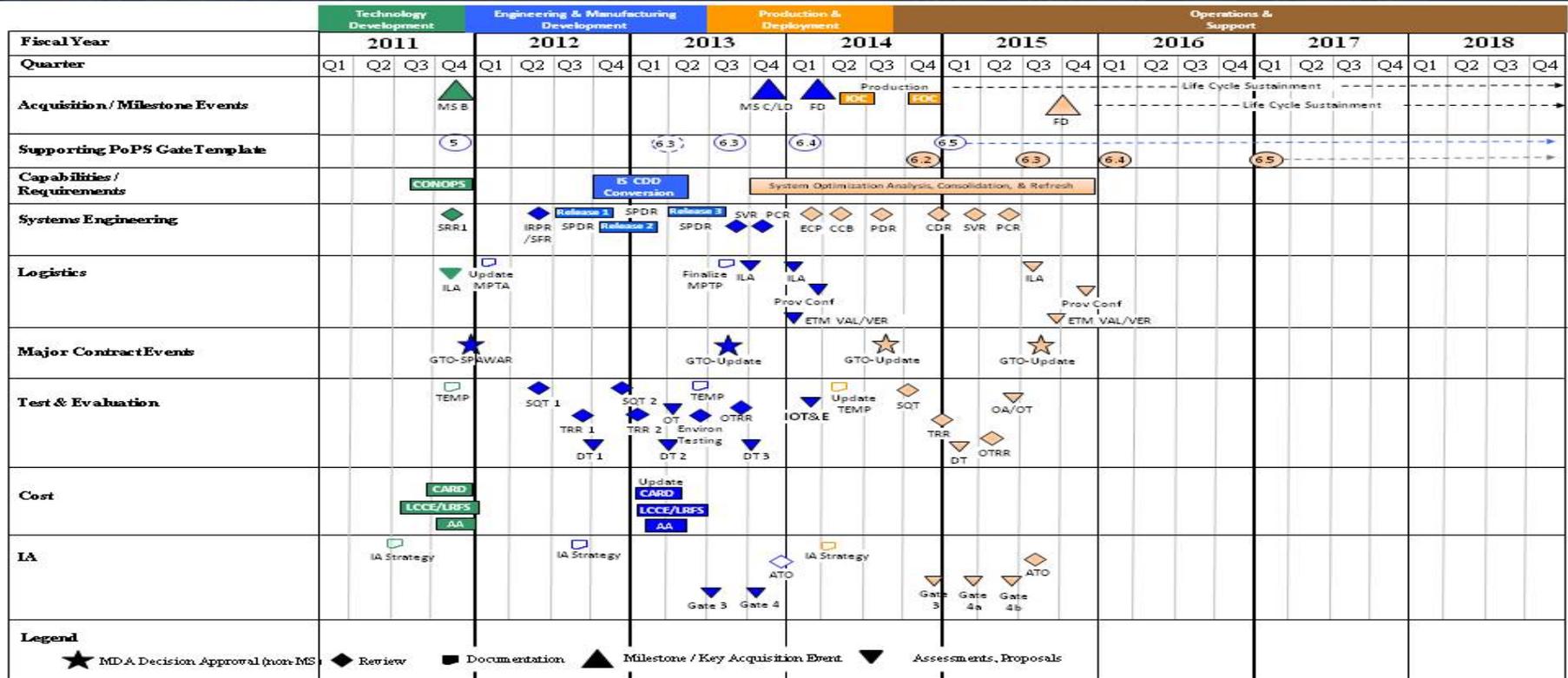
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0305208M: (U)Distributed Common
 Ground/Surface Systems

PROJECT
 2268: Distributed Common Ground System
 (DCGS-MC)

MARINE CORPS SYSTEMS COMMAND
 EQUIPPING THE WARFIGHTER TO WIN

DCGS-MC
 Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>	PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2268				
DCGS INCR 1 SRR 2 (IRPR)	2	2012	2	2012
DCGS INCR 1 SFR (IRPR)	2	2012	2	2012
DCGS INCR 1 PDR (SPDR)	3	2012	3	2012
DCGS INCR 1 CDR	4	2013	3	2014
DCGS INCR 1 IOT&E	1	2014	1	2014
DCGS INCR 1 MS C	4	2013	4	2013
DCGS INCR 1 IOC	2	2014	2	2014
DCGS INCR 1 FOC	4	2014	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	127.403	27.495	14.676	19.718	-	19.718	19.421	22.483	22.099	22.690	Continuing	Continuing
2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>	127.403	27.495	14.676	19.718	-	19.718	19.421	22.483	22.099	22.690	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 verifiably 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 Joint Intelligence Enterprise (JIE) 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, JIE, 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 DIB and JIE standards, facilitates interoperability and data sharing among the DCGS FoS. DCGS-N will stay abreast of evolving requirements and ensure 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 with a focus on providing intelligence products to support deployed ship and shore operations. The Navy will also initiate migration 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 the Consolidated

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0305208N: *Distributed Common Ground Sys*

Afloat Network and Enterprise Services (CANES) strategy for 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; integrate Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) capabilities to improve the use and analysis of sensor and platform data; 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 at least two releases. The first release provides an enhanced Navy ISR enterprise that converges and builds on the DCGS-N Increment 1 and Maritime Domain Awareness Enterprise Nodes; leverages the Joint Intelligence Enterprise (JIE) framework; federates ISR and TCPED workflow and production improving throughput through automation; exploits new and evolving sensors; provides Multi-Intelligence (Multi-INT) cross-queuing and provides modular tools accessible via a web browser. The second release enhances afloat ISR capabilities by providing a set of software centric tools hosted on the Consolidated Afloat Network and Enterprise Services (CANES) providing Multi-INT fusion and analysis, behavior prediction and intelligent knowledge management designed to operate in disconnected or denied comms environment.

Unit Level Rapid Technology Transition (RTT) Prototype is the initial implementation of the Intelligence Carry-On Program (ICOP), which is planned for program initiation in Fiscal Year 2014 (FY14). The RTT Prototype responds to multiple fleet and expeditionary requirements for a subset of DCGS-N intelligence capabilities to meet Navy Cruiser-Destroyer ships, river/coastal patrol, expeditionary, and similar platforms and addresses current Commander, Third Fleet (C3F) and Commander, Fifth Fleet (C5F) Urgent Operational Needs (UON). The RTT Prototype provides a solution based on mature Commercial Off-the-Shelf (COTS) and Government Off-the-Shelf (GOTS) products served in scalable, modular hardware framework that ranges from a small footprint server with workstations to a stand-alone portable workstation. The RTT Prototype extends the ISR enterprise and DCGS Family of Systems (FoS) to disadvantaged users, and it makes Navy organic sensor information available to the Joint Intelligence Community.

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 a menu of 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 (MOCS) and national ISR systems, making tactical users a part of the larger ISR enterprise.

In FY14, DCGS-N Increment 1 will develop a final patch to the Block 2 baseline based on discrepancy reports noted during FY13 integration efforts and FY14 test events. Additionally, Increment 1 will complete development of appropriate schoolhouse curricula in support of DCGS-N training plans.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>
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In FY14, DCGS-N Increment 2 will complete a build decision, Milestone B. The results of that decision will result in the award of a development and integration contract. FY 2014 activities will focus on design, development and initial testing for DCGS-N Increment 2 Release 1 capabilities. Following contract award there will be a Critical Design Review (CDR) for Release 1. DCGS-N Increment 2 will employ an agile development methodology including frequent interactions between the developer and the user community to ensure that delivered capabilities meet evolving user needs. Concurrent with development of Release 1 the Program Office will be defining the requirements for Release 2.

The FY14, Intelligence Carry-On Program (ICOP) will build on the Unit Level Rapid Technology Transition (RTT) Prototype and manage capabilities gathered from DCGS-N Increment 1 Unit Level requirements, Commander, Third Fleet (C3F) and Commander, Fifth Fleet (C5F) Urgent Operational Needs (UON), 2010 Combatant and Command (COCOM) Integrated Priorities Lists (IPL) and from the ICOP Requirements Working Group (IRWG). ICOP will also build on lessons learned from the RTT prototype capability currently deployed on USS VICKSBURG (CG 69) with initial operational capability (IOC) anticipated in FY15. ICOP will develop the associated training documents and the recommended acquisition documents including the Acquisition Strategy, Cost Analysis Requirements Description (CARD), and Acquisition Program Baseline (APB).

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	25.453	14.676	20.020	-	20.020
Current President's Budget	27.495	14.676	19.718	-	19.718
Total Adjustments	2.042	0.000	-0.302	-	-0.302
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.042	0.000			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.302	-	-0.302

Change Summary Explanation

Technical: Not applicable.

Schedule: 1) DCGS-N Increment 1 Blk 2 Engineering Development Models (EDMs), being developed in FY12, encountered a change in test afloat platform which resulted in Blk 2 Development Test /Operational Assessment (DT/OA) to shift to 1QFY14, which will now be a landbased Consolidated Afloat Network and Enterprise Services (CANES) test. Operational Test (OT) rescheduled to 3QFY14. Subsequently, Blk 2 Full Deployment Decision (FDD) shifted from 1QFY14 to 2QFY15.

2) The DCGS-N Increment 2 Analysis of Alternatives (AoA) Senior Advisory Group (SAG) provided additional guidance at their March 2012 meeting. This guidance revision ensures that the AoA consider all potential alternatives. The result of this guidance was the addition of a fourth alternative and an extension

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0305208N: *Distributed Common Ground Sys*

of the AoA study period. Subsequent acquisition activities including Capability Development Document (CDD), Test and Evaluation Master Plan (TEMP) are delayed 1 QTR pending approval of the AoA results.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>	127.403	27.495	14.676	19.718	-	19.718	19.421	22.483	22.099	22.690	Continuing	Continuing
Quantity of RDT&E Articles	0	6	0	0		0	3	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 FY14. 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 FY13.

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 verifiably 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 Joint Intelligence Enterprise (JIE) 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, JIE, 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 DIB and JIE standards, facilitates interoperability and data sharing among the DCGS FoS. DCGS-N will stay abreast of evolving requirements and ensure compliance with the DoD DCGS network architecture.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0305208N: <i>Distributed Common Ground Sys</i>	2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>

The Navy is focusing on establishing an ISR Enterprise way ahead that will emphasize a reach back strategy with a focus on providing intelligence products to support deployed ship and shore operations. The Navy will also initiate migration 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 the Consolidated Afloat Network and Enterprise Services (CANES) strategy for 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 the out-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; integrate Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) capabilities to improve the use and analysis of sensor and platform data; 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 at least two releases. The first release provides an enhanced Navy ISR enterprise that converges and builds on the DCGS-N Increment 1 and Maritime Domain Awareness Enterprise Nodes; leverages the Joint Intelligence Enterprise (JIE) framework; federates ISR and TCPED workflow and production improving throughput through automation; exploits new and evolving sensors; provides Multi-Intelligence (Multi-INT) cross-queuing and provides modular tools accessible via a web browser. The second release enhances afloat ISR capabilities by providing a set of software centric tools hosted on the Consolidated Afloat Network and Enterprise Services (CANES) providing Multi-INT fusion and analysis, behavior prediction and intelligent knowledge management designed to operate in disconnected or denied comms environment.

Unit Level Rapid Technology Transition (RTT) Prototype is the initial implementation of the Intelligence Carry-On Program (ICOP), which is planned for program initiation in Fiscal Year 2014 (FY14). The RTT Prototype responds to multiple fleet and expeditionary requirements for a subset of DCGS-N intelligence capabilities to meet Navy Cruiser-Destroyer ships, river/coastal patrol, expeditionary, and similar platforms and addresses current Commander, Third Fleet (C3F) and Commander, Fifth Fleet (C5F) Urgent Operational Needs (UON). The RTT Prototype provides a solution based on mature Commercial Off-the-Shelf (COTS) and Government Off-the-Shelf (GOTS) products served in scalable, modular hardware framework that ranges from a small footprint server with workstations to a stand-alone portable workstation. The RTT Prototype extends the ISR enterprise and DCGS Family of Systems (FoS) to disadvantaged users, and it makes Navy organic sensor information available to the Joint Intelligence Community.

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 a menu of 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 (MOCS) and national ISR systems, making tactical users a part of the larger ISR enterprise.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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In FY14, DCGS-N Increment 1 will develop a final patch to the Block 2 baseline based on discrepancy reports noted during FY13 integration efforts and FY14 test events. Additionally, Increment 1 will complete development of appropriate schoolhouse curricula in support of DCGS-N training plans.

In FY14, DCGS-N Increment 2 will complete a build decision, Milestone B. The results of that decision will result in the award of a development and integration contract. FY 2014 activities will focus on design, development and initial testing for DCGS-N Increment 2 Release 1 capabilities. Following contract award there will be a Critical Design Review (CDR) for Release 1. DCGS-N Increment 2 will employ an agile development methodology including frequent interactions between the developer and the user community to ensure that delivered capabilities meet evolving user needs. Concurrent with development of Release 1 the Program Office will be defining the requirements for Release 2.

The FY14, Intelligence Carry-On Program (ICOP) will build on the Unit Level Rapid Technology Transition (RTT) Prototype and manage capabilities gathered from DCGS-N Increment 1 Unit Level requirements, Commander, Third Fleet (C3F) and Commander, Fifth Fleet (C5F) Urgent Operational Needs (UON), 2010 Combatant and Command (COCOM) Integrated Priorities Lists (IPL) and from the ICOP Requirements Working Group (IRWG). ICOP will also build on lessons learned from the RTT prototype capability currently deployed on USS VICKSBURG (CG 69) with initial operational capability (IOC) anticipated in FY15. ICOP will develop the associated training documents and the recommended acquisition documents including the Acquisition Strategy, Cost Analysis Requirements Description (CARD), and Acquisition Program Baseline (APB).

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

	FY 2012	FY 2013	FY 2014
<p>Title: DCGS-N Increment 1</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Conducted Follow-On Test and Evaluation (FOT&E) on Increment 1 Block 1 Early Adopter Engineering Change Proposal (EA ECP) and developed associated software patch as required. Completed design, development, and began developmental testing of Increment 1 Block 2. New capabilities included collection management capabilities, continued integration of enhanced Signals Intelligence (SIGINT), software upgrades for new Navy sensors, and Moving Target Indicator (MTI) processor integration. Developing two Engineering Development Models (EDMs) for DCGS-N Increment 1 Block 2. DCGS-N's RDTE focus for Integrated Imagery and Intelligence (I3) was on specific components migration to Consolidated Afloat Networks and Enterprise Services (CANES) updated Common Computing Environment (CCE), Service Oriented Architecture (SOA), widget related efforts, DCGS-N Enterprise Services, and environment, including transition to COMPOSE 4.X.</p> <p>FY 2013 Plans: Complete development and delivery of EDMs and Development Testing and afloat Follow-On Test and Evaluation efforts. Specific events include a combined Development Test /Operational Assessment ashore in the DCGS-N lab environment, followed by an afloat Operational Test and Evaluation. Update the Cost Analysis Requirements Description (CARD) and Program Life-Cycle Cost Estimate (PLCCE) in preparation for an updated Service Cost Position and Increment 1 Block 2 Limited Deployment Decision (LDD). Complete design and integration of the Block 2 Engineering Change Proposal (ECP) required for Increment 1 Block 2 to</p>	<p>15.022</p> <p>2</p>	<p>7.200</p> <p>0</p>	<p>1.700</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>		PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
leverage the CANES infrastructure. In preparation for synchronized installations aboard Force-level afloat platforms, DCGS-N will conduct coordinated integration testing with CANES within the Space and Naval Warfare Command lab environment. FY 2014 Plans: Develop a final patch to the Block 2 baseline based on discrepancy reports noted during FY13 integration efforts and test events. Complete development of appropriate schoolhouse curricula in support of DCGS-N training plans.				
Title: DCGS-N Increment 2		10.431	7.476	13.672
		Articles: 0	0	0
FY 2012 Accomplishments: Completed an Analysis of Alternatives (AoA). Continued development of Capability Development Document (CDD), and conducted cost analysis based on AoA findings. Prepared for a program Build Decision (BD) for DCGS-N Increment 2. Began Increment 2 Test and Evaluation Master Plan (TEMP), Cost Analysis Requirements Description (CARD), Information Support Plan (ISP), and Life Cycle Cost Estimate (LCCE) leading to a Service Cost Position (SCP). Conducted exploratory studies, system requirements analysis, design, technical studies and experiments designed to reduce identified risks associated with the recommended AoA solution and provide a seamless integration with the Joint Intelligence Enterprise (JIE) framework. FY 2013 Plans: Complete statutory, regulatory, and acquisition requirements with final preparation for a build decision at Milestone B (MS B). Finalize Increment 2 CDD, TEMP, CARD, ISP, and LCCE leading to a SCP. Prepare for the release of the Increment 2 Request for Proposal (RFP) following the Pre-Engineering Manufacturing Development Review. Continue to conduct exploratory studies, system requirements analysis, design, technical studies and experiments designed to reduce identified risks associated with the recommended AoA solution and provide a seamless integration with the JIE framework. FY 2014 Plans: DCGS-N Increment 2 will complete a Milestone B review. The results of that decision will result in the award of a development and integration contract. FY14 activities will focus on design, development and initial testing for DCGS-N Increment 2 Release 1 capabilities. Following contract award there will be a Critical Design Review (CDR) for Release 1. DCGS-N Increment 2 will 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. Concurrent with development of Release 1 the Program Office will be defining the requirements for Release 2.				
Title: Unit Level Rapid Technology Transition (RTT) Prototype		2.042	0.000	0.000
		Articles: 4		
FY 2012 Accomplishments:				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Developed and fielded four prototypes to Commander, Fifth Fleet (C5F) Area of Responsibility (AoR) in response to Urgent Operational Need Statement (7 Jan 2010). Gathered operational feedback to incorporate into FY14 Intelligence Carry-On Program (ICOP) Program of Record (PoR) start.			
Title: Intelligence Carry-On Program (ICOP)	0.000	0.000	4.346
Articles:			0
FY 2014 Plans: ICOP will build on the Unit Level Rapid Technology Transition (RTT) prototypes and begin statutory and regulatory documentation in anticipation of program initiation. ICOP will develop the associated training documents and the recommended acquisition documents including the Acquisition Strategy, Cost Analysis Requirements Description (CARD), and Acquisition Program Baseline (APB).			
Accomplishments/Planned Programs Subtotals	27.495	14.676	19.718

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN 2914: <i>Distributed Common Ground System-Navy (DCGS-N)</i>	12.499	11.887	17.350		17.350	24.463	33.560	34.626	21.738	75.200	498.983

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. Integration of DCGS-N Increment 1 components has transitioned from Government-led to Industry-led based on 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 Department of Defense Instruction (DoDI 5000.02). DCGS-N Increment 2 acquisition strategy calls for an accelerated approval for the Capability Development Document (CDD) to meet a program Build Decision (BD) for DCGS-N Increment 2 Release 1. 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 unit-level Intelligence, Surveillance and Reconnaissance (ISR) processing, exploitation and dissemination for Surface, Submarine and Expeditionary [Navy Expeditionary Combatant Command (NECC)] 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.

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0305208N: <i>Distributed Common Ground Sys</i>	2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>

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: Develop a final patch to the Block 2 baseline and complete development of appropriate schoolhouse curricula in support of DCGS-N training plans.

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 Build Decision and release of a DCGS-N Increment 2 Request For Proposal (RFP).

ICOP Goal: Coordinate with all stakeholders and identify the best acquisition approach to support unit-level ISR processing, exploitation and dissemination for Surface, Submarine and Expeditionary operations.

ICOP Metric: Begin statutory and regulatory documentation in anticipation of program initiation and build on the Unit Level Rapid Technology Transition (RTT) Prototype.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development (prior)	WR	SSC LANT:Charleston, SC	5.276	0.000		0.000		0.000		-		0.000	0.000	5.276	
Primary Hardware Development	C/CPFF	BAE:Rancho Bernardo, CA	2.331	2.194	Nov 2011	0.271	Nov 2012	0.000		-		0.000	0.000	4.796	
Systems Engineering (prior)	C/CPAF	Various:Various	8.753	0.000		0.000		0.000		-		0.000	0.000	8.753	
Systems Engineering (prior)	C/CPAF	JFCOMM:Norfolk, VA	5.634	0.000		0.000		0.000		-		0.000	0.000	5.634	
Systems Engineering	C/CPFF	BAE:Rancho Bernardo, CA	26.247	7.500	Nov 2011	3.316	Nov 2012	0.000		-		0.000	0.000	37.063	
Systems Engineering (prior)	C/CPAF	LMSI:Valley Forge, PA	4.432	0.000		0.000		0.000		-		0.000	0.000	4.432	
Systems Engineering	WR	SSC Lant:Charleston, SC	8.772	2.370	Oct 2011	1.108	Oct 2012	0.500	Oct 2013	-		0.500	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	SETA SAIC:Columbia, MD	3.160	1.900	Nov 2011	1.428	Nov 2012	2.664	Nov 2013	-		2.664	Continuing	Continuing	Continuing
Systems Engineering (prior)	Various	SAIC:Columbia, MD	4.804	0.000		0.000		0.000		-		0.000	0.000	4.804	
Systems Engineering	C/CPFF	L3:Chantilly, VA	4.170	0.566	Dec 2011	0.330	Dec 2012	0.000		-		0.000	0.000	5.066	
Licenses (prior)	C/CPAF	BAE, SSC Lant:Various	0.660	0.000		0.000		0.000		-		0.000	0.000	0.660	
Systems Engineering	WR	SSC PAC:San Diego, CA	0.840	1.548	Oct 2011	1.200	Oct 2012	1.420	Oct 2013	-		1.420	Continuing	Continuing	Continuing
Licenses	WR	SSC LANT:Charleston, SC	0.075	0.080	Dec 2011	0.055	Dec 2012	0.000		-		0.000	0.000	0.210	
Systems Engineering	C/CPIF	Inc 2 (PMP):Unknown	0.000	0.000		0.000		1.505	Feb 2014	-		1.505	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	ICOP (PMP):Unknown	0.000	0.000		0.000		1.423	Apr 2014	-		1.423	Continuing	Continuing	Continuing
Subtotal			75.154	16.158		7.708		7.512		0.000		7.512			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

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)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support (prior)	Various	Various:Various	4.136	0.000		0.000		0.000		-		0.000	0.000	4.136	
Software Development (prior)	C/CPAF	BAE, NG:Various	16.733	0.000		0.000		0.000		-		0.000	0.000	16.733	
Integrated Logistics Support (prior)	Various	L3, SAIC:Various	4.380	0.000		0.000		0.000		-		0.000	0.000	4.380	
Configuration Management (prior)	C/CPAF	L3:Chantilly, VA	2.353	0.000		0.000		0.000		-		0.000	0.000	2.353	
Technical Data (prior)	Various	L3, SSC CHAS:Various	0.577	0.000		0.000		0.000		-		0.000	0.000	0.577	
Development Support	C/CPFF	SETA SAIC:Columbia, MD	0.331	3.200	Nov 2011	0.695	Nov 2012	0.000		-		0.000	0.000	4.226	
Development Support	WR	SSC Lant:Charleston, SC	0.280	0.200	Oct 2011	0.136	Oct 2012	0.136	Oct 2013	-		0.136	Continuing	Continuing	Continuing
Software Development	C/CPFF	Northrop Grumman:Los Angeles, CA	0.949	0.950	Dec 2011	0.644	Dec 2012	0.000		-		0.000	0.000	2.543	
Software Development	C/CPFF	BAE:Rancho Bernardo, CA	0.334	0.400	Nov 2011	0.272	Nov 2012	1.000	Nov 2013	-		1.000	0.000	2.006	
Integrated Logistics Support	WR	SSC Lant:Charleston, SC	0.737	0.950	Oct 2011	0.644	Oct 2012	0.000		-		0.000	0.000	2.331	
Configuration Management	WR	SSC Lant:Charleston, SC	0.658	1.450	Oct 2011	0.712	Oct 2012	0.574	Oct 2013	-		0.574	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	C/CPIF	Inc 2 (PMP):Unknown	0.000	0.000		0.000		5.768	Feb 2014	-		5.768	Continuing	Continuing	Continuing
Subtotal			31.468	7.150		3.103		7.478		0.000		7.478			

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)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (prior)	Various	SAIC, L3, SSC LANT:Various	10.443	0.000		0.000		0.000		-		0.000	0.000	10.443	
Operational Test & Evaluation (prior)	Various	SAIC, NAWC, NGES, OPTEVFOR, NSWC Corona:Various	5.056	0.000		0.000		0.000		-		0.000	0.000	5.056	
Developmental Test & Evaluation	C/CPFF	BAE:Rancho Bernardo, CA	0.366	0.120	Nov 2011	0.081	Nov 2012	0.000		-		0.000	0.000	0.567	
Developmental Test & Evaluation (prior)	WR	SSC Lant:Charleston, SC	0.747	0.000		0.000		0.000		-		0.000	0.000	0.747	
Operational Test & Evaluation	WR	SSC Pac:San Diego, CA	0.118	0.120	Oct 2011	0.082	Oct 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Operational Test & Evaluation	C/CPFF	BAE:Rancho Bernardo, CA	0.000	1.360	Nov 2011	1.524	Nov 2012	0.000		-		0.000	0.000	2.884	
Operational Test & Evaluation	WR	SSC Lant:Charleston, CA	0.000	0.120	Oct 2011	0.081	Oct 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Operational Test & Evaluation	C/CPFF	COTF:Norfolk, VA	0.000	0.120	Oct 2011	0.082	Oct 2012	0.210	Oct 2013	-		0.210	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	SSC Pac:San Diego, CA	0.000	0.000		0.000		1.771	Oct 2013	-		1.771	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			16.730	1.840		1.850		1.981		0.000		1.981			

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)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support (prior)	C/CPAF	SAIC:Columbia, MD	1.316	0.000		0.000		0.000		-		0.000	0.000	1.316	
Travel	Allot	SPAWAR:San Diego, CA	0.659	0.060	Oct 2011	0.060	Oct 2012	0.030	Oct 2013	-		0.030	Continuing	Continuing	Continuing
Government Engineering Support	WR	SSC Lant:Charleston, SC	1.284	0.200	Oct 2011	0.136	Oct 2012	0.000		-		0.000	0.000	1.620	
Program Management Support	C/CPFF	PSS BAH:San Diego, CA	0.248	1.023	Nov 2011	1.097	Nov 2012	2.476	Nov 2013	-		2.476	Continuing	Continuing	Continuing
Program Management Support	WR	SSC Lant:Charleston, SC	0.339	0.839	Oct 2011	0.569	Oct 2012	0.241	Oct 2013	-		0.241	Continuing	Continuing	Continuing
Program Management Support	WR	SSC Pac:San Diego, CA	0.205	0.225	Oct 2011	0.153	Oct 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			4.051	2.347		2.015		2.747		0.000		2.747			

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.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	127.403	27.495	14.676	19.718	0.000	19.718			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks	
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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2174				
DCGS-N BLK 2 DT/OA Landbased (Legacy)	1	2013	1	2013
DCGS-N BLK 2 FOTE Shipboard	4	2014	4	2014
DCGS-N Inc 2 Release 1 DT/OT Landbased	4	2015	1	2016
Trident Warrior / DCGS Family of Systems RTT 2012	2	2012	3	2012
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
DCGS-N BLK 2 Development	1	2012	4	2014
DCGS-N Inc 2 Release 1 Development	2	2014	2	2016
DCGS-N Inc 2 TEMP	4	2013	4	2013
DCGS-N Inc 2 Release 2 Development	4	2015	2	2017
DCGS-N BLK 2 LDD	3	2013	3	2013
DCGS-N Inc 2 BD	1	2014	1	2014
DCGS-N Inc 1 FD	4	2014	4	2014
DCGS-N Inc 2 CDD	2	2013	3	2013
DCGS-N Inc 2 Procurement	2	2016	4	2018
ICOP Procurement	3	2015	4	2017
DCGS-N Inc 1 BLK 2 TEMP	2	2012	2	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
DCGS-N BLK 2 DT/OA Landbased (CANES)	1	2014	1	2014
DCGS-N BLK 2 OT AFLOAT	3	2014	3	2014
DCGS-N Inc 2 Rel 2 FDDR	3	2017	3	2017
DCGS-N Inc 2 Rel 1 FD	2	2016	2	2016
DCGS-N Inc 1 Procurement	1	2012	4	2014
EA ECP FOTE (Shipboard)	3	2012	3	2012
DCGS-N Inc 1 BLK 2 EDM (2)	1	2012	3	2013
DCGS-N Inc 2 Studies & Experimentation	1	2012	1	2014
DCGS-N Inc 2 Release 2 DT/OT	4	2016	1	2017
DCGS-N Inc 1 and Inc 2 Tech Refresh	1	2012	4	2018
DCGS-N Inc 1 BLK 2 FDD	2	2015	2	2015
DCGS-N Inc 2 Release 1 IOT&E	1	2016	2	2016
DCGS-N Inc 2 Release 2 FOT&E	1	2017	2	2017
RTT Prototypes	2	2012	4	2013
ICOP MDD	3	2014	3	2014
ICOP BD	3	2015	3	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	963.751	548.617	657.483	375.235	-	375.235	336.776	206.395	138.802	124.261	7.310	3,358.630
4020: <i>BAMS UAS</i>	963.751	548.617	657.483	375.235	-	375.235	336.776	206.395	138.802	124.261	7.310	3,358.630

MDAP/MAIS Code(s): 373

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

MQ-4C Triton Unmanned Air Vehicle (UAV). The popular name Triton was approved for the MQ-4C UAV 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 UAV 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/infrared 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.

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 UAV 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.

This PE includes funding in FY15-18 for future incremental development in support of Triton Increment 3 signals intelligence (SIGINT) capability.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	548.267	657.483	233.485	-	233.485
Current President's Budget	548.617	657.483	375.235	-	375.235
Total Adjustments	0.350	0.000	141.750	-	141.750
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.350	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	142.837	-	142.837
• Rate/Misc Adjustments	0.000	0.000	-1.087	-	-1.087

Change Summary Explanation

Technical: Not applicable.

Schedule: PB14 shifts the first year of production from FY14 to FY15 and extends the System Development and Demonstration program. As a result of this schedule change, Milestone C, Operational Evaluation, Full Rate Production and Initial Operational Capability have all shifted accordingly. Nomenclature changed for PB14 submission from Engineering and Manufacturing Development to System Development and Demonstration to maintain consistency with Triton acquisition documentation.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: RQ-4 UAV	PROJECT 4020: BAMS UAS
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4020: BAMS UAS	963.751	548.617	657.483	375.235	-	375.235	336.776	206.395	138.802	124.261	7.310	3,358.630
Quantity of RDT&E Articles	2	0	3	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The popular name Triton was approved for the MQ-4C Unmanned Air Vehicle (UAV) in June 2012, designating the RQ-4 Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS) as the MQ-4C Triton.

MQ-4C is a High Altitude-Long Endurance UAV 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 the 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, Triton 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.

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, MQ-4C 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.

The MQ-4C system is an evolutionary based acquisition, using an incremental development approach. Two Mission Need Statements (MNSs) support the requirement; 1) Triton and Littoral Armed ISR MNS, and 2) Long Endurance, Reconnaissance, Surveillance and Target Acquisition Capability MNS. The Triton UAV Capability Development Document was approved May 2007 by the Joint Requirements Oversight Council.

This Project Unit includes funding in FY15-18 for future incremental development in support of Triton Increment 3 signals intelligence (SIGINT) capability.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>		PROJECT 4020: <i>BAMS UAS</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Title: Product Development</p> <p align="right">Articles:</p> <p>Description: Awarded contract in FY08 to initiate the 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.</p> <p>FY 2012 Accomplishments: Continued SDD, including purchase of long lead materials in support of FY13 System Demonstration Test Articles (SDTA) and Government engineering support related to SDD.</p> <p>FY 2013 Plans: Continue SDD. Funding increases from FY12 due to the purchase of 3 SDTA vehicles to support Operational Test and Evaluation along with continued Government engineering support related to SDD.</p> <p>FY 2014 Plans: Continue SDD and build of 3 SDTA vehicles. Funding decreases from FY13 to support transition into the test phase of the SDD program.</p>		507.723 0	611.594 3	326.900 0
<p>Title: ILS, Support, Studies & Analysis</p> <p align="right">Articles:</p> <p>Description: Integrated Logistics Support, Studies and Analysis.</p> <p>FY 2012 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 MQ-4C Triton Unmanned Air Vehicle (UAV) capabilities.</p> <p>FY 2013 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 Triton UAV capabilities.</p> <p>FY 2014 Plans:</p>		14.105 0	13.022 0	12.762 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: RQ-4 UAV	PROJECT 4020: BAMS UAS		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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 UAV capabilities.				
<p>Title: Program Management</p> <p align="right">Articles:</p> <p>Description: Program Management Support and travel.</p> <p>FY 2012 Accomplishments: Continued the following: Program Management 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.</p> <p>FY 2013 Plans: Continue the following: Program Management 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.</p> <p>FY 2014 Plans: Continue the following: Program Management 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.</p>		5.126 0	6.432 0	5.994 0
<p>Title: Test & Evaluation (T&E)</p> <p align="right">Articles:</p> <p>Description: T&E efforts.</p> <p>FY 2012 Accomplishments: Continued test and evaluation support activities to allow test and fielding of the MQ-4C Triton Unmanned Air Vehicle (UAV).</p> <p>FY 2013 Plans:</p>		21.663 0	26.435 0	29.579 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue test and evaluation support activities to allow test and fielding on the Triton UAV. Funding profile reflects increase in Developmental Testing (DT) and Operational Testing (OT) in support of the established program schedule.			
<i>FY 2014 Plans:</i> Continue DT and OT support activities to allow test and fielding of the Triton UAV in accordance with the program schedule.			
Accomplishments/Planned Programs Subtotals	548.617	657.483	375.235

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APN-4/044200: <i>RQ-4 UAV (BAMS UAV)</i>	0.000	51.124	52.002		52.002	547.803	600.509	600.617	824.150	7,472.498	10,148.703
• MILCON/0815976N: <i>Facilities New Footprint - Training</i>	4.482	14.843	63.858		63.858	0.000	0.000	35.823	0.000	0.000	119.006
• MILCON/0203176N: <i>Facilities Restoration and Mod</i>	0.000	21.980	0.000		0.000	0.000	0.000	0.000	0.000	0.000	21.980
• MILCON/0212176N: <i>Facilities New Footprint - Fleet Ops</i>	0.000	34.048	20.312		20.312	81.511	31.517	0.000	0.000	0.000	167.388
• APN-6/060510: <i>BAMS UAV</i>	0.000	0.000	0.000		0.000	137.174	49.336	8.265	9.683	1,029.044	1,233.502
• MILCON/0816376N: <i>Facilities New Footprint - RDTE</i>	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	33.034
• RDTEN/0305205N: <i>BAMS UAS</i>	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	588.909

Remarks

D. Acquisition Strategy

The Triton Unmanned Aircraft Vehicle (UAV) is an evolutionary-based acquisition, using an incremental development approach. During the pre-Milestone B phase, the program performed technical risk reduction through studies and demonstrations, System Development and Demonstration (SDD) contract preparation, and Milestone B documentation development activities. Milestone B occurred on 8 April 2008 and SDD award occurred on 22 April 2008. The SDD contract was based on a competitive selection process for a Prime Contractor.

The Triton UAV program office is pursuing joint efficiency with the Air Force on the Global Hawk Unmanned Aircraft System. However, the integration of the Triton UAV into the Maritime Patrol Reconnaissance Force and the unique maritime sensors employed dictate a Navy-led acquisition program focused on joint efficiencies, where possible.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>

E. Performance Metrics

Successfully achieve Flight Readiness Review, Milestone C, Integrated Test, and Operational Evaluation.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	C/CPAF	Northrop Grumman: Bethpage, NY	834.705	466.121	Nov 2011	563.134	Nov 2012	274.571	Nov 2013	-		274.571	299.676	2,438.207	2,438.207
Systems Engineering	Various	Various: Various	3.369	1.278	Nov 2011	1.000	Nov 2012	3.907	Nov 2013	-		3.907	6.317	15.871	
Award Fees	C/CPAF	Northrop Grumman: Bethpage, NY	17.116	7.437	Dec 2012	16.445	Dec 2013	22.942	Dec 2014	-		22.942	21.596	85.536	85.536
Systems Engineering	WR	NAWC-AD: Patuxent River, MD	53.853	31.548	Nov 2011	29.660	Nov 2012	24.225	Nov 2013	-		24.225	30.261	169.547	
Systems Engineering	WR	NAWC-WD: China Lake, CA	2.602	1.339	Nov 2011	1.355	Nov 2012	1.255	Nov 2013	-		1.255	1.729	8.280	
Increment 3 Development	TBD	TBD: TBD	0.000	0.000		0.000		0.000		-		0.000	390.422	390.422	
Subtotal			911.645	507.723		611.594		326.900		0.000		326.900	750.001	3,107.863	

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. Award fee is earned during the FY in which it is budgeted. Obligation occurs after conclusion of the award fee period.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support	Various	Various: Various	6.680	3.933	Nov 2011	2.074	Nov 2012	2.115	Nov 2013	-		2.115	4.000	18.802	
Integrated Logistics Support	Various	Various: Various	1.235	1.799	Nov 2011	1.100	Nov 2012	1.600	Nov 2013	-		1.600	2.198	7.932	
Development Support	WR	NAVSEA: Dahlgren, VA	6.070	2.362	Dec 2011	2.178	Dec 2012	2.000	Dec 2013	-		2.000	3.014	15.624	
Integrated Logistics Support	WR	NAWC-AD: Patuxent River, MD	7.746	4.955	Nov 2011	6.603	Nov 2012	5.548	Nov 2013	-		5.548	1.667	26.519	
Integrated Logistics Support	WR	NAWC-TSD: Orlando, FL	2.054	1.056	Nov 2011	1.067	Nov 2012	1.499	Nov 2013	-		1.499	2.124	7.800	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior year cost no longer funded in the FYDP	Various	Various:Various	0.768	0.000		0.000		0.000		-		0.000	0.000	0.768	
Subtotal			24.553	14.105		13.022		12.762		0.000		12.762	13.003	77.445	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	Various	Various:Various	4.921	6.859	Nov 2011	7.549	Nov 2012	3.500	Nov 2013	-		3.500	3.772	26.601	
Developmental Test & Evaluation	WR	NAWC-AD:Patuxent River, MD	10.719	14.804	Nov 2011	16.686	Nov 2012	17.079	Nov 2013	-		17.079	22.217	81.505	
Operational Test & Evaluation	Various	Various:Various	0.000	0.000		0.200	Nov 2012	5.200	Nov 2013	-		5.200	17.587	22.987	
Developmental Test & Evaluation	MIPR	DITCO:Various	0.000	0.000		2.000	Nov 2012	3.800	Nov 2013	-		3.800	3.000	8.800	
Subtotal			15.640	21.663		26.435		29.579		0.000		29.579	46.576	139.893	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	C/CPFF	Mitre:McLean, VA	1.993	1.485	Nov 2011	1.606	Nov 2012	1.300	Nov 2013	-		1.300	0.912	7.296	7.296
Program Management	Various	Various:Various	1.489	0.722	Nov 2011	0.438	Nov 2012	0.350	Nov 2013	-		0.350	0.917	3.916	
Travel	WR	Various:Various	0.622	0.350	Nov 2011	0.216	Nov 2012	0.194	Nov 2013	-		0.194	0.300	1.682	
Program Management Support	C/CPFF	Various:Various	7.809	2.569	Dec 2011	4.172	Dec 2012	4.150	Dec 2013	-		4.150	1.835	20.535	20.535
Subtotal			11.913	5.126		6.432		5.994		0.000		5.994	3.964	33.429	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
 Travel funding vehicle type is TO.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	963.751	548.617	657.483	375.235	0.000	375.235	813.544	3,358.630	

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.

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>
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Proj 4020	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Acquisition Milestones																																
System Development	Systems Demonstration and Development																															
	Increment 3 Development																															
Reviews																																
Test & Evaluation Activities																																
Production Milestones																																
Contracts																																
Deliveries																																

2014PB - 0305220N - 4020

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: RQ-4 UAV	PROJECT 4020: BAMS UAS

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4020				
Acquisition Milestones: Milestone C	1	2015	1	2015
Acquisition Milestones: Full Rate Production	1	2017	1	2017
Acquisition Milestones: Initial Operational Capability	3	2017	3	2017
System Development: Systems Demonstration and Development	1	2012	3	2016
System Development: Increment 3 Development	1	2015	4	2018
System Development: Reviews: Flight Readiness Review	2	2013	2	2013
Test & Evaluation Activities: Integrated Test (Combined/Developmental/Operational)	4	2012	3	2015
Test & Evaluation Activities: Operational Test Readiness Review	4	2015	4	2015
Test & Evaluation Activities: OPEVAL	1	2016	2	2016
Production Milestones: Contracts: System Demonstration Test Articles Contract Award	1	2013	1	2013
Production Milestones: Contracts: Low Rate Initial Production 1 Contract Award	2	2015	2	2015
Production Milestones: Contracts: Low Rate Initial Production 2 Contract Award	2	2016	2	2016
Production Milestones: Contracts: Full Rate Production Lot 3 Contract Award	2	2017	2	2017
Production Milestones: Contracts: Full Rate Production Lot 4 Contract Award	2	2018	2	2018
Production Milestones: Deliveries: System Development and Demonstration Deliveries	1	2013	2	2013
Production Milestones: Deliveries: System Demonstration Test Articles Delivery	1	2015	3	2015
Production Milestones: Deliveries: Low Rate Initial Production 1 Delivery	3	2017	1	2018
Production Milestones: Deliveries: Low Rate Initial Production 2 Delivery	2	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	116.491	110.011	99.600	48.713	-	48.713	51.607	63.093	26.451	1.948	Continuing	Continuing
2768: <i>VTUAV</i>	116.491	110.011	99.600	48.713	-	48.713	51.607	63.093	26.451	1.948	Continuing	Continuing

MDAP/MAIS Code(s): 253

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

MQ-8 Unmanned Aerial Vehicle 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. The data from the MQ-8 will be provided through standard Department of Defense Command, Control, Communications, Computers and Intelligence, Surveillance, and Reconnaissance.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	108.248	99.600	49.200	-	49.200
Current President's Budget	110.011	99.600	48.713	-	48.713
Total Adjustments	1.763	0.000	-0.487	-	-0.487
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.763	0.000			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.487	-	-0.487

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0305231N: *MQ-8 UAV*

Change Summary Explanation

Technical: Navy VTUAV restructured to support Rapid Deployment Capability (RDC) initiatives for MQ-8C Endurance Upgrade, radar, weapons, and Special Operations Forces ISR payloads into VTUAV program and to transition the endurance upgrade capability into a Navy Program of Record to leverage the current RDC effort.

Schedule:

MQ-8B Initial Operating Capability, Full Rate Production and Operational Evaluation (OPEVAL) changed due to a Navy decision to prioritize warfighter requirements in Afghanistan and other Urgent Operational Need locations ahead of OPEVAL. Additionally, the program will be procuring MQ-8C aircraft between FY12 and FY18 to support the SOF Rapid Deployment Capability 3 maritime orbit requirement.

Radar RDC, Radar Integration Preliminary Design, Specialty Payload Reviews, and Quick Reaction Assessments (QRA) 2 changed due to Navy priorities and to align with fleet asset availability.

VTUAV EMD changed to align with the expected completion of development efforts and contract closeout.

COBRA Integration flight testing is complete.

Littoral Combat Ship (LCS) Integration Review changed to align with warfighter priorities and the LCS schedule.

QRAs changed due to Navy priority and program of record transition.

RDC MQ-8C II contract award changed to align with the revised contract schedule.

Transition endurance upgrade capability to a Navy Program of Record.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2768: <i>VTUAV</i>	116.491	110.011	99.600	48.713	-	48.713	51.607	63.093	26.451	1.948	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The MQ-8 Vertical Take-Off and Landing Tactical Unmanned Aerial Vehicle (VTUAV, popular name "Fire Scout") 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 and laser designation and including voice relay. The MQ-8 launches and recovers vertically, and can operate from air capable ships, as well as confined area land bases. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the Ground Control Station (GCS), and through the use of the Tactical Common Data Link (TCDL). The data from the MQ-8 will be provided through standard DoD Command, Control, Communications, Computers and Intelligence Surveillance, and Reconnaissance system architectures and protocols.

The MQ-8 system is comprised of air vehicles, electro-optical/infra-red/laser designator-range finder payloads, GCS (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. The MQ-8 system supports Surface Warfare, Mine Countermeasures Warfare, and Anti-Submarine Warfare mission modules while operating onboard Littoral Combat Ship (LCS). The MQ-8 is currently deployed on FFG ships and will be deployed on alternate classes of ships (including DDG, JHSV and others as assigned) supporting US Africa Command (AFRICOM) Joint Urgent Operational Needs Statement (JUONS), AF-002, and the Navy Weapons and Radar Urgent Operations Needs (UONS), via Rapid Deployment Capability (RDC) acquisitions. MQ-8 performs land-based operations in support of the ISR Task Force and Army units. 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.

Endurance upgrade RDC is in response to AFRICOM JUONS, AF-002, dated 10 May 2011 request for a sea-based ISR. This JUONS was revalidated as a Joint Emergent Operational Need (JEON) on 28 July 2011. Endurance Upgrade RDC will provide a maritime based VTUAV equipped with endurance upgrade, referred to as MQ-8C, providing increased range and endurance, procure additional endurance upgrade aircraft, and modify 12 ships. The MQ-8C RDC re-hosts the avionics, software and Command and Control (C2) sub-systems into a new airframe which will provide the extended endurance and range capacity necessary to support the JEONS requirements for orbital coverage in specific Areas of Responsibility. Two test aircraft with spares and support equipment will be utilized for developmental testing. The MQ-8C effort will also assess/integrate new payloads/avionics to improve system reliability and performance, payloads that are specific to the SOF mission, electronic warfare payloads, Automated Identification System, specialty payloads as well as weapons and radar capabilities developed under MQ-8B RDCs. The endurance capability will be transitioned to a Navy Program of Record.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305231N: MQ-8 UAV		PROJECT 2768: VTUAV
<p>The MQ-8 increased endurance capability and payload capacity may allow the Navy to meet LCS mission requirements with fewer aircraft lowering the Fire Scout's total ownership cost.</p> <p>The Vertical Take-Off Unmanned Aerial Vehicle, MQ-8B, is post Milestone C (MS C), which was approved in May 2007. MS C authorized entry into Low Rate Initial Production. A total of seven air vehicles and three control stations were previously purchased with Research Development Test & Evaluation funds under System Design Development. The MQ-8B is currently deployed in Afghanistan supporting the ISR Task Force and deployed on Navy FFGs partially supporting the AFRICOM JEON for SOF.</p>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Title: Hardware and System Development</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Begin MQ-8C Rapid Development Capability (RDC) hardware, software modifications and integration. Continue development and testing of Special Operations Forces (SOF) provided payloads. Continue integration of the radar, weapons, specialty payloads, and COBRA payload. Complete Vertical Take-off Unmanned Air Vehicle (VTUAV) systems development. Continue to support Littoral Combat Ship (LCS) integration. Continue Weapons requirement development, integration and a Quick Reaction Assessment as required for RDC designated programs. Start design efforts to integrate MQ-8 onto the DDG-51 Flight IIA Class Ship, FFG, JHSV, and others as assigned.</p> <p>FY 2013 Plans: Continue MQ-8C RDC hardware, software modifications and Weapons RDC, radar and other payload integration, continue LCS testing, and continue other air capable ship class integration and testing, including DDG, FFG, JHSV, and others as assigned.</p> <p>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 acquisition planning to transition the MQ-8 endurance upgrade capability to a Navy Program of Record.</p>		74.142 2	73.270 0	28.891 0
<p>Title: Development/Operational Testing</p> <p align="right">Articles:</p> <p>FY 2012 Accomplishments: Continue VTUAV SOF system payloads. Continue LCS integration efforts. Continue Weapons and radar integration efforts.</p> <p>FY 2013 Plans: 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.</p> <p>FY 2014 Plans:</p>		10.430 0	6.930 0	6.100 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue MQ-8C 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 Evaluation of MQ-8B Baseline. Complete MQ-8C QRA. Complete Radar RDC QRA.			
Title: Engineering and Technical Services	25.439	19.400	13.722
Articles:	0	0	0
FY 2012 Accomplishments: Continue engineering, program technical management, and logistics support for the Vertical Take-off Unmanned Air Vehicle (VTUAV) system and Rapid Developmental Capability (RDC) efforts. These include transportation of system assets, program office personnel travel, and contract support services. Continue to support Littoral Combat Ship (LCS) integration. Continue payloads integration. Continue Weapons integration, systems engineering, and test and evaluation. Continue Engineering and Logistics to Transition Weapons, Radar, and Special Operations Forces payloads RDC.			
FY 2013 Plans: Continue engineering, program technical management, and logistics support for the VTUAV system. These include transportation of system assets, program office personnel travel, and contract support services. Continue to support LCS and other Class Ship integration and payload integration. Continue Weapons integration, weapons studies, systems engineering, and test and evaluation. Continue MQ-8C RDC integration. Continue payload and system studies.			
FY 2014 Plans: Continue engineering, program technical management, logistics support for the VTUAV system. Initiate acquisition planning to transition the MQ-8 endurance upgrade capability to a Navy Program of Record. Continue payload and system studies.			
Accomplishments/Planned Programs Subtotals	110.011	99.600	48.713

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APN, 044300: <i>MQ-8 UAV</i>	191.986	124.573	60.980		60.980	117.122	150.556	75.875	72.543	2,182.955	3,297.250
• APN, 060510: <i>MQ-8 UAV Spares</i>	33.285	9.222	15.600		15.600	4.088	0.000	0.000	0.000	0.000	109.894
• APN, 058800: <i>MQ-8 Series</i>	0.000	0.000	1.001		1.001	1.002	4.855	0.131	0.000	124.850	131.839

Remarks

D. Acquisition Strategy

Continue incremental integration of MQ-8 System to support the Engineering and Manufacturing Development program and RDC efforts. Continue the MQ-8 program, payload integration, weaponization and Littoral Combat Ship and other Ship Class integration support. Full Rate Production and Initial Operational Capability will follow

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
completion of Operational Test and Evaluation. Maintain commonality of MQ-8B and MQ-8C payloads, avionics, software, and ancillary equipment where possible. Transition the MQ-8C capability to a program of record that will support both Navy and SOF missions.		
E. Performance Metrics Successfully provide an MQ-8 system that supports operational deployments. Successfully achieve Coastal Battlefield Reconnaissance and Analysis integration. Successfully achieve Radar Sensor RDC. Successfully achieve Ship Integration. Successfully achieve weaponization RDC. Successfully support interim Special Operations Forces mission.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Development	C/CPIF	Northrop Grumman Corp:San Diego, CA	81.622	66.891	Nov 2011	70.270	Nov 2012	28.891	Nov 2013	-		28.891	78.200	325.874	355.474
Primary Hardware Development	C/CPIF	Raytheon Corp:Falls Church, VA	7.000	7.251	Nov 2011	3.000	Nov 2012	0.000		-		0.000	5.900	23.151	23.251
Subtotal			88.622	74.142		73.270		28.891		0.000		28.891	84.100	349.025	378.725

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Logistics Support	Various	Various:Various	1.165	2.812	Nov 2011	5.600	Nov 2012	2.100	Nov 2013	-		2.100	11.900	23.577	
Subtotal			1.165	2.812		5.600		2.100		0.000		2.100	11.900	23.577	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	WR	NAWCAD:PAXRV, MD	0.000	9.693	Nov 2011	5.430	Nov 2012	4.500	Nov 2013	-		4.500	10.900	30.523	
Operational Test & Evaluation/QRA	WR	NAWCAD:PAXRV, MD	0.650	0.350	Nov 2011	1.500	Nov 2012	1.600	Nov 2013	-		1.600	4.200	8.300	
Prior Years T&E	Various	Various:Various	0.342	0.000		0.000		0.000		-		0.000	0.000	0.342	
Subtotal			0.992	10.043		6.930		6.100		0.000		6.100	15.100	39.165	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Engineering Support	WR	NAWCAD:PAXRV, MD	24.465	18.183	Nov 2011	8.300	Nov 2012	6.222	Nov 2013	-		6.222	19.200	76.370	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	Various	Various:Various	0.370	2.814	Nov 2011	5.200	Nov 2012	5.100	Nov 2013	-		5.100	12.800	26.284	
Travel	WR	NAVAIR:PAXRV, MD	0.277	0.316	Nov 2011	0.300	Nov 2012	0.300	Nov 2013	-		0.300	Continuing	Continuing	Continuing
Contractor Engineering Support	Various	Various:Various	0.600	1.701	Nov 2011	0.000		0.000		-		0.000	0.000	2.301	
Subtotal			25.712	23.014		13.800		11.622		0.000		11.622			

Remarks
Travel contract type is TO.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	116.491	110.011	99.600	48.713	0.000	48.713			

Remarks

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

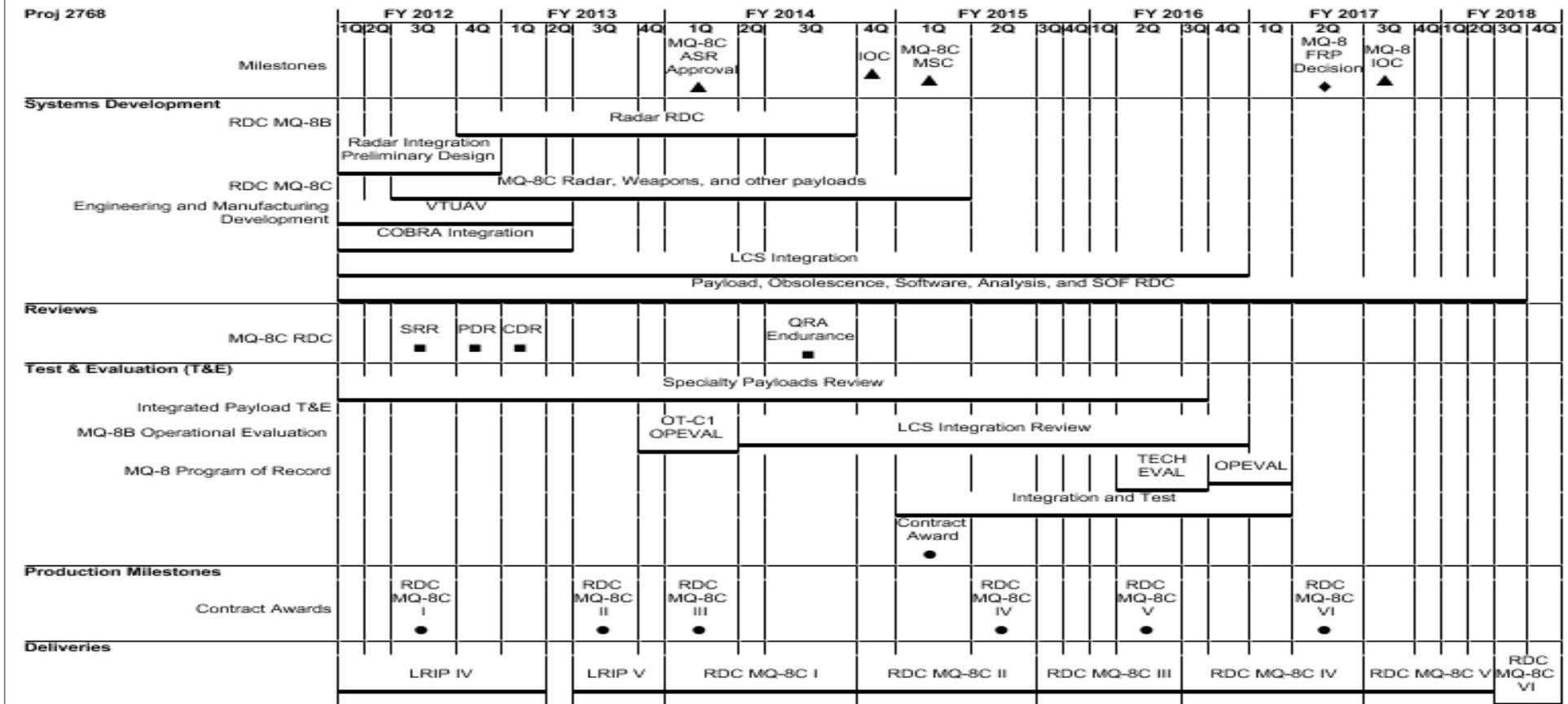
1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0305231N: MQ-8 UAV

PROJECT

2768: VTUAV



2014PB - 0305231N - 2768

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: MQ-8 UAV	PROJECT 2768: VTUAV

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2768				
Milestones: Initial Operational Capability	4	2014	4	2014
Milestones: MQ-8 Program of Record: Initial Operational Capability - MQ-8C	3	2017	3	2017
Milestones: MQ-8 Program of Record: Full Rate Production Decision	2	2017	2	2017
Milestones: MQ-8C Program of Record: Milestone C	1	2015	1	2015
Milestones: MQ-8C Program of Record: ASR Approval	1	2014	1	2014
Systems Development: RDC MQ-8B: Radar RDC	4	2012	3	2014
Systems Development: RDC MQ-8B: Radar Integration Preliminary Design	1	2012	4	2012
Systems Development: RDC MQ-8C: MQ-8C Radar, Weapons, and other payloads	3	2012	1	2015
Systems Development: Engineering and Manufacturing Development: VTUAV	1	2012	2	2013
Systems Development: Engineering and Manufacturing Development: Coastal Battlefield Reconnaissance and Analysis Integration	1	2012	2	2013
Systems Development: Engineering and Manufacturing Development: Littoral Combat Ship Integration	1	2012	4	2016
Systems Development: Engineering and Manufacturing Development: Payload, Obsolescence, Software, Analysis, and SOF RDC	1	2012	3	2018
Reviews: MQ-8C RDC: System Readiness Review	3	2012	3	2012
Reviews: MQ-8C RDC: Preliminary Design Review	4	2012	4	2012
Reviews: MQ-8C RDC: Critical Design Review	1	2013	1	2013
Reviews: MQ-8C RDC: Quick Reaction Assessment Endurance MQ-8C	3	2014	3	2014
Test & Evaluation (T&E): Specialty Payloads Review	1	2012	3	2016
Test & Evaluation (T&E): MQ-8B Operational Evaluation: MQ-8 OT-C1	4	2013	1	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: MQ-8 UAV	PROJECT 2768: VTUAV
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test & Evaluation (T&E): MQ-8B Operational Evaluation: Littoral Combat Ship Integration Review	2	2014	4	2016
Test & Evaluation (T&E): MQ-8 Program of Record: Operational Evaluation	4	2016	1	2017
Test & Evaluation (T&E): MQ-8 Program of Record: Technical Evaluation	2	2016	3	2016
Test & Evaluation (T&E): MQ-8 Program of Record: Integration and Test	1	2015	1	2017
Test & Evaluation (T&E): MQ-8 Program of Record: MQ-8C Contract Award	1	2015	1	2015
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C I	3	2012	3	2012
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	1	2014	1	2014
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C IV	2	2015	2	2015
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C V	2	2016	2	2016
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C VI	2	2017	2	2017
Deliveries: Air Vehicles - LRIP IV APN	1	2012	1	2013
Deliveries: Air Vehicles - LRIP V APN	3	2013	4	2013
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
Deliveries: Air Vehicles - RDC MQ-8C IV	3	2016	2	2017
Deliveries: Air Vehicles - RDC MQ-8C V	3	2017	2	2018
Deliveries: Air Vehicles - RDC MQ-8C VI	3	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305232M: <i>RQ-11 UAV</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	1.063	0.979	0.495	0.102	-	0.102	0.720	0.638	0.488	0.496	Continuing	Continuing
2292: <i>RQ-11 UAV</i>	1.063	0.979	0.495	0.102	-	0.102	0.720	0.638	0.488	0.496	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2009 and prior, RQ-11 Unmanned Aerial Vehicle (UAV) was funded in PE 0206313M, C2273. The project is funded in PE 0305232M C2292 for FY 2011 and out.

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 capabilities). 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) ORD, which meets the USMC's requirement and began migrating to the joint materiel solution, the Raven B.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	0.979	0.495	0.491	-	0.491
Current President's Budget	0.979	0.495	0.102	-	0.102
Total Adjustments	0.000	0.000	-0.389	-	-0.389
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.389	-	-0.389

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305232M: RQ-11 UAV	PROJECT 2292: RQ-11 UAV
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2292: RQ-11 UAV	1.063	0.979	0.495	0.102	-	0.102	0.720	0.638	0.488	0.496	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 USSOCOM 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 Network Sensor Suite (TNS2) 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 TNS2 technology development, continue research/testing to support a more aerodynamic Raven B to increase UAV time of flight, allowing significantly more reconnaissance information to be readily available to soldiers on the ground.

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

	FY 2012	FY 2013	FY 2014
Title: Program Management and Support	0.979	0.495	0.102
Articles:	0	0	0
FY 2012 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 2013 Plans: Research and test an aerodynamic model for Raven B.			
FY 2014 Plans: Begin integration of advanced payloads.			
Accomplishments/Planned Programs Subtotals	0.979	0.495	0.102

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305232M: <i>RQ-11 UAV</i>	PROJECT 2292: <i>RQ-11 UAV</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/4757: <i>RQ-11 UAV</i>	2.104	2.318	1.653		1.653	2.739	2.610	2.349	2.392	Continuing	Continuing

Remarks

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 capabilities). 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305232M: RQ-11 UAV	PROJECT 2292: RQ-11 UAV
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Group 1	WR	NSWC:Dahlgren	1.012	0.330	Oct 2011	0.000		0.000		-		0.000	0.000	1.342	
Subtotal			1.012	0.330		0.000		0.000		0.000		0.000	0.000	1.342	

Remarks
Development and testing of Raven B-DDL (Digital Data Link) with TNS2 (Tactical Network Sensor Suite) technology.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Group 1	Various	NAWCAD:Pax River	0.051	0.649	Oct 2011	0.495	Apr 2013	0.102	Dec 2013	-		0.102	Continuing	Continuing	Continuing
Subtotal			0.051	0.649		0.495		0.102		0.000		0.102			

Remarks
Research and test an aerodynamic model for Raven B (Group 1) in FY12 and FY13 at NAWCAD Pax River.
Begin integration of advanced payloads (Group 1) in FY14 at NAWCAD Pax River.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.063	0.979	0.495	0.102	0.000	0.102			

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0307802N: <i>RD TEN 3</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.506	0.516	0.723	-	0.723	0.735	0.738	0.753	0.757	Continuing	Continuing
0122: <i>Other Satellite Program</i>	0.000	0.506	0.516	0.723	-	0.723	0.735	0.738	0.753	0.757	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	0.506	0.516	0.523	-	0.523
Current President's Budget	0.506	0.516	0.723	-	0.723
Total Adjustments	0.000	0.000	0.200	-	0.200
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	0.200	-	0.200

Change Summary Explanation

Technical: Not applicable.
 Schedule: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	19.316	0.872	8.463	0.710	-	0.710	0.974	0.957	0.906	0.922	Continuing	Continuing
9C84: <i>MCTUAS</i>	19.316	0.872	8.463	0.710	-	0.710	0.974	0.957	0.906	0.922	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This program element supports additional capability development for the RQ-7 Shadow non-lethal joint tactical Unmanned Aerial Vehicle system for Department of Defense to provide the warfighter with the capability for day/night aerial Reconnaissance, Surveillance and 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	0.872	0.863	0.874	-	0.874
Current President's Budget	0.872	8.463	0.710	-	0.710
Total Adjustments	0.000	7.600	-0.164	-	-0.164
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	7.600	0.000	-	0.000
• Rate/Misc Adjustments	0.000	0.000	-0.164	-	-0.164

Change Summary Explanation

Schedule: Not applicable.

Technical: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: RQ-7 UAV	PROJECT 9C84: MCTUAS
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9C84: MCTUAS	19.316	0.872	8.463	0.710	-	0.710	0.974	0.957	0.906	0.922	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Army's Unmanned Aerial System (UAS) Program Office to fulfill Marine Corps UAS requirements. In order to optimize interoperability, maintenance, and capability with minimal cost, the Marine Corps and Army plan to develop additional capabilities for the common RQ-7 system. These funds represent the Marine Corps share of the combined development cost and the RQ-7 specific efforts of the NAVAIR 5.1 UAV Test Squadron.

Funds will provide for the integration of an in-production weapon on the RQ-7B Shadow UAV in response to an Urgent Universal Needs Statement that was initiated by operational units in the Operation Enduring Freedom - Afghanistan theater of operations. This covers all analysis and integration of the weapon to include the development of/modification to a Stores Management System and its integration onto the RQ-7B Shadow UAV. The integration/development effort is anticipated to be between 12 and 18 months in length leading to a Field User Assessment.

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

	FY 2012	FY 2013	FY 2014
Title: MCTUAS Development Support	0.872	0.863	0.710
Articles:	0	0	0
Description: Joint development efforts with US Army RQ-7 Shadow Program, associated government engineering support for common RQ-7 block upgrades, and test and evaluation support required for continued improvement and interoperability.			
FY 2012 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 weapons capabilities initiatives and continues support for efforts begun in FY11.			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: RQ-7 UAV	PROJECT 9C84: MCTUAS
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Funding continues development of and government engineering support for ongoing initiatives and will initiate 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 2014 Plans: FY14 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.			
Title: RQ-7 Weaponization Description: Integration of an in-production weapon on the RQ-7B Shadow Unmanned Aerial System in response to an Urgent Universal Needs Statement that was initiated by operational units in the Operation Enduring Freedom (OEF) - Afghanistan theater of operation. FY 2013 Plans: N/A FY13 OCO Plans: FY13 funding will complete the development and integration of a weapons capability into 2 USMC RQ-7 Shadow systems. Funding will provide for required test and evaluation of those systems to include a Field User Evaluation in theater.	0.000	7.600 0	0.000
Accomplishments/Planned Programs Subtotals			
	0.872	8.463	0.710

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APN/058900: RQ-7 UAV	0.000	49.324	26.433		26.433	2.596	3.893	3.903	0.000	0.000	112.166

Remarks

D. Acquisition Strategy
Sole source engineering development services contract with Aircraft Armament Incorporated through Army Program Management Unmanned Aerial Systems.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>	PROJECT 9C84: <i>MCTUAS</i>
<p>The program office is leveraging Army contracting by Unmanned Aerial System Program Manager to integrate weapons onto the RQ-7 Unmanned Aerial Vehicle (UAV). Government engineering support provided by Program Management Unmanned Aerial Systems (PM UAS), Naval Air Warfare Center-Weapons Division (NAWCWD), and Naval Air Warfare Center - Aircraft Division.</p> <p>E. Performance Metrics</p> <p>Attainment of targeted development effort upgrades improving operational capability of the RQ-7 UAV (Marine Corps Tactical Unmanned Aircraft System).</p> <p>Weapon successfully integrated onto RQ-7 UAV.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: RQ-7 UAV	PROJECT 9C84: MCTUAS
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior year cost no longer funded in the FYDP	Various	Various:Various	14.650	0.000		0.000		0.000		-		0.000	0.000	14.650	14.650
Subtotal			14.650	0.000		0.000		0.000		0.000		0.000	0.000	14.650	14.650

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Engineering Support	WR	NAWCWD:China Lake, CA	0.000	0.000		1.700	Dec 2012	0.000		-		0.000	0.000	1.700	1.700
Engineering Support	WR	NAWCAD:Pax River, MD	0.715	0.000		0.715	Dec 2012	0.000		-		0.000	0.000	1.430	1.430
Joint Development Efforts	Various	Various:Various	1.916	0.872	Jan 2012	0.863	Jan 2013	0.710	Jun 2014	-		0.710	Continuing	Continuing	Continuing
Subtotal			2.631	0.872		3.278		0.710		0.000		0.710			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Flight Test Support	WR	NAWCWD:China Lake, CA	0.000	0.000		1.000	Dec 2012	0.000		-		0.000	0.000	1.000	1.000
Weapon Testing	MIPR	PM UAS:Huntsville, AL	2.035	0.000		4.185	Mar 2013	0.000		-		0.000	0.000	6.220	6.220
Subtotal			2.035	0.000		5.185		0.000		0.000		0.000	0.000	7.220	7.220

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			19.316	0.872	8.463	0.710	0.000	0.710			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>	PROJECT 9C84: <i>MCTUAS</i>
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RQ-7	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Product Development	Joint Development Efforts																											
	Weapon Integration																											
Test and Evaluation	Weapon Testing																											

2014DON - 0305233N - 9C84

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: RQ-7 UAV	PROJECT 9C84: MCTUAS

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
RQ-7				
Product Development: Joint Development Efforts	1	2012	4	2018
Product Development: Weapon Integration	2	2012	1	2013
Test and Evaluation: Weapon Testing	3	2012	3	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	29.985	20.287	9.734	5.013	-	5.013	5.114	5.181	5.311	5.399	Continuing	Continuing
3192: <i>STUAS</i>	29.985	20.287	9.734	5.013	-	5.013	5.114	5.181	5.311	5.399	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 DoD 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.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	21.387	9.734	5.044	-	5.044
Current President's Budget	20.287	9.734	5.013	-	5.013
Total Adjustments	-1.100	0.000	-0.031	-	-0.031
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.100	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-0.019	-	-0.019
• Rate/Misc Adjustments	0.000	0.000	-0.012	-	-0.012

Change Summary Explanation

Schedule:

STUAS - Updated delivery schedule for production systems to match procurement budget exhibit.

Updated schedule to reflect a delay in Engineering and Maintenance Development phase.

Technical:

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3192: <i>STUAS</i>	29.985	20.287	9.734	5.013	-	5.013	5.114	5.181	5.311	5.399	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 Navy and Marine Corps program that provides Persistent Intelligence, Surveillance, and Reconnaissance/Target Acquisition 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. Costs are shared between the two services.

A STUAS system (Land-based or Ship-based) consists of five (5) air vehicles, Ground Control Station, Launch and Recovery equipment, 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.

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

	FY 2012	FY 2013	FY 2014
<p>Title: Engineering and Manufacturing Development</p> <p align="right">Articles:</p>	11.000 0	0.000	0.000
<p>Description: Prime System Contractor will be responsible for overall system development and performance as well as systems engineering, integrated logistics support, and associated management activities.</p>			
<p>FY 2012 Accomplishments: Continued the Engineering and Manufacturing Development efforts for the STUAS UAS program.</p>			
<p>Title: Engineering and Technical Services</p> <p align="right">Articles:</p>	9.287 0	9.734 0	3.513 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>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 upgrades/payloads efforts.</p> <p>FY 2012 Accomplishments: Continued support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, Contractor Support Services, Program Management Support and program related travel.</p> <p>FY 2013 Plans: Continue support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support and program related travel.</p> <p>FY 2014 Plans: 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 upgrades/payloads efforts.</p>			
<p>Title: Upgrades / Payloads Integration</p> <p align="right">Articles:</p> <p>Description: Provide Upgrades / Payloads Integration</p> <p>FY 2014 Plans: Prime System Contractor will be responsible for upgrades/payload integration as well as systems engineering, integrated logistics support, and associated management activities.</p>	0.000	0.000	1.500 0
Accomplishments/Planned Programs Subtotals	20.287	9.734	5.013

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>			<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• APN-4/044400: <i>STUASL0 (Tier II)</i>	0.000	9.593	0.000		0.000	0.000	0.000	0.000	0.000	0.000	37.793
• APN-6/060510: <i>STUASL0 (Tier II)</i>	0.000	0.896	0.327		0.327	0.000	0.000	0.000	0.000	0.000	1.223
• PMC-473700: <i>STUAS/RQ-21A</i>	0.000	27.619	66.612		66.612	70.651	73.182	74.265	75.401	Continuing	Continuing
• RDT&E,MC/0305239M: <i>RQ-21A</i>	24.201	22.343	11.122		11.122	9.274	9.448	9.662	9.821	Continuing	Continuing
• PMC/7000: <i>STUAS/RQ-21A</i> <i>Spares and Repair Parts</i>	0.000	0.000	5.000		5.000	5.100	5.200	5.310	5.400	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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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 which meets threshold requirements. Successfully complete Initial Operational Test and Evaluation and achieve Initial Operational Capability (IOC) and Full Rate Production.

E. Performance Metrics

Attainment of STUAS IOC in accordance with approved schedule.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Upgrades/Payloads	C/BOA	Insitu, Inc:Bingen, WA	0.000	0.000		0.000		1.200	Jan 2014	-		1.200	0.000	1.200	1.200
Prior year cost no longer funded in the FYDP	Various	Various:Various	13.935	11.000	Nov 2011	0.000		0.000		-		0.000	0.000	24.935	
Subtotal			13.935	11.000		0.000		1.200		0.000		1.200	0.000	26.135	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Logistics Support	WR	NAWC-AD:Patuxent River, MD	1.972	1.602	Dec 2011	0.832	Dec 2012	0.312	Dec 2013	-		0.312	Continuing	Continuing	Continuing
Training Support	WR	TSD:Orlando, FL	1.299	0.963	Dec 2011	0.624	Dec 2012	0.491	Dec 2013	-		0.491	Continuing	Continuing	Continuing
Software Engineering Support	WR	NAWC-WD:China Lake, CA	2.121	2.093	Dec 2011	1.756	Dec 2012	1.200	Dec 2013	-		1.200	Continuing	Continuing	Continuing
Subtotal			5.392	4.658		3.212		2.003		0.000		2.003			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation	C/CPFF	OPTEVFOR:Norfolk, VA	1.262	0.757	Jan 2012	2.200	Dec 2012	0.300	Feb 2014	-		0.300	0.000	4.519	4.519
Simulation and Modeling	MIPR	JTC/SIL:Redstone Arsenal, AL	1.136	0.500	Mar 2012	0.500	Mar 2013	0.500	Mar 2014	-		0.500	Continuing	Continuing	Continuing
Subtotal			2.398	1.257		2.700		0.800		0.000		0.800			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	MIPR	DTIC:FT. Belvoir, VA	1.306	0.588	Jan 2012	0.534	Jan 2013	0.236	Jan 2014	-		0.236	Continuing	Continuing	Continuing
Government Engineering Support	WR	NAWC-AD:Patuxent River, MD	5.499	2.095	Dec 2011	2.551	Dec 2012	0.423	Dec 2013	-		0.423	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	Ausley:Patuxent River, MD	1.380	0.654	Dec 2011	0.687	Dec 2012	0.301	Dec 2013	-		0.301	0.000	3.022	3.022
Travel	WR	Various:Various	0.075	0.035	Dec 2011	0.050	Nov 2012	0.050	Nov 2013	-		0.050	Continuing	Continuing	Continuing
Subtotal			8.260	3.372		3.822		1.010		0.000		1.010			

Remarks
Travel contract type is TO.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	29.985	20.287	9.734	5.013	0.000	5.013			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>
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STUAS	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Acquisition Milestones																																
Milestones								MSC ▲																								
System Development																																
Hardware and Software Development																																
Upgrades / Payloads																																
Reviews																																
Test & Evaluation																																
Technical Evaluation																																
Operational Evaluation																																
Production Milestones																																
Contract Awards																																
Deliveries																																

2014PB - 0305234N - 3192

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
STUAS				
Acquisition Milestones: Milestones: Milestone C	1	2013	1	2013
Acquisition Milestones: Milestones: USMC Initial Operational Capability (IOC)	4	2013	4	2013
Acquisition Milestones: Milestones: Full Rate Production Decision	1	2014	1	2014
System Development: Hardware and Software Development: Engineering and Manufacturing Development	1	2012	1	2013
System Development: Hardware and Software Development: Engineering Design Model (EDM) 1	3	2012	3	2012
System Development: Hardware and Software Development: EDM 2	4	2012	4	2012
System Development: Upgrades / Payloads: Upgrades / Payloads Integration	1	2014	4	2018
System Development: Reviews: Critical Design Review	1	2012	1	2012
Test & Evaluation: Technical Evaluation: IT-B2	3	2012	3	2012
Test & Evaluation: Operational Evaluation: OTRR OA-2	1	2013	1	2013
Test & Evaluation: Operational Evaluation: Initial Operational Test & Evaluation (IOT&E)	4	2013	1	2014
Test & Evaluation: Operational Evaluation: IOT&E Report	1	2014	1	2014
Test & Evaluation: Operational Evaluation: Follow On Test and Evaluation	4	2014	4	2018
Production Milestones: Contract Awards: Low Rate Initial Production (LRIP) CA APN-4	2	2013	2	2013
Production Milestones: Contract Awards: Full Rate Production (FRP) Contract Award	3	2014	3	2014
Deliveries: LRIP Delivery APN-4	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	13.237	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.237
2770: <i>Medium-Range Maritime Unmanned Aerial System</i>	0.000	13.237	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.237

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Note: FY11 efforts are budgeted under PE 0305204N, Project Unit 2501 (9.868M). FY 2012 \$9.100M on Navy Reserve due to potential rescission. Remaining funding obligated in conjunction with AOA completion.

Medium-Range Maritime Unmanned Aerial System (MRMUAS) Unmanned Aerial Vehicle is a Joint Military Intelligence Program.

The MRMUAS commenced under PE 0305204N. PE 0305237N was established to fund the Technology Development and Engineering and Manufacturing Development phases of the MRMUAS program. The MRMUAS goal was to provide persistent, sea-based, airborne, real-time and near-real-time Intelligence, Surveillance, and Reconnaissance data to Navy and Special Operations Forces.

The Navy and Army are cooperating in the Analysis of Alternatives and requirements development.

During the FY13 budget process, fiscal constraints forced Navy to terminate the MRMUAS program and zeroize the funding in FY13 and beyond. Navy terminated MRMUAS but completed the Analysis of Alternatives.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	15.000	0.000	0.000	-	0.000
Current President's Budget	13.237	0.000	0.000	-	0.000
Total Adjustments	-1.763	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.763	0.000			
• SBIR/STTR Transfer	-	-			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0305237N: *Medium Range Maritime UAS*

Change Summary Explanation

Program Terminated:

Navy reprogrammed \$1.763M to a higher priority requirement. \$9.100M on Navy Reserve due to potential rescission.

Schedule:

Deleted - Not Required

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>	PROJECT 2770: <i>Medium-Range Maritime Unmanned Aerial System</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2770: <i>Medium-Range Maritime Unmanned Aerial System</i>	0.000	13.237	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.237
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Note: FY11 efforts are budgeted under PE 0305204N, Project Unit 2501 (9.868M). FY 2012 \$9.100M on Navy Reserve due to potential rescission. Remaining funding obligated in conjunction with AOA completion.

A. Mission Description and Budget Item Justification

Medium-Range Maritime Unmanned Aerial System (MRMUAS) Unmanned Aerial Vehicle is a Joint Military Intelligence Program.

The MRMUAS commenced under PE 0305204N. PE 0305237N was established to fund the Technology Development and Engineering and Manufacturing Development phases of the MRMUAS program. The MRMUAS goal was to provide persistent, sea-based, airborne, real-time and near-real-time Intelligence, Surveillance, and Reconnaissance data to Navy and Special Operations Forces.

The Navy and Army are cooperating in the Analysis of Alternatives and requirements development.

During the FY13 budget process, fiscal constraints forced Navy to terminate the MRMUAS program and zeroize the funding in FY13 and beyond. Navy terminated MRMUAS but completed the Analysis of Alternatives.

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

	FY 2012	FY 2013	FY 2014
Title: Product Development	10.009	0.000	0.000
Articles:	0		
Description: \$9.1M of the \$10.009M is currently on Navy Department Reserve for potential rescission.			
FY 2012 Accomplishments: Complete MRMUAS Analysis of Alternatives (AoA) and brief results.			
Title: Management Services	3.228	0.000	0.000
Articles:	0		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>		PROJECT 2770: <i>Medium-Range Maritime Unmanned Aerial System</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
				FY 2012
				FY 2013
				FY 2014
<i>FY 2012 Accomplishments:</i> Complete engineering management, program technical management, and management support for the MRMUAS system. Complete Analysis of Alternatives to support next generation Navy Vertical Take Off and Landing (VTOL) Unmanned Aerial Systems (UAS). Complete contract support services.				
Accomplishments/Planned Programs Subtotals				13.237
				0.000
				0.000
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				
E. Performance Metrics Successful completion of AoA.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>	PROJECT 2770: <i>Medium-Range Maritime Unmanned Aerial System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Navy Reserve	Various	Various:Various	0.000	9.100	Feb 2012	0.000		0.000		-		0.000	0.000	9.100	
Analysis of Alternatives	WR	NAWCAD:Patuxent River, MD	0.000	0.909	Nov 2011	0.000		0.000		-		0.000	0.000	0.909	
Subtotal			0.000	10.009		0.000		0.000		0.000		0.000	0.000	10.009	

Remarks
 Analysis of Alternatives is in Department review for acceptance.

 Navy Reserve - Due to changing priorities within the Department and overall reduction in defense funding it was deemed a manageable risk to terminate the Navy Marine Corps investment in the Medium-Range Maritime Unmanned Aerial System program through the FYDP.

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	Various	Various:Various	0.000	3.228	Nov 2011	0.000		0.000		-		0.000	0.000	3.228	
Subtotal			0.000	3.228		0.000		0.000		0.000		0.000	0.000	3.228	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	13.237	0.000	0.000	0.000	0.000	0.000	13.237	

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	24.201	22.343	11.122	-	11.122	9.274	9.448	9.662	9.821	Continuing	Continuing
2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>	0.000	24.201	22.343	11.122	-	11.122	9.274	9.448	9.662	9.821	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

The Tier II program is in PE 0305234M, Project C2272 in FY10. The Tier II program is in PE 0305234M, Project C2298 in FY11. The Tier II program was realigned to PE 0305239M, Project C2298 in FY12 and out. The Navy PE is 0305234N.

A. Mission Description and Budget Item Justification

TIER II - This is a combined Navy (PE 0305204N-TCS) and Marine Corps (PE 0305239M) budget submission. The Tier II/UAS will provide persistent, Intelligence, Surveillance, and Reconnaissance (ISR) support for tactical level maneuver decisions and unit level force defense/force protection for Navy ships and Marine Corps land forces. This system will fill the ISR capability shortfalls identified by the Navy Small Tactical Unmanned Aircraft System (STUAS) and Marine Corps Tier II UAS efforts. Consisting of five air vehicles, two ground control stations, multiple payloads, and associated launch, recovery and support equipment, this system will support the Navy missions including building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and support of Navy units operating from sea/shore and the Marine Corps close range (<50 nautical miles (nm)) UAS enabling enhanced decision-making and improved integration with ground schemes of maneuver. This submission is the Marine Corps portion of the program and has been coordinated with the Navy budget submission PE 0305204N.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	24.201	22.343	11.158	-	11.158
Current President's Budget	24.201	22.343	11.122	-	11.122
Total Adjustments	0.000	0.000	-0.036	-	-0.036
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.036	-	-0.036

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0305239M: (U)RQ-21A

Change Summary Explanation

Decrease from FY13 to FY14 represents shift to full rate production.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>	0.000	24.201	22.343	11.122	-	11.122	9.274	9.448	9.662	9.821	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

This project moved from PE 0305234M to 0305239M starting in FY12.

A. Mission Description and Budget Item Justification

The Small Tactical Unmanned Aircraft System (STUAS) is a combined Navy and Marine Corps program that provides Persistent Intelligence, Surveillance, and Reconnaissance/Target Acquisition 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. Costs are shared between the two services. 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.

A STUAS system (Land-based or Ship-based) consists of five (5) air vehicles (AV), Ground Control Station(s) (GCS), Launch and Recovery equipment, 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.

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

	FY 2012	FY 2013	FY 2014
Title: STUAS: Product Development	11.400	11.801	6.200
Articles:	0	0	0
FY 2012 Accomplishments:			
Continued the Engineering and Manufacturing Development efforts for the STUAS UAS program. Efforts include continued Technical and Operational Evaluation. Continued support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, Contractor Support Services, Program Management Support and program related travel.			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Complete the Engineering and Manufacturing Development efforts for the STUAS UAS program. Procurement of two (2) Production Representative Models. FY 2014 Plans: Prime System Contractor will be responsible for system Upgrades/Payload Integration efforts as well as systems engineering, integrated logistics support, and associated management activities.			
Title: STUAS: Program Management Articles:	12.801 0	10.542 0	4.922 0
FY 2012 Accomplishments: Provided for the Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, and program related travel via NAWC Pax River.			
FY 2013 Plans: Continue support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, and program related travel via NAWC Pax River.			
FY 2014 Plans: Provides for the Government Engineering Technical Support, Logistics Support, Test and Evaluation, Contractor Support Services, Program Management Support and program related travel via NAWC Pax River.			
Accomplishments/Planned Programs Subtotals	24.201	22.343	11.122

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/0444: NAVY STUAS/RQ-21A	0.000	9.593	0.000		0.000	0.000	0.000	0.000	0.000	0.000	37.793
• APN/0605: NAVY STUAS/RQ-21A Spares and Repair Parts	0.000	0.896	0.327		0.327	0.000	0.000	0.000	0.000	0.000	1.223
• PMC/4737: STUAS/RQ-21A	0.000	27.619	66.612		66.612	70.651	73.182	74.265	75.401	Continuing	Continuing
• RDTEN/0305234N: NAVY STUAS/RQ-21A	20.287	9.734	5.013		5.013	5.114	5.181	5.311	5.399	Continuing	Continuing
• PMC/7000: STUAS/RQ-21A Spares and Repair Parts	0.000	0.000	5.000		5.000	5.100	5.200	5.310	5.400	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A		PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>	

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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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 which meets threshold requirements. Utilize LRIP test articles to successfully complete IOT&E and achieve Initial Operational Capability (IOC) and Full Rate Production.

E. Performance Metrics

Attainment of STUAS IOC in accordance with approved schedule.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
STUAS	C/FPIF	Insitu, Inc:Bingen, WA	0.000	11.400	Nov 2011	11.801	May 2013	0.000		-		0.000	0.000	23.201	
Upgrades/Payloads	C/BOA	Insitu, Inc:Bingen, WA	0.000	0.000		0.000		6.200	Jan 2014	-		6.200	0.000	6.200	
Subtotal			0.000	11.400		11.801		6.200		0.000		6.200	0.000	29.401	

Remarks
 FY13 funding procures two (2) LRIP systems. FY14 funding for Upgrades/Payload Integration.

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
STUAS	Various	NAWCAD:Patuxent River, MD	0.000	12.801	Dec 2011	10.542	Dec 2012	4.922	Dec 2013	-		4.922	Continuing	Continuing	Continuing
Subtotal			0.000	12.801		10.542		4.922		0.000		4.922			

Remarks
 Funding will be provided to NAWCAD for management support.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	24.201	22.343	11.122	0.000	11.122			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>
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STUAS	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Acquisition Milestones																																
Milestones							▲ MSC	▲ USMC IOC	▲ FRP																							
System Development																																
Hardware and Software Development	EMD																															
Upgrades/Payloads			▼ EDM 1	▼ EDM 2																												
Reviews	■ CDR																															
Test & Evaluation																																
Technical Evaluation			IT-B2																													
Operational Evaluation							OA-2																									
Production Milestones																																
Contract Awards							● LRIP CA APN-4																									
Deliveries:																																
											</																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
STUAS				
Acquisition Milestones: Milestones: Milestone C	3	2013	3	2013
Acquisition Milestones: Milestones: Marine Corps IOC	4	2013	4	2013
Acquisition Milestones: Milestones: Full Rate Production Decision Review	1	2014	1	2014
System Development: Hardware and Software Development: Engineering and Manufacturing Development	1	2012	1	2013
System Development: Hardware and Software Development: Engineering Design Model (EDM) 1	3	2012	3	2012
System Development: Hardware and Software Development: EDM 2	4	2012	4	2012
System Development: Upgrades/Payloads: Upgrades/Payloads Integration	1	2014	4	2018
System Development: Reviews: Critical Design Review	1	2012	1	2012
Test & Evaluation: Technical Evaluation: IT-B2	3	2012	3	2012
Test & Evaluation: Operational Evaluation: OTRR OA-2	1	2013	1	2013
Test & Evaluation: Operational Evaluation: Initial Operational Test & Evaluation (IOT&E)	4	2013	1	2014
Test & Evaluation: Operational Evaluation: IOT&E Report	1	2014	1	2014
Test & Evaluation: Operational Evaluation: Follow On Test and Evaluation	4	2014	4	2018
Production Milestones: Contract Awards: Low Rate Initial Production (LRIP) CA APN-4	3	2013	3	2013
Production Milestones: Contract Awards: Full Rate Production (FRP) Contract Award	2	2014	2	2014
Deliveries:: LRIP Delivery APN-4	4	2013	4	2013
Deliveries:: USMC RDT&E LRIP Delivery	4	2013	4	2013
Deliveries:: USMC PMC LRIP Delivery	1	2014	1	2014
Deliveries:: USMC PMC FRP Delivery 1	4	2014	1	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUAL0)</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries:: USMC PMC FRP Delivery 2	4	2015	1	2016
Deliveries:: USMC PMC FRP Delivery 3	4	2016	1	2017
Deliveries:: USMC PMC FRP Delivery 4	4	2017	1	2018
Deliveries:: USMC PMC FRP Delivery 5	4	2018	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305241N: (U) <i>MULTI-INTELLIGENCE SENSOR DEVELOPMENT</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	28.851	-	28.851	54.963	35.617	30.247	28.832	Continuing	Continuing
3329: <i>Multi Intelligence Sensor Development</i>	0.000	0.000	0.000	28.851	-	28.851	54.963	35.617	30.247	28.832	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	28.851	-	28.851
Total Adjustments	0.000	0.000	28.851	-	28.851
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	28.851	-	28.851

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	7.963	8.072	5.908	5.116	-	5.116	5.489	5.542	5.766	5.870	Continuing	Continuing
2222: <i>Modeling & Simulation</i>	7.963	8.072	5.908	5.116	-	5.116	5.489	5.542	5.766	5.870	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 and focus 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	8.292	5.908	5.503	-	5.503
Current President's Budget	8.072	5.908	5.116	-	5.116
Total Adjustments	-0.220	0.000	-0.387	-	-0.387
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.220	0.000			
• Rate/Misc Adjustments	0.000	0.000	-0.387	-	-0.387

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY
1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
PE 0308601N: *Modeling & Simulation Support*

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2222: <i>Modeling & Simulation</i>	7.963	8.072	5.908	5.116	-	5.116	5.489	5.542	5.766	5.870	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

Title: CORE SERVICES	FY 2012	FY 2013	FY 2014
	1.294	1.353	1.408
Articles:	0	0	0
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			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

<p>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.</p>	FY 2012	FY 2013	FY 2014
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FY 2012 Accomplishments:

- Appointed Chair of the NATO M&S Data Visibility effort, MSG-100 M&S Resource Discovery. MSG-100 is the technical activity for developing discoverable metadata at the NATO level and includes participants from France, Germany, Turkey, and Canada.
- Lead and coordinated a memorandum of understanding (MOU) between DISA and the Korean military which effectively allows sharing of M&S Metadata through DISA's Net-Centric Enterprise Services (NCES).
- Created and lead the multi-Service opposition that successfully blocked another attempt by DoD to start a very expensive M&S program to create an new Live, Virtual and Constructive M&S environment. Their previous unsuccessful attempts, JWARS and JMASS, cost us over a billion dollars.
- Responded to VV&A Help Desk inquiries, provided VV&A information, advice, and assistance, and collected VV&A documents for archiving, discovery, and sharing.
- Provided the necessary inputs to allow DoDD 8320.02-G, Guidance for Implementing Net-Centric Data Sharing, April 12, 2006 to be updated to 8320.02-M and support a more bottom-up versus top-down approach to making data discoverable.
- Led the Navy review - and provided inputs to - the draft of the Department of Defense Instruction (DoDI) Management of Modeling and Simulation Activities (5000.wv) and coordinated with SECNAV, OPNAV, and the Fleet in gathering, compiling, adjudicating, and reviewing inputs and proposed changes.
- Provided input on DoD / M&S CO products including: Corporate and Crosscutting Business Plan (and Objectives), Net-Centric Environment Pilot Project Report, and Report on DoD Joint Wargaming Simulation Management.
- Upgraded the Navy M&S Resource Registry (MSRR) by federating it with DoD's NCES Enterprise Catalog.
- Coordinated and drafted a new version of SECNAVINST 5200.40A, Department of the Navy Verification, Validation, and Accreditation (VV&A) of Models and Simulations.
- Began update of SECNAVINST 5200.38A (DON M&S Management) by reviewing the relevant DoD, DON, and OPNAV policy, defining content, and coordinating with stakeholders.
- Researched M&S Standards issues and represented Navy in votes on NATO Standard Agreements and other M&S documents.
- Continued the development, servicing and use of NMSIS as directed under applicable DoD Directives, SECNAVINST and OPNAVINST.
- Provided substantive inputs to DoD plans, strategies, guidance, and definitions. Specific documents reviewed include: DoD M&S Enterprise Definition, DoD Enterprise Strategy (V1.1), DoD COI Operational Guidance, and the DoD Enterprise Data Strategy. As a result of these comments documents were streamlined, rationalized, and synchronized across DoD.
- Created an M&S Policy and Practices (MSPP) extension to the DoD's M&S Community of interest Discovery Metadata Specification (MSCDMS) to enable the M&S community to effectively and efficiently find applicable plans, policies, and guidance

FY 2012	FY 2013	FY 2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>		PROJECT 2222: <i>Modeling & Simulation</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
that impact their applications and initiatives. Current version of this extension has six major (meta) categories, twenty-three fields, defined data types, and many specifically enumerated lists. This extension has been uploaded to the DoD Enterprise Catalog. FY 2013 Plans: Continue FY-12 efforts FY 2014 Plans: Continue FY-13 efforts				
Title: COMMUNITY SERVICES		3.072	2.977	2.817
		Articles: 0	0	0
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 2012 Accomplishments: - Worked with the MOVES Institute and the MOVES degree program at NPS to provide military relevant theses topics for the students. Also successfully negotiated USMC and US Army agreements to use MOVES as their primary post graduated education source to help minimize costs and maximize DoD M&S knowledge. - Conducted several 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. - 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. Key guidance developed includes the Fleet Training Continuum instruction and the Overarching Fleet Training Simulator Strategy. - Participated in DoD Service working groups and Joint reviews of M&S plans, programs, policies, and procedures, and publications. FY 2013 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>		PROJECT 2222: <i>Modeling & Simulation</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue FY12 efforts				
FY 2014 Plans: Continue FY13 efforts				
Title: COMMUNITY EXPERIMENTS and PROTOTYPES		3.706	1.578	0.891
		Articles: 0	0	0
<p>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.</p> <p>FY 2012 Accomplishments:</p> <ul style="list-style-type: none"> - Established, documented, and demonstrated a draft Government-owned, non-proprietary open architecture M&S integration environment. - Established a draft architecture to enable virtual environments to rapidly integrate and improve M&S, including: rapid validation of requirements, DOTMLPF solutions, design alternatives, operational planning, training environments, medical preparations, and just about every use of M&S. - Conducted an Interoperability Initiative which developed a standard process to structure analytical data for improved tractability, interoperability, and reuse for the development of future models and simulations. - Developed the Common Software Package (CSP) as a piece of distributable, government off the shelf (GOTS) software that will streamline the development of distributed training simulations across the Navy training enterprise. CSP provides the necessary interface for models to quickly and readily integrate into the Navy Continuous Training Environment (NCTE), which is the Navy distributed training infrastructure. - Developed the Navy Test Harness suite, an openly distributable GOTS suite of tools that facilitates interoperability testing of Navy training simulation with the NCTE. This capability will reduce simulation integration time and increase the ability to 				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>rapidly establish training federations by allowing system developers to test new software releases across the full range of NCTE interoperability requirements in the laboratory vice waiting until the integration period to identify items for correction.</p> <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Develop extensions for a Government-owned, non-proprietary open architecture M&S integration environment to accommodate tactical hardware devices and specialized stand-alone models. - Establish a meta-data schema for a standard analytical data structure. - Develop, validate, and demonstrate standard interfaces and methodologies for virtual environments to rapidly integrate and improve M&S, including: rapid validation of requirements, DOTMLPF solutions, design alternatives, operational planning, training environments, and medical preparations. <p>FY 2014 Plans: Continue FY13 efforts</p>				
Accomplishments/Planned Programs Subtotals		8.072	5.908	5.116
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 ongoing 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 adaptability of system architectures employed in 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 documentation of warfighter missions, weapons systems or Tactics, Techniques and Procedures (TT&P); and ability of 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-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DoD Support	WR	SPAWAR:Charleston, SC	0.000	0.000		0.303	Jan 2013	0.312	Jan 2014	-		0.312	Continuing	Continuing	Continuing
NMSO Director	WR	SPAWAR:Charleston, SC	0.275	0.252	Jan 2012	0.253	Jan 2013	0.261	Jan 2014	-		0.261	0.000	1.041	
NMSO Data Archiving Effort	WR	NAVAIR:Pax River, MD	0.159	0.067	Feb 2012	0.069	Feb 2013	0.071	Feb 2014	-		0.071	0.000	0.366	
DREN Connectivity	WR	SPAWAR:Charleston, SC	0.008	0.007	Jan 2012	0.007	Jan 2013	0.007	Jan 2014	-		0.007	0.000	0.029	
M & S Data Lead	WR	SPAWAR:Charleston, SC	0.152	0.171	Jan 2012	0.027	Jan 2013	0.017	Jan 2014	-		0.017	0.000	0.367	
NMSIS Web Presence	WR	SPAWAR:Charleston, SC	0.120	0.116	Jan 2012	0.127	Jan 2013	0.131	Jan 2014	-		0.131	0.000	0.494	
VV&A Standards & Support	WR	SPAWAR:Charleston, SC	0.253	0.191	Mar 2012	0.300	Mar 2013	0.309	Apr 2014	-		0.309	0.000	1.053	
Plans & Policies	WR	SPAWAR:Charleston, SC	0.324	0.334	Feb 2012	0.350	Feb 2013	0.361	Feb 2014	-		0.361	0.000	1.369	
Data Assistant	WR	SPAWAR:Charleston, SC	0.123	0.157	Jan 2012	0.182	Jan 2013	0.188	Jan 2014	-		0.188	0.000	0.650	
DON Mission Level Gap Analysis	WR	NAVAIR:Pax River, MD	1.100	0.000		0.000		0.000		-		0.000	0.000	1.100	
M&S Interoperability Initiative	WR	NAVAIR:Pax River, MD	0.950	0.000		0.000		0.000		-		0.000	0.000	0.950	
M&S Interoperability Initiative	WR	SPAWAR:Charleston, SC	0.649	0.000		0.000		0.000		-		0.000	0.000	0.649	
Navy Training Test Harness	WR	NAWC TSD:Orlando, FL	0.375	0.000		0.000		0.000		-		0.000	0.000	0.375	
CSP for NTI	WR	NAWC TSD:Orlando, FL	0.247	0.000		0.000		0.000		-		0.000	0.000	0.247	
Navy STORM	WR	NAWC:Pax River, MD	0.500	0.000		0.000		0.000		-		0.000	0.000	0.500	
USMC STORM	WR	MCCDC:Quantico, VA	0.250	0.000		0.000		0.000		-		0.000	0.000	0.250	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			5.485	1.295		1.618		1.657		0.000		1.657			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
RDA POC	WR	SPAWAR:Charleston, SC	0.108	0.111	Jan 2012	0.114	Jan 2013	0.118	Jan 2014	-		0.118	0.000	0.451	
RDA IDS (#1&3)	WR	SPAWAR:Charleston, SC	0.180	0.452	Jan 2012	0.454	Jan 2013	0.468	Jan 2014	-		0.468	0.000	1.554	
Training IDS (#1)	WR	NAVAIR:Pax River, MD	0.162	0.267	Feb 2012	0.275	Feb 2013	0.283	Jan 2014	-		0.283	0.000	0.987	
Training IDS (#2)	WR	SPAWAR:Charleston, SC	0.000	0.000		0.247	Apr 2013	0.254	Apr 2014	-		0.254	0.000	0.501	
Analysis IDS (#1)	WR	SPAWAR:Charleston, SC	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	
Analysis IDS (#2)	WR	SPAWAR:Charleston, SC	0.058	0.000		0.000		0.000		-		0.000	0.000	0.058	
IDS Training and Coordination	WR	SPAWAR:Charleston, SC	0.015	0.029	Jan 2012	0.000		0.000		-		0.000	0.000	0.044	
USMC IDS	WR	MCCDC:Quantico, VA	0.138	0.075	Jan 2012	0.142	Jan 2013	0.146	Jan 2014	-		0.146	0.000	0.501	
MOVES	WR	NPS:Monterrey, CA	0.822	0.847	Feb 2012	0.872	Feb 2013	0.898	Feb 2014	-		0.898	0.000	3.439	
RDA M&S Forum	WR	NAVAIR:Pax River, MD	0.375	0.375	May 2012	0.375	May 2013	0.375	May 2014	-		0.375	0.000	1.500	
NMSO Technical Support	WR	NAVAIR:Pax River, MD	0.000	0.483	Jun 2012	0.000		0.000		-		0.000	0.000	0.483	
Simulated Shipboard FMVS	TBD	NWDC:Norfolk, VA	0.000	0.365	Aug 2012	0.000		0.000		-		0.000	0.000	0.365	
Need Item Text	C/BA	Not Specified:Not Specified	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			1.858	3.004		2.479		2.542		0.000		2.542	0.000	9.883	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Standard Interfaces for Virtual World	WR	NAVAIR:Pax River, MD	0.620	1.037	Feb 2012	0.310	Feb 2013	0.300	Feb 2014	-		0.300	0.000	2.267	
Architecture Management Integration Environment	WR	NAVAIR:Pax River, MD	0.000	0.860	Feb 2012	0.320	Feb 2013	0.000		-		0.000	0.000	1.180	
Semantic and Structural Metedata Schema	WR	NAVAIR:Pax River, MD	0.000	0.475	Mar 2012	0.000		0.000		-		0.000	0.000	0.475	
Semantic and Structural Metedata Schema	WR	SPAWAR:Charleston, SC	0.000	0.201	May 2012	0.000		0.000		-		0.000	0.000	0.201	
Tactical Operational Software Environment (TOSEE)	WR	NAVAIR:TSD, Orlando	0.000	0.350	Mar 2012	0.300	Mar 2013	0.300	Mar 2014	-		0.300	0.000	0.950	
Cross Cultural Competence in OPS Environment	WR	NAVAIR:TSD, Orlando	0.000	0.350	Feb 2012	0.275	Feb 2013	0.148	Feb 2014	-		0.148	0.000	0.773	
Framework for Assessing Cost and Technology (FACT)	WR	MCCDC:Quantico, VA	0.000	0.500	Mar 2012	0.000		0.000		-		0.000	0.000	0.500	
Intergrated Air/Missile Defense IAMD	WR	NAVAIR:Pax River, MD	0.000	0.000		0.300	Feb 2013	0.055	Feb 2014	-		0.055	0.000	0.355	
Measuring Immersion Training	WR	MCCDC:Quantico, VA	0.000	0.000		0.306	Feb 2013	0.114	Feb 2014	-		0.114	0.000	0.420	
Subtotal			0.620	3.773		1.811		0.917		0.000		0.917	0.000	7.121	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy							DATE: April 2013			
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	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	7.963	8.072	5.908	5.116	0.000	5.116				

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	83.191	24.473	27.391	28.042	-	28.042	29.947	20.176	19.960	20.291	Continuing	Continuing
3030: <i>FA-18 SLAP</i>	83.191	24.473	10.961	21.858	-	21.858	22.516	20.176	19.960	20.291	Continuing	Continuing
3182: <i>T-45 SLAP</i>	0.000	0.000	16.430	6.184	-	6.184	7.431	0.000	0.000	0.000	0.000	30.045

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 SLAP Project involves the prototype design and development of a new tail hook that is capable of supporting Pilot and Naval Flight Officer (NFO) training in an aircraft carrier environment through 2035. The project also includes an assessment of the aircraft subsystem condition of the T-45 fleet in order to determine what modifications are necessary to extend the aircraft subsystem design life limits to support the Pilot Integrated Production Plan and NFO 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>
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B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	21.446	27.391	29.762	-	29.762
Current President's Budget	24.473	27.391	28.042	-	28.042
Total Adjustments	3.027	0.000	-1.720	-	-1.720
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.505	0.000			
• SBIR/STTR Transfer	-0.478	0.000			
• Program Adjustments	0.000	0.000	-0.063	-	-0.063
• Rate/Misc Adjustments	0.000	0.000	-1.657	-	-1.657

Change Summary Explanation

Technical: Not applicable.

Schedule: 3030: The Structures Phase B effort is extended to 4th Quarter 2018. The Structures Phase C effort will begin in 2nd Quarter 2015 and is extended to 4th Quarter 2018. Phase B is updated to reflect a larger scope of work required to complete Structures tasking. Structures Phase C schedule movement is a product of the Structures Phase B schedule change.

The Subsystems Phase B effort will be completed in 4th Quarter 2013 and Subsystems Phase C will start in 1st Quarter 2014 and end in 4th Quarter 2014. This change reflects a more narrow scope of work required to complete Subsystems Tasking. Subsystems Phase C schedule movement is a product of the Subsystems Phase B schedule change.

3182: Not Applicable

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3030: <i>FA-18 SLAP</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3030: <i>FA-18 SLAP</i>	83.191	24.473	10.961	21.858	-	21.858	22.516	20.176	19.960	20.291	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: F/A-18 SLAP	24.473	10.961	21.858
Articles:	0	0	0
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 2012 Accomplishments: Continue 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 2013 Plans: Continue 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:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3030: <i>FA-18 SLAP</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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	24.473	10.961	21.858

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APN/0525: <i>F-18 Series (OSIP 011-99)</i>	97.893	135.749	126.406		126.406	190.501	272.055	144.819	179.626	263.059	2,195.348

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-FY18) 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 Phase C (FY15-FY18). SLAP is followed by the SLEP during which the actual retrofit and repairs are performed under OSIP 020-14 established in FY14.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3030: <i>FA-18 SLAP</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development Service Life Assessment Program (SLAP) F/A-18A-D	SS/CPFF	Boeing:St. Louis, MO	28.775	0.000		0.000		0.000		-		0.000	0.000	28.775	28.775
Product Development SLAP F/A-18E-F	SS/CPFF	Boeing:St. Louis, MO	42.390	17.930	Jun 2012	5.508	Mar 2013	15.783	Dec 2013	-		15.783	56.650	138.261	138.261
Subtotal			71.165	17.930		5.508		15.783		0.000		15.783	56.650	167.036	167.036

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SLAP Inventory Model	WR	ONR:Arlington, VA	2.250	4.275	Sep 2012	0.000		0.000		-		0.000	0.000	6.525	
SLAP F/A-18 E/F	WR	NAWCAD:Patuxent River, MD	4.935	0.300	Dec 2011	1.371	Dec 2012	1.920	Dec 2013	-		1.920	Continuing	Continuing	Continuing
SLAP F/A-18 E/F	WR	FRC Southwest:San Diego, CA	3.476	0.530	Dec 2011	2.589	Dec 2012	2.144	Dec 2013	-		2.144	Continuing	Continuing	Continuing
Subtotal			10.661	5.105		3.960		4.064		0.000		4.064			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Test & Evaluation - SLAP E/F	WR	NAWCAD:Pax River, MD	0.500	0.000		0.282	Dec 2012	0.157	Dec 2013	-		0.157	Continuing	Continuing	Continuing
Subtotal			0.500	0.000		0.282		0.157		0.000		0.157			

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3030: <i>FA-18 SLAP</i>
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	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Structures	1.0 Structures Phase A/B1																											
	2.0 Structures Phase B2																											
	2.0 Structures Phase B3																											
	2.0 Structures Phase B4																											
Subsystems	5.0 Subsystems Phase B								6.0 Subsystems Phase C																			

2014OSD - 0702207N - 3030

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3030: <i>FA-18 SLAP</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Service Life Assessment Program F/A-18				
Structures: 1.0 Structures Phase A/B1	1	2012	1	2013
Structures: 2.0 Structures Phase B2	1	2012	1	2014
Structures: 2.0 Structures Phase B3	4	2012	4	2015
Structures: 2.0 Structures Phase B4	3	2015	4	2018
Structures: 3.0 Structures Phase C	2	2015	4	2018
Subsystems: 5.0 Subsystems Phase B	1	2012	4	2013
Subsystems: 6.0 Subsystems Phase C	1	2014	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3182: <i>T-45 SLAP</i>	0.000	0.000	16.430	6.184	-	6.184	7.431	0.000	0.000	0.000	0.000	30.045
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 FY-13, 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 T-45 aircraft is the U.S. Navy's only training aircraft capable of providing carrier capable jet training. The T-45 tail hook assembly is an integral component required to support this training capability. The T-45 tail hook assembly is a "life-limited" component which is scrapped after attaining its maximum safe life limit of 600 or 1020 arrestments (based on part number), becomes damaged, or is severely corroded. Due to Diminishing Manufacturing Sources & Material Shortages issues resulting in no current tail hook assembly manufacturer, it is necessary to design, develop, qualify and test an alternate prototype tail hook. This will allow the T-45 to remain operationally available in providing the DON with carrier capable jet training.

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

	FY 2012	FY 2013	FY 2014
Title: T-45 SLAP	0.000	16.430	6.184
Articles:		0	0
Description: Funding supports development of a new tail hook and conducting a Subsystem SLAP to determine modifications necessary to extend service life through 2035.			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Begin the design and development of new tail hook and initiate subsystem SLAP activities and engineering studies with the expectation of extending the T-45 service life to 2035.			
<i>FY 2014 Plans:</i> Continue Subsystem SLAP activities and engineering studies with the expectation of extending the T-45 service life to 2035.			
Accomplishments/Planned Programs Subtotals	0.000	16.430	6.184

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• APN/05690: <i>T-45 Series OSIP</i> <i>00895/02214</i>	18.944	25.230	60.995		60.995	61.176	69.219	67.613	67.114	619.915	1,177.258

Remarks

D. Acquisition Strategy

The Subsystem 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 development and prototyping of a new tail hook is being accomplished through Small Business Innovated Research (SBIR) effort. The effort will involve the design, development and qualification of a tail hook capable of meeting T-45 carrier based training requirements until 2035.

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 SLEP during which the actual retrofits are undertaken.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prod Dev SLAP T-45A/C	SS/CPFF	Boeing:St. Louis, MO	0.000	0.000		3.300	Jan 2013	3.300	Jan 2014	-		3.300	3.300	9.900	9.900
Prod Dev T-45 Tail Hook	C/CR	TBD:TBD	0.000	0.000		2.200	Jan 2013	0.455	Jan 2014	-		0.455	0.301	2.956	2.956
Subtotal			0.000	0.000		5.500		3.755		0.000		3.755	3.601	12.856	12.856

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Technical Support	WR	NAWCAD:Patuxent River, MD	0.000	0.000		7.900	Jan 2013	1.417	Jan 2014	-		1.417	3.284	12.601	
SLAP Engineering Study	SS/BOA	JHU/APL:Laurel, MD	0.000	0.000		2.850	Jan 2013	0.850	Jan 2014	-		0.850	0.400	4.100	4.100
Subtotal			0.000	0.000		10.750		2.267		0.000		2.267	3.684	16.701	

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	Various	NAVAIR:Patuxent River, MD	0.000	0.000		0.180	Jan 2013	0.162	Jan 2014	-		0.162	0.146	0.488	
Subtotal			0.000	0.000		0.180		0.162		0.000		0.162	0.146	0.488	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.000	0.000	16.430	6.184	0.000	6.184	7.431	30.045

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>
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T-45 SLAP	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Product Development																																
									1.0 Product Development																							
									2.0 Product Development																							

2013PB - 0702207N - 3182

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>T-45 SLAP</i>				
Product Development: SLAP T-45C	1	2013	4	2015
Product Development: T-45 Tail Hook	2	2013	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	157.234	51.778	54.879	50.933	-	50.933	51.269	55.346	56.099	57.103	Continuing	Continuing
1050: <i>Manufacturing Tech</i>	157.234	51.778	54.879	50.933	-	50.933	51.269	55.346	56.099	57.103	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	54.031	54.879	54.133	-	54.133
Current President's Budget	51.778	54.879	50.933	-	50.933
Total Adjustments	-2.253	0.000	-3.200	-	-3.200
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.453	0.000			
• SBIR/STTR Transfer	-1.799	0.000			
• Program Adjustments	0.000	0.000	-0.296	-	-0.296
• Rate/Misc Adjustments	-0.001	0.000	-2.904	-	-2.904

Change Summary Explanation

Technical: Not applicable.

UNCLASSIFIED

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

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0708011N: *Industrial Preparedness*

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1050: <i>Manufacturing Tech</i>	157.234	51.778	54.879	50.933	-	50.933	51.269	55.346	56.099	57.103	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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.

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

	FY 2012	FY 2013	FY 2014
Title: COMPOSITES PROCESSING AND FABRICATION	6.000	6.000	6.000
Articles:	0	0	0
<p>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 shipbuilding platforms: DDG-51, CVN-78 Class Carrier, VIRGINIA Class Submarine (VCS), and Littoral Combat Ship (LCS) with some funding for composites manufacturing technology for high priority air platforms such as the Joint Strike Fighter (JSF).</p> <p>FY 2012 Accomplishments: Continued the following FY 2011 efforts: - 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. - Composite Materials and Process Improvement Thrust for DDG-51 Shipbuilding Affordability Initiative. - Composite Materials and Process Improvement Thrust for CVN-78 Shipbuilding Affordability Initiative. - Composite Materials and Process Improvement Thrust for Air Platforms. Initiated Composite Materials and Process Improvement Thrust for LCS Shipbuilding Affordability Initiative</p> <p>FY 2013 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue all efforts of FY 2012. FY 2014 Plans: Continue efforts of FY 2013.				
Title: CORPORATE INVESTMENTS		7.559	10.479	6.533
		Articles: 0	0	0
<p>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 shipbuilding affordability efforts for the following shipbuilding platforms - DDG-51, CVN-78 Class Carrier, VIRGINIA Class Submarine (VCS), and Littoral Combat Ship (LCS) as well as the Joint Strike Fighter (JSF).</p> <p>The increase from FY 2012 to FY 2013 reflects alignment to manufacturing priorities and provides additional resources for JSF affordability.</p> <p>FY 2012 Accomplishments: Continued the following efforts of FY 2011: - Near-Term High Priority Shipbuilding Affordability Thrust for CVN-78. - Near-Term High Priority Shipbuilding Affordability Thrust for LCS. - 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. - Near-Term, High Priority Shipbuilding Affordability Thrust for DDG-51. - Near-Term High Priority Shipbuilding Affordability Thrust for VCS.</p> <p>FY 2013 Plans: Continue all efforts of FY 2012. Initiate Near-Term High Priority Affordability Thrust for JSF.</p> <p>FY 2014 Plans:</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>		PROJECT 1050: <i>Manufacturing Tech</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Continue efforts of FY 2013.				
Title: ELECTRONICS PROCESSING AND FABRICATION				
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), 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).				
FY 2012 Accomplishments: Continued the following efforts of FY 2011: - Electronics/Electro-Optics Thrust for VCS Affordability Initiative. Includes continuation of improved affordable electronics/electro-optics efforts. - Electronics/Electro-Optics Thrust for LCS Shipbuilding Affordability Initiative. - Electronics/Electro-Optics Thrust for Air Platforms. Includes continuation of electronics/electro-optics efforts to improve affordability for Air Platforms. - Electronics/Electro-Optics Thrust for DDG-51 Shipbuilding Affordability Initiative. Includes radar/communications efforts to impact DDG-51 affordability. - 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 2013 Plans: Continue all efforts of FY 2012.				
FY 2014 Plans: Continue efforts of FY 2013.				
Title: METALS PROCESSING AND FABRICATION				
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				
Articles:		10.000 0	10.000 0	10.000 0
Articles:		17.819 0	18.000 0	18.000 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>		PROJECT 1050: <i>Manufacturing Tech</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
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), 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).				
<p>FY 2012 Accomplishments: Continued the following efforts of FY 2011:</p> <ul style="list-style-type: none"> - Schedule Compression/Production Engineering Thrust for VCS Shipbuilding Affordability Initiative. - Outfitting Thrust for VCS Shipbuilding Affordability Initiative. - Rapid response efforts. - 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. - 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. - Metals Thrust for Littoral Combat Ship (LCS) Shipbuilding Affordability Initiative. - 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. - Metal Materials and Process Improvements Thrust for Other Ship/NAVSEA Platforms. - Metals Materials and Process Improvement Thrust for Air Platforms. - Metal Materials and Process Improvements Thrust for Marine Corps Systems. <p>FY 2013 Plans: - Continue efforts of FY 2012.</p> <p>FY 2014 Plans: - Continue efforts of FY 2013.</p>				
Title: OTHER (SHIPBUILDING, REPAIR TECH, ENERGETICS, AND TECHNICAL ENGINEERING SUPPORT)		10.400	10.400	10.400
		0	0	0
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				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Submarine (VCS), 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).</p> <p><i>FY 2012 Accomplishments:</i> Continued the following efforts of FY 2011:</p> <ul style="list-style-type: none"> - Shipbuilding Affordability Thrust for CVN-78. - Shipbuilding Affordability Thrust for VCS. - Shipbuilding Affordability Thrust for LCS. - Shipbuilding Affordability Thrust for DDG-51. - Shipbuilding Thrust for Other Ship/NAVSEA Platforms. - Repair Technology Thrust for repair and sustainment of Navy weapons systems. Includes continuation of Repair Technology projects based on high priority depot needs. - Energetics Thrust for PEO IWS and Other Acquisition Programs. Includes continuation of energetics efforts to support PEO IWS and other acquisition programs. - Provide technical engineering support for the ManTech Program. <p><i>FY 2013 Plans:</i> - Continue efforts of FY 2012.</p> <p><i>FY 2014 Plans:</i> - Continue efforts of FY 2013.</p>			
Accomplishments/Planned Programs Subtotals	51.778	54.879	50.933

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), and the VIRGINIA Class Submarine (VCS) as well as more limited efforts for aircraft/other programs such as the Joint Strike Fighter (JSF).

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>

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 for the class for each of the four primary shipbuilding platforms: DDG-51, CVN-78 Class Carrier, VCS, and LCS and JSF.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mfg Development (B2P)	C/CPFF	American Competitiveness Institute (ACI):Philadelphia, PA (B2P)	6.300	0.000	Oct 2011	0.000		0.000		-		0.000	0.000	6.300	
Mfg Development (CMTC)	C/CPAF	SCRA:Anderson, SC	21.404	7.300	Oct 2011	6.580	Oct 2012	6.580	Oct 2013	-		6.580	Continuing	Continuing	Continuing
Award Fee (CMTC)	C/CPAF	SCRA:Anderson, SC	0.900	0.300	Oct 2011	0.420	Oct 2012	0.420	Oct 2013	-		0.420	0.000	2.040	
Mfg Development (CNST)1	C/CPFF	Advanced Technology Institute (ATI):Charleston, SC	4.697	0.000		0.000		0.000		-		0.000	0.000	4.697	
Mfg Development (CNST)2	C/CPAF	Advanced Technology Institute (ATI):Charleston, SC	9.315	4.997	Oct 2011	7.469	Oct 2012	5.922	Oct 2013	-		5.922	0.000	27.703	
Award Fee (CNST)	C/CPAF	Advanced Technology Institute (ATI):Charleston, SC	0.680	0.300	Oct 2011	0.477	Oct 2012	0.378	Oct 2013	-		0.378	0.000	1.835	
Mfg Development (EMPF)	C/CPAF	American Competitiveness Institute (ACI):Philadelphia, PA	18.699	8.227	Oct 2011	6.580	Oct 2012	6.388	Oct 2013	-		6.388	0.000	39.894	
Award Fee (EMPF)	C/CPAF	American Competitiveness Institute (ACI):Philadelphia, PA	1.365	0.373	Oct 2011	0.420	Oct 2012	0.408	Oct 2013	-		0.408	0.000	2.566	
Mfg Development (EMTC)	WR	Naval Surface Warfare Center - Indian Head:Indian Head, MD	6.000	2.000	Nov 2011	2.000	Oct 2012	2.000	Oct 2013	-		2.000	0.000	12.000	
Mfg Development (EOC)	C/CPAF	Penn State University:State College, PA (EOC)	9.501	4.230	Oct 2011	4.230	Oct 2012	4.230	Oct 2013	-		4.230	0.000	22.191	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Award Fee (EOC)	C/CPAF	Penn State University:State College, PA (EOC)	0.349	0.270	Oct 2011	0.270	Oct 2012	0.270	Oct 2013	-		0.270	0.000	1.159	
Mfg Development (iMAST)	C/CPFF	Penn State University:State College, PA (iMAST)	11.199	3.575	Dec 2011	3.875	Dec 2012	3.575	Oct 2013	-		3.575	0.000	22.224	
Mfg Development (NJC)	C/CPAF	Edison Welding Institute:Columbus, OH	9.175	2.304	Oct 2011	0.000		0.000		-		0.000	0.000	11.479	
Award Fee (NJC)	C/CPAF	Edison Welding Institute:Columbus, OH	0.575	0.218	Oct 2011	0.000		0.000		-		0.000	0.000	0.793	
Mfg Development (NMC)	C/CPAF	Concurrent Technologies Corp.:Johnstown, PA	34.300	11.319	Oct 2011	13.563	Oct 2012	12.160	Oct 2013	-		12.160	0.000	71.342	
Award Fee (NMC)	C/CPAF	Concurrent Technologies Corp.:Johnstown, PA	1.700	0.600	Oct 2011	0.861	Oct 2012	0.776	Oct 2013	-		0.776	0.000	3.937	
Mfg Development	WR	Naval Air Systems Command (NAVAIR):Patuxent River, MD	1.153	0.400	Nov 2011	0.375	Nov 2012	0.375	Oct 2013	-		0.375	0.000	2.303	
Mfg Development	WR	Naval Research Laboratory (NRL):Washington, DC	0.400	0.170	Nov 2011	0.470	Nov 2012	0.380	Oct 2013	-		0.380	0.000	1.420	
Mfg Development	WR	Naval Surface Warfare Center - Carderock Division:Carderock, MD	4.191	1.488	Nov 2011	1.584	Nov 2012	1.424	Oct 2013	-		1.424	0.000	8.687	
Mfg Development	WR	Naval Undersea Warfare Center - Newport:Newport, RI	0.380	0.000		0.000		0.000		-		0.000	0.000	0.380	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mfg Development	WR	SPAWAR:San Diego, CA	0.010	0.000		0.000		0.000		-		0.000	0.000	0.010	
Mfg Development	WR	Naval Surface Warfare Center Dahlgren:Dahlgren, VA	0.000	0.000		0.000		0.025	Oct 2013	-		0.025	0.000	0.025	
Subtotal			142.293	48.071		49.174		45.311		0.000		45.311			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Support (GTEC)	C/CPFF	DRC:Andover, MA	5.562	1.800	Oct 2011	1.800	Oct 2012	1.800	Oct 2013	-		1.800	0.000	10.962	
Contractor Support (GMST)	C/CPFF	DRC:Andover, MA	0.048	0.140	Oct 2011	0.025	Oct 2012	0.025	Oct 2013	-		0.025	0.000	0.238	
ManTech Registrations (GMPC)	Various	TBD:TBD	0.026	0.010	Jun 2012	0.010	Jun 2013	0.010	Oct 2013	-		0.010	0.000	0.056	
ManTech Travel (GMITT)	Various	TBD:TBD	0.235	0.080	Sep 2012	0.080	Sep 2013	0.060	Oct 2013	-		0.060	0.000	0.455	
Contractor Support (GMST)	C/CPFF	TBD:TBD	0.440	0.135	Dec 2011	0.145	Dec 2012	0.126	Oct 2013	-		0.126	0.000	0.846	
Miscellaneous (ONR Support Bills)	C/CPFF	TBD:TBD	3.200	1.434	Oct 2011	1.459	Oct 2012	1.429	Oct 2013	-		1.429	0.000	7.522	
Miscellaneous (Stat Reserve)	TBD	TBD:TBD	5.430	0.108	Mar 2012	2.186	Mar 2013	2.172	Oct 2013	-		2.172	0.000	9.896	
Subtotal			14.941	3.707		5.705		5.622		0.000		5.622	0.000	29.975	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		157.234	51.778	54.879	50.933	0.000	50.933		

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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- Project Identification (MP&F)
- Project Evaluation (MP&F)
- Prog Office Commitment (MP&F)
- FY Plan Determined (MP&F)
- Project Award (MP&F)
- Ongoing Projects (MP&F)
Other
- Annual Investment Guidance (Other)
- Project Identification (Other)
- Project Evaluation (Other)
- Prog Office Commitment (Other)
- FY Plan Determined (Other)
- Project Award (Other)
- Ongoing Projects (Other)

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1050				
Composites Processing and Fabrication	1	2012	4	2018
-- Annual Investment Guidance (CP&F)	1	2012	4	2017
-- Project Identification (CP&F)	1	2012	1	2018
-- Project Evaluation (CP&F)	1	2012	2	2018
-- Prog Office Commitment (CP&F)	1	2012	2	2018
-- FY Plan Determined (CP&F)	1	2012	3	2018
-- Project Award (CP&F)	1	2012	1	2018
-- Ongoing Projects (CP&F)	1	2012	4	2018
Corporate Investments	1	2012	4	2018
-- Annual Investment Guidance (CI)	1	2012	4	2017
-- Project Identification (CI)	1	2012	1	2018
-- Project Evaluation (CI)	1	2012	2	2018
-- Prog Office Commitment (CI)	1	2012	2	2018
-- FY Plan Determined (CI)	1	2012	3	2018
-- Project Award (CI)	1	2012	1	2018
-- Ongoing Projects (CI)	1	2012	4	2018
Electronics Processing and Fabrication	1	2012	4	2018
-- Annual Investment Guidance (EP&F)	1	2012	4	2017
-- Project Identification (EP&F)	1	2012	1	2018
-- Project Evaluation (EP&F)	1	2012	2	2018
-- Prog Office Commitment (EP&F)	1	2012	2	2018

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
-- FY Plan Determined (EP&F)	1	2012	3	2018
-- Project Award (EP&F)	1	2012	1	2018
-- Ongoing Projects (EP&F)	1	2012	4	2018
Metals Processing and Fabrication	1	2012	4	2018
-- Annual Investment Guidance (MP&F)	1	2012	4	2017
-- Project Identification (MP&F)	1	2012	1	2018
-- Project Evaluation (MP&F)	1	2012	2	2018
-- Prog Office Commitment (MP&F)	1	2012	2	2018
-- FY Plan Determined (MP&F)	1	2012	3	2018
-- Project Award (MP&F)	1	2012	1	2018
-- Ongoing Projects (MP&F)	1	2012	4	2018
Other	1	2012	4	2018
-- Annual Investment Guidance (Other)	1	2012	4	2017
-- Project Identification (Other)	1	2012	1	2018
-- Project Evaluation (Other)	1	2012	2	2018
-- Prog Office Commitment (Other)	1	2012	2	2018
-- FY Plan Determined (Other)	1	2012	3	2018
-- Project Award (Other)	1	2012	1	2018
-- Ongoing Projects (Other)	1	2012	4	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	0.000	3.923	5.000	4.998	-	4.998	5.000	5.000	5.000	5.000	Continuing	Continuing
2466: <i>NSRP ASE</i>	0.000	3.923	5.000	4.998	-	4.998	5.000	5.000	5.000	5.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	5.000	5.000	5.000	-	5.000
Current President's Budget	3.923	5.000	4.998	-	4.998
Total Adjustments	-1.077	0.000	-0.002	-	-0.002
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.980	0.000			
• SBIR/STTR Transfer	-0.097	0.000			
• Program Adjustments	0.000	0.000	0.000	-	0.000
• Rate/Misc Adjustments	0.000	0.000	-0.002	-	-0.002

Change Summary Explanation

FY12 SBIR Assessment -97K
 LCS Early Deployment -980K

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>	PROJECT 2466: <i>NSRP ASE</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2466: <i>NSRP ASE</i>	0.000	3.923	5.000	4.998	-	4.998	5.000	5.000	5.000	5.000	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 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 2012	FY 2013	FY 2014
Title: Technology Development Projects	3.923	5.000	4.998
Articles:	0	0	0
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 2012 Accomplishments:			
(1) Completed technology development projects in the four major initiative areas (Ship Design Technologies, Ship Production Technologies, Business Process and Information Technologies, and Regulatory Compliance and Technology Transfer/Workforce Development) that will be competitively selected by industry subject matter experts and Navy stakeholders during GFY11, targeted the following priorities in Naval shipbuilding and repair: (1) Improved Quality; (2) Reduced Total Ownership Costs; and, (3) Increased Energy Efficiency. Projects selected were in the following areas:			
<ul style="list-style-type: none"> - Promotion of Modular Construction - Reduction of Re-work - Improving Production Engineering - Improving Specifications and Standards 			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>	PROJECT 2466: <i>NSRP ASE</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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<ul style="list-style-type: none"> - Improving Manufacturing Processes - Improving Production Planning - Data Exchange - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost <p>(2) Continued technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community</p> <p>FY 2013 Plans:</p> <p>(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:</p> <ul style="list-style-type: none"> - 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 <p>(2) Continue technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community</p> <p>FY 2014 Plans:</p> <p>(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</p>			
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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>		PROJECT 2466: <i>NSRP ASE</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>of Total Ownership Costs; and, (3) Increasing Energy Efficiency. It is anticipated that projects selected will continue to be focused in the following areas:</p> <ul style="list-style-type: none"> - 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 <p>(2) Continue technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community</p>				
Accomplishments/Planned Programs Subtotals		3.923	5.000	4.998
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				

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>	PROJECT 2466: <i>NSRP ASE</i>
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Proj 2466	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1Q	2Q	3Q	4Q																								
Ship Collaborative Framework Technologies																												
Empty grid for data entry																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>	PROJECT 2466: <i>NSRP ASE</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2466				
Ship Collaborative Framework Technologies	1	2012	4	2018

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