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

February 2015



Navy

Justification Book Volume 4 of 5

Research, Development, Test & Evaluation, Navy

Budget Activity 6

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

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Department of Defense Appropriations Act, 2016

Research, Development, Test and Evaluation, Navy

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

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 (Dollars in Thousands)

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Summary Recap of Budget Activities	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Basic Research	604,155	650,153		650,153	586,928		586,928
Applied Research	844,152	869,912		869,912	864,570		864,570
Advanced Technology Development	622,947	635,203		635,203	662,864		662,864
Advanced Component Development & Prototypes	4,151,886	4,443,594		4,443,594	5,024,626		5,024,626
System Development & Demonstration	4,174,217	5,236,176	470	5,236,646	6,308,800		6,308,800
Management Support	1,153,417	972,892		972,892	955,955		955,955
Operational Systems Development	3,395,279	3,146,674	35,550	3,182,224	3,482,173	35,747	3,517,920
Total Research, Development, Test & Evaluation	14,946,053	15,954,604	36,020	15,990,624	17,885,916	35,747	17,921,663
Summary Recap of FYDP Programs							
Strategic Forces	139,615	142,745		142,745	174,014		174,014
General Purpose Forces	1,292,622	1,265,259	470	1,265,729	1,429,549		1,429,549
Intelligence and Communications	644,998	713,250	470	713,720	766,221		766,221
Research and Development	11,368,895	12,607,993		12,607,993	14,235,441		14,235,441
Central Supply and Maintenance	79,240	62,684		62,684	28,506		28,506
Administration and Associated Activities	1,209						
Classified Programs	1,419,474	1,162,673	35,080	1,197,753	1,252,185	35,747	1,287,932
Total Research, Development, Test & Evaluation	14,946,053	15,954,604	36,020	15,990,624	17,885,916	35,747	17,921,663

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

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

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16	0603123N	Force Protection Advanced Technology	03	28,194	25,831		25,831	38,044		38,044	U
17	0603271N	Electromagnetic Systems Advanced Technology	03	53,519	64,574		64,574	34,899		34,899	U
18	0603640M	USMC Advanced Technology Demonstration (ATD)	03	128,772	128,320		128,320	137,562		137,562	U
19	0603651M	Joint Non-Lethal Weapons Technology Development	03	11,452	11,498		11,498	12,745		12,745	U
20	0603673N	Future Naval Capabilities Advanced Technology Development	03	241,652	260,847		260,847	258,860		258,860	U
21	0603680N	Manufacturing Technology Program	03					57,074		57,074	U
22	0603729N	Warfighter Protection Advanced Technology	03	40,260	40,538		40,538	4,807		4,807	U
23	0603747N	Undersea Warfare Advanced Technology	03		9,985		9,985	13,748		13,748	U
24	0603758N	Navy Warfighting Experiments and Demonstrations	03	49,581	53,876		53,876	66,041		66,041	U
25	0603782N	Mine and Expeditionary Warfare Advanced Technology	03	1,916	2,000		2,000	1,991		1,991	U
		Advanced Technology Development		622,947	635,203		635,203	662,864		662,864	
26	0603207N	Air/Ocean Tactical Applications	04	41,138	40,429		40,429	41,832		41,832	U
27	0603216N	Aviation Survivability	04	6,637	4,325		4,325	5,404		5,404	U
28	0603237N	Deployable Joint Command and Control	04	3,195	2,991		2,991	3,086		3,086	U
29	0603251N	Aircraft Systems	04	10,072	12,651		12,651	11,643		11,643	U
30	0603254N	ASW Systems Development	04	6,809	7,782		7,782	5,555		5,555	U
31	0603261N	Tactical Airborne Reconnaissance	04	5,257	5,270		5,270	3,087		3,087	U

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

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

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

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

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

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125	0604610N	Lightweight Torpedo Development	05	26,098	35,280		35,280	33,738		33,738	U
126	0604654N	Joint Service Explosive Ordnance Development	05	8,872	8,985		8,985	8,123		8,123	U
127	0604703N	Personnel, Training, Simulation, and Human Factors	05	4,233	7,669		7,669	7,686		7,686	U
128	0604727N	Joint Standoff Weapon Systems	05	434	4,400		4,400	405		405	U
129	0604755N	Ship Self Defense (Detect & Control)	05	98,382	56,884		56,884	153,836		153,836	U
130	0604756N	Ship Self Defense (Engage: Hard Kill)	05	42,551	96,937		96,937	99,619		99,619	U
131	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	112,900	116,904		116,904	116,798		116,798	U
132	0604761N	Intelligence Engineering	05	1,984	200		200	4,353		4,353	U
133	0604771N	Medical Development	05	27,725	27,287		27,287	9,443		9,443	U
134	0604777N	Navigation/ID System	05	41,735	29,504		29,504	32,469		32,469	U
135	0604800M	Joint Strike Fighter (JSF) - EMD	05	410,080	499,048		499,048	537,901		537,901	U
136	0604800N	Joint Strike Fighter (JSF) - EMD	05	425,340	502,260		502,260	504,736		504,736	U
137	0604810M	Joint Strike Fighter Follow On Development - Marine Corps	05		10,399		10,399	59,265		59,265	U
138	0604810N	Joint Strike Fighter Follow On Development - Navy	05		10,622		10,622	47,579		47,579	U
139	0605013M	Information Technology Development	05	4,787	2,887		2,887	5,914		5,914	U
140	0605013N	Information Technology Development	05	51,746	66,317		66,317	89,711		89,711	U
141	0605212N	CH-53K RDTE	05	447,511	559,687		559,687	632,092		632,092	U
142	0605220N	Ship to Shore Connector (SSC)	05		42,778		42,778	7,778		7,778	U

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

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

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

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

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

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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	42.177	40.793	30.769	-	30.769	25.642	23.530	21.875	22.431	Continuing	Continuing
0602: <i>Eletronic W/F Env Simulation (ECHO)</i>	0.000	29.267	26.057	21.386	-	21.386	10.973	9.285	7.097	7.348	Continuing	Continuing
0672: <i>Effect Nav E/W (ENEWS)</i>	0.000	12.910	14.736	9.383	-	9.383	14.669	14.245	14.778	15.083	Continuing	Continuing

A. Mission Description and Budget Item Justification

This is a continuing program that consolidates the design, fabrication and integration of Naval Electronic Warfare (EW) threat simulators for increased managerial emphasis and coordination. These simulator development efforts provide realistic Developmental and Operational Test and Evaluation environments to test EW systems and defensive tactics. These projects develop threat Anti-Air and Anti-Ship weapon system simulators in accordance with the Services' requirements.

The 0602 Project, Electronic Warfare Environment Simulation, directly supports the Test and Evaluation resource requirements for all Naval Air EW development programs to include multi-spectral situational awareness and countermeasures. Programs in development and future programs include: ALR-67(v) 3, Integrated Defensive Electronic Countermeasures Suite ALQ-214, the AAR-47 (v) 3, AVR-2, Advanced 6" Expendable, Advanced Strategic Tactical Expendable, ALQ-144A, Joint Strike Fighter, EA-18G, LR700, Low Band Transmitter, P-8A, and the Next Generation Jammer.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	43.261	45.272	41.861	-	41.861
Current President's Budget	42.177	40.793	30.769	-	30.769
Total Adjustments	-1.084	-4.479	-11.092	-	-11.092
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-4.479	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	-	-	-	-	-
• SBIR/STTR Transfer	-1.084	-	-	-	-
• Program Adjustments	-	-	-	-0.040	-0.040
• Rate/Misc Adjustments	-	-	-	-11.052	-11.052

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	
<u>Change Summary Explanation</u> The FY 2016 funding request was reduced by -\$5.9 million to account for the availability of prior year execution balances. Technical: Not applicable. Schedule: Not applicable.		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>				Project (Number/Name) 0602 / <i>Eletronics W/F Env Simulation (ECHO)</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0602: <i>Eletronics W/F Env Simulation (ECHO)</i>	-	29.267	26.057	21.386	-	21.386	10.973	9.285	7.097	7.348	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The objective of this project is development of necessary simulation facilities and approaches to allow determination of the effectiveness of Electronic Warfare (EW) in real world engagement situations and to support the introduction of modern, effective systems into Naval Aviation. The heavy use of test resources by all Services demonstrates the importance of these assets. The Navy has been very successful in executing all of its major programs, and to date has had no major technical problems.

The Electronic Warfare Environment Simulation project is unique because it is the only program within the Department of Defense which develops and provides Naval anti-air warfare threat assets for Test and Evaluation (T&E).

This project directly supports the T&E resource requirements for all Naval Air EW development programs, to include multi-spectral situational awareness and countermeasures. Programs in development and future programs include: ALR-67(v) 3, Integrated Defensive Electronic Countermeasures Suite ALQ-214, the AAR-47 (v) 3, AVR-2, Advanced 6" Expendable, Advanced Strategic Tactical Expendable, ALQ-144A, Joint Strike Fighter, EA-18G, LR700, Low Band Transmitter, P-8A, and the Next Generation Jammer.

This project provides for the development of an Integrated Air Defense T&E capability to be fielded at each of the three sites comprising the Navy's Tri-Center complex: Naval Air Warfare Center Weapons Division, China Lake and Point Mugu in CA, and Naval Air Warfare Center Aircraft Division, Patuxent River, MD.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: REQUIREMENTS AND VALIDATION	1.115	0.981	0.878	-	0.878
Articles:	-	-	-	-	-
Description: Validate and track intel updates of the threat systems necessary for the operation and continuous improvement of Navy laboratories and ranges which provide engineering support, testing and analysis to the developers, integrators, testers and users of systems and technologies that counter or penetrate air defenses.					
FY 2014 Accomplishments: - Continue to provide program management, systems engineering, and requirements identification for the development of simulators and foreign material acquisition.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	Project (Number/Name) 0602 / <i>Eletronics W/F Env Simulation (ECHO)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>- Continue to validate simulators and stimulators at the Navy tri-lab centers.</p> <p>FY 2015 Plans:</p> <p>- Continue to provide program management, systems engineering, and requirements identification for the development of simulators and foreign material acquisition.</p> <p>- Continue to validate simulators and stimulators at the Navy tri-lab centers.</p> <p>FY 2016 Base Plans:</p> <p>- Continue to provide program management, systems engineering, and requirements identification for the development of simulators and foreign material acquisition.</p> <p>- Continue to validate simulators and stimulators at the Navy tri-lab centers.</p> <p>FY 2016 OCO Plans:</p> <p>N/A</p>					
<p>Title: ACQUISITION AND MEASUREMENT CAPABILITIES</p> <p align="right">Articles:</p> <p>Description: Provide the test community with the modern threat acquisition systems and effectiveness measurement systems necessary for Test and Evaluation of airborne alert, Situation Awareness, targeting systems and airborne response systems.</p> <p>Funding increase from FY 2014 to FY 2015 required for material purchases for radio frequency beam measurement capability. Funding decrease from FY 2015 to FY 2016 because the majority of material purchases for radio frequency beam measurement capability are complete.</p> <p>FY 2014 Accomplishments:</p> <p>- Continue the update to existing laboratory simulators of foreign radars.</p> <p>- Continue the upgrade of open-loop threat simulators at Electronic Combat Range (ECR).</p> <p>- Continue the development of an open air radio frequency beam measurement capability.</p> <p>- Initiate the upgrade of open air radio frequency signal density enhancement systems.</p> <p>- Complete the development of an advanced Early Warning and Acquisition radar hybrid laboratory simulator.</p> <p>FY 2015 Plans:</p> <p>- Complete the update to existing laboratory simulators of foreign radars.</p> <p>- Continue the upgrade of open-loop threat simulators at ECR.</p>	5.711	9.030	5.109	-	5.109
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	Project (Number/Name) 0602 / <i>Eletronics W/F Env Simulation (ECHO)</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
<ul style="list-style-type: none"> - Continue the development of an open air radio frequency beam measurement capability. - Continue the upgrade of open air radio frequency signal density enhancement systems. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Continue the development of an open air radio frequency beam measurement capability. - Complete the upgrade of open-loop threat simulators at Electronic Combat Range (ECR). - Complete the upgrade of open air radio frequency signal density enhancement systems. <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: ENGAGEMENT CAPABILITIES</p> <p align="right">Articles:</p> <p>Description: Provide the test community with the modern threat engagement systems necessary for Test and Evaluation of airborne alert, Situation Awareness, targeting systems and airborne response systems.</p> <p>Funding decrease from FY 2014 to FY 2015 in order to properly align the execution due to the late award of the contract for the conversion of a threat system. Development, integration and site acceptance have moved out to FY 2017 and FY 2018 as a result.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> - Continue the upgrade and integration of missile simulation models. - Continue the development of a closed-loop threat surface to air missile system simulator. - Continue the conversion of a threat system. - Continue the development of the Long Range Threat System (LRTS) simulator at ECR. - Complete the development of a Digital Radio Frequency Memory Jammer simulator. - Complete the upgrade to the J-32B Advanced Threat System at ECR. - Initiate the minor upgrades to open air and laboratory threat systems. <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Continue the upgrade and integration of missile simulation models. - Continue the development of a closed-loop threat surface to air missile system simulator. - Continue the conversion of a threat system. - Continue the minor upgrades to open air and laboratory threat systems. 					
	22.441	16.046	15.399	-	15.399
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	Project (Number/Name) 0602 / <i>Eletronics W/F Env Simulation (ECHO)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Complete the development of the LRTS simulator at ECR.					
<i>FY 2016 Base Plans:</i> - Continue the upgrade and integration of missile simulation models. - Continue the development of a closed-loop threat surface to air missile system simulator. - Continue the conversion of a threat system. - Continue the minor upgrades to open air and laboratory threat systems.					
<i>FY 2016 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	29.267	26.057	21.386	-	21.386

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

N/A

Remarks

D. Acquisition Strategy

Not Applicable.

E. Performance Metrics

Successfully achieve Initial Operational Capability of Navy Threat Simulation projects within 60 days of approved schedule and have test capabilities scheduled in support of Navy test programs within 180 days.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	Project (Number/Name) 0672 / <i>Effect Nav E/W (ENEWS)</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0672: <i>Effect Nav E/W (ENEWS)</i>	-	12.910	14.736	9.383	-	9.383	14.669	14.245	14.778	15.083	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The objective of the Effectiveness of Navy Electronic Warfare (EW) Systems (ENEWS) Project is the development and application of necessary simulation assets to determine the effectiveness of EW for Navy ships in simulated real-world engagement situations. The project primarily supports the introduction of modern, effective shipboard and off-board EW systems, and tactics for the Surface Navy. The heavy use of ENEWS resources by Naval Sea Systems Command, Operational Test and Evaluation (OT&E) Force, Special Operations, and other EW Research, Development, Test and Evaluation (T&E) agencies speaks to the overall importance of this project. The project provides support for EW system design, Engineering Test (ET), Development Test (DT), Operational Test (OT), and the development of utilization tactics. In the past ENEWS quick reaction capabilities have had great impact on crisis situations such as the Libyan crises, Iran threat, Persian Gulf crisis, and Operation Desert Shield/Storm. Simulation Display (SIMDIS) is an ENEWS modeling tool that was developed to support T&E. SIMDIS has been adopted by most Department of Defense (DoD) T&E and training ranges to provide visualization of T&E and training scenarios. One of the primary threats to surface ships is Anti-Ship Capable Missile systems. The ENEWS Project is unique in that it is the only project within DoD dedicated to developing and providing realistic Anti-Ship Capable Missile assets to test and evaluate the effectiveness of shipboard EW systems and tactics against these type threats. The ENEWS Project is a critical part of the Office of the Secretary of Defense Test Resource Master Plan. This plan employs many of the ENEWS assets for planning, analysis, testing, and verification of shipboard and off-board EW systems techniques and tactics. As part of its normal activities, ENEWS provides Development Test and Evaluation (DT&E), OT&E, and Follow-on Operational Test and Evaluation (FOT&E) support to the surface Navy for all ship classes. DT, OT and FOT&E support includes AN/SLQ-32 Surface Electronic Warfare Improvement Program (SEWIP), Nulka, Rapid Anti-ship Integrated Defense System, all MK245 Giant tests, advanced InfraRed (IR) decoys, decoy placement, ship IR signature and radar cross section measurement of DDG-51, LPD-17, DD-21 and PC class ships, High Power Microwave program, and other ship self-defense initiatives, including T&E of Future Naval Capability process. In addition, ENEWS assets are regularly employed to test the effectiveness of North Atlantic Treaty Organization (NATO) ships' EW systems in joint allied exercises. ENEWS assets also support Joint EW exercises that are conducted with Rim of the Pacific (RIMPAC) nations.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: CLASSIFIED PROGRAM	8.494	7.500	3.161	-	3.161
Articles:	-	-	-	-	-
Description: Details about this program are classified.					
Details about this program and any changes are classified.					
FY 2014 Accomplishments:					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	Project (Number/Name) 0672 / <i>Effect Nav E/W (ENEWS)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
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<p>- Details are of a higher classification.</p> <p>FY 2015 Plans: - Details are of a higher classification.</p> <p>FY 2016 Base Plans: - Details are of a higher classification.</p> <p>Funds are being moved to support Electronic Attack (EA) Test and Evaluation (T&E) for Surface Electronic Warfare Improvement Program (SEWIP) Block 3 POR.</p> <p>FY 2016 OCO Plans: N/A</p>					
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Title: HARDWARE SIMULATION SYSTEMS	1.773	1.786	3.336	-	3.336
Articles:	-	-	-	-	-

Description: Maintain and perform Hardware and Software Upgrades to the inventory of ENEWS flyable and shore based Anti-Ship Capable Missile (ASCM) Electro-Optic/Infrared (EO/IR), Visible and Radio Frequency (RF) Simulators. Perform characterization of IR and RF simulators as part of the periodic evaluation of simulation performance and collect performance data for comparison with previously recorded data. Also includes development and maintenance of all simulator control panels.

The increase between FY 2015 and FY 2016 is due to the Effectiveness of Naval EW Systems Technical Change. This funding increase supports critical simulator capability upgrades necessary to test, evaluate and demonstrate the effectiveness of Surface Electronic Warfare.

FY 2014 Accomplishments:

- Continued annual maintenance of ENEWS simulators to support flight/shore based tests.
- Completed software intelligence upgrades to the MEIR 3 and MIKE 3 simulators.
- Initiated hardware upgrades to the SUMMIT Simulator.
- Initiated software upgrades to the VICTOR Standard Instrumentation Pod (SIP).

FY 2015 Plans:

- Continue all efforts of FY 2014 less those noted completed above.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	Project (Number/Name) 0672 / <i>Effect Nav E/W (ENEWS)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>- Initiate hardware upgrades to the FOXTROT 3 TOWSIM.</p> <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Continue all efforts of FY 2015 less those noted completed above. - Initiate hardware and software upgrades for the ASCM signal processor in the loop (ASPIL) - Initiate software upgrades for the MEIR 3, MIKE 3, TOWSIM Electro-Optical (EO) and VICTOR 1 SIP simulators <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: SIMULATION VALIDATION AND REQUIREMENTS</p> <p align="right">Articles:</p> <p>Description: Provides for the validation of hardware simulators and digital models. Develops reports that contain detailed descriptions and parametric data of the threat simulators or digital models and compares the simulator's parametric data to the actual threat's parametric data. Provide technical management functions in support of the ENEWS project; engineering and technical support requirements for the overall efforts of ASCM simulator and digital model development to meet DT/OT testing requirements, development of detailed test resource requirements and provides an interface between OPNAV N2/N6, Office of Naval Research, Naval Post Graduate School (NPS) and other ENEWS oversight activities.</p> <p>The decrease between 2014 and 2015 is due to the completion of the SIGMA, OMEGA 2 and ZETA simulator hardware validation reports. The decrease between FY 2015 and FY 2016 is due to a reduction in the simulator validation effort. No validation reports are scheduled to be published in FY 2016.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> - Continued management of the SVWG. - Continued SIGMA simulator hardware validation report. - Initiated and completed update of the FY 2014 Program Management Plan. - Initiated and completed FY 2014 monthly reports, performance based management and analysis, financial execution reporting and assessment. - Initiated OMEGA 2 and ZETA simulator hardware validation report. <p>FY 2015 Plans:</p>	0.832	0.649	0.521	-	0.521
	-	-	-	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	Project (Number/Name) 0672 / <i>Effect Nav E/W (ENEWS)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
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<ul style="list-style-type: none"> - Continue all efforts of FY 2014 less those noted completed above. - Complete SIGMA, OMEGA 2 and ZETA simulator hardware validation reports. - Initiate and complete update of the FY 2015 Program Management Plan. - Initiate and complete FY 2015 monthly reports, performance based management and analysis, financial execution reporting and assessment. - Initiate LAMBDA simulator hardware validation report. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Continue all efforts of FY 2015 less those noted completed above. - Initiate and complete update of the FY 2016 ENEWS Program Management Plan. - Initiate and complete FY 2016 monthly reports, performance based management and analysis, financial execution reporting and assessment. - Initiate and complete all FY 2015 Planning, Programming and Budgeting Systems submissions. - Initiate BETA simulator hardware validation report. - Initiate and complete the LAMBDA simulator characterization assessment. <p>FY 2016 OCO Plans: N/A</p>					
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Title: SUPPORT AND COMPUTERS SIMULATION SYSTEMS	1.811	4.801	2.365	-	2.365
Articles:	-	-	-	-	-

Description: Perform maintenance and intelligence upgrades to EO/IR, Digital, and RF Laboratory Simulation testing facilities and flight support equipment based on existing and emerging complex threat systems. Development of T&E scenarios and environmental modeling to support electronic support (ES) and electronic attack (EA) testing; modify ASCM Digital Models based on the latest intelligence data obtained from threat databases.

The increase between FY 2014 and FY 2015 is due to the Effectiveness of Naval EW Systems Technical Change. This funding increase supports critical simulator capability upgrades and digital model development necessary to test, evaluate and demonstrate effectiveness of Surface Electronic Warfare.

The decrease between FY 2015 and FY 2016 is due to completion of a simulator capability upgrade in FY 2015.

FY 2014 Accomplishments:

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	Project (Number/Name) 0672 / <i>Effect Nav E/W (ENEWS)</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Continued maintenance and upgrades to shore-based test facilities and mobile test vans as required to conduct testing in support of SEWIP, Nulka and multi-function EW programs. - Continued to transition environmental, threat and platform simulations from Subversion to Mercurial Distributed Version Control System. - Continued upgrades to configuration control software library as new releases became available. - Continued to develop new digital models of Anti-ship Cruise Missile (ASCM) threats as they became available. - Continued upgrades and maintenance of flight support systems as necessary to support the IR/RF ENEWS simulators. - Continued upgrades and user friendly enhancements to the Simulation Display (SIMDIS) toolset - Completed simulator user friendly enhancements for the NOVEMBER IV digital model. - Completed improvements and intelligence upgrades to the mmW digital models. - Initiated development of LIMA III and LIMA IV digital models <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Continue all efforts of 2014, less those noted as completed above. - Initiate digital model upgrades to support Surface Electronic Warfare Improvement Program (SEWIP) Block 3 test and evaluation. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Continue all efforts of 2015, less those noted as completed above. - Maintain and update target models to support SEWIP Block 3 and Advanced Offboard Electronic Warfare (AOEW) effectiveness assessments - Initiate update to the Scenario and Environment Model used to support open and closed loop simulations <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	12.910	14.736	9.383	-	9.383

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / <i>Threat Simulator Development</i>	Project (Number/Name) 0672 / <i>Effect Nav E/W (ENEWS)</i>

E. Performance Metrics

Performance metrics are discussed within each project (R2a).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>					R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	70.264	66.718	112.606	-	112.606	102.984	11.057	11.378	10.022	Continuing	Continuing
0609: <i>Aerial Target System Dev</i>	0.000	52.229	56.296	75.498	-	75.498	68.180	8.469	8.748	7.335	Continuing	Continuing
0610: <i>Wpn Sys T&E Trng Dev/ Proc</i>	0.000	13.664	-	31.818	-	31.818	32.000	0.048	-	-	-	77.530
0612: <i>Surface Targets Development</i>	0.000	1.363	1.262	1.236	-	1.236	1.299	1.274	1.303	1.329	Continuing	Continuing
2159: <i>ASW TARGET</i>	0.000	3.008	9.160	4.054	-	4.054	1.505	1.266	1.327	1.358	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element funds the development and procurement of aerial, sea surface, and sub surface target systems, as well as target control systems, and associated Target Augmentation and Auxiliary Systems required to replicate real world threat systems. These capabilities are required to execute developmental and operational test and evaluation of naval combat weapon systems and to satisfy advanced fleet training requirements.

This program is funded under RESEARCH, DEVELOPMENT, TEST AND EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	71.872	79.718	30.789	-	30.789
Current President's Budget	70.264	66.718	112.606	-	112.606
Total Adjustments	-1.608	-13.000	81.817	-	81.817
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-13.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.609	-			
• Program Adjustments	-	-	76.900	-	76.900
• Rate/Misc Adjustments	0.001	-	4.917	-	4.917

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	
<u>Change Summary Explanation</u> <p>The Multi Stage Supersonic Target (MSST) (designated the GQM-173A) program increased in design/development costs and experienced test failures, requiring the program to re-baseline. The MSST program will field a rocket-launched supersonic vehicle capability in FY18 with an end-to-end capability to follow. This re-baseline resulted in additional funding requirements in FY16. In FY16, \$41.8 million was reprogrammed from WPN (BLI 2280) to mitigate the funding shortfall and continue the Engineering, Manufacturing, and Development phase to complete required testing. Additionally, \$5.8 million was also provided in FY16 to accelerate testing and fielding of a rocket-launched supersonic capability to satisfy near term Fleet test requirements.</p> <p>The Subsonic Aerial Target (designated the BQM-177A) program required additional funding in FY16 due to software delays, guidance navigation and control technical issues, and poor correlation between 6 Degrees of Freedom modeling and air vehicle performance. \$4.1 million was reprogrammed from FY 2016 WPN (BLI 2280) to mitigate this shortfall and continue with the Engineering, Manufacturing, and Development phase. FY15 was reduced by \$3 million for program restructure.</p> <p>In PB15, the AST/QF-16 and FSAT/QF-4 programs were deferred while the Department of the Navy reevaluated requirements. In PB16, the QF-16 and QF-4 funding was restored beginning in FY16, providing \$31 million for the procurement of QF-16 assets and engineering support of QF-4 assets.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>				Project (Number/Name) 0609 / <i>Aerial Target System Dev</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0609: <i>Aerial Target System Dev</i>	-	52.229	56.296	75.498	-	75.498	68.180	8.469	8.748	7.335	Continuing	Continuing
Quantity of RDT&E Articles		1	1	2	-	2	-	-	-	-		

A. Mission Description and Budget Item Justification

Aerial target systems, Target Control (TC), and associated Target Augmentation and Auxiliary Systems (TA/AS) are developed to support test and evaluation and advanced fleet training for Joint Strike and Littoral Warfare Systems required to defend fleet surface and air units in a hostile environment. In addition to hardware, software and operational concept development, studies will be performed by a University Affiliated Research Center (UARC) to specify and verify needed target performance for future target development. For the design and validation of targets under development, the UARC will provide engineering studies in areas such as structures, controls, guidance, and propulsion. For those hardware and software items presently under development by commercial vendors, the UARC will provide oversight and validation of vendor design and development approach.

As to specific hardware development, this project includes:

- Supersonic Targets: GQM-163A (to include high diver capability development) and GQM-173A. Supersonic targets represent supersonic anti-ship cruise missile threats in direct support of Developmental Test and Evaluation (DT&E), Operational Test and Evaluation (OT&E) and Live Fire Test and Evaluation of major combat weapons programs and of fleet training.
- Subsonic Targets: BQM-177A development primarily represents subsonic anti-ship cruise missile threats in direct support of the Test & Evaluation of major combat weapons systems programs and of fleet training.
- TC and TA/AS development: TC provides command and control of targets to enable the execution of threat-representative mission profiles. The mission also includes the support design, development and qualification of various Target Mission Support Systems including but not limited to: Scalar Scorers, Scoring Ground Station, Telemetry Antennas, Radar and Locator Beacons, Identification, Friend or Foe, and associated Test Sets. TA/AS enables each target to be uniquely configured for specific mission profiles. TA/AS-configured targets are used for radar acquisition test, electronic countermeasures (jamming) evaluation, infrared measurement and testing, radar cross section evaluation, decoy-effectiveness testing, maneuver analysis, electronic warfare evaluation, warhead-effectiveness testing and evaluation of fleet tactics. TA/AS scoring capabilities include both surface and airborne scalar and vector scoring systems.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Supersonic Targets	32.595	42.248	63.614	-	63.614
Articles:	1	1	2	-	2
Description: The GQM-173A target emulates a two-stage anti-ship cruise missile. The GQM-173A will have a subsonic bus stage vehicle which will tumble and fall into the sea, and a supersonic sprint stage vehicle which continues flight to impact. The fielded system will provide threat representation in support of DT&E and OT&E and will identify deficiencies in shipboard air defense systems. Funding will also continue for GQM-163A upgrades/evolutionary development to keep pace with evolving threat characteristics. Efforts include continued					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015			
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	Project (Number/Name) 0609 / <i>Aerial Target System Dev</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
government program management, engineering and logistics support and contract support services towards accomplishment of developmental efforts.					
FY 2015 Plans: Continue testing for qualification of software functionality and Rocket Assisted Take Off (RATO)/structures. Continue to conduct design reviews and flight tests to validate integrity of target. Provide government program management, engineering and logistics support and contract support services towards accomplishment of developmental efforts.					
FY 2016 Base Plans: Complete testing for qualification of RATO/structures. Continue to conduct design reviews and complete flight tests to validate integrity of target. Provide government program management, engineering and logistics support and contract support services towards accomplishment of developmental efforts.					
FY 2016 OCO Plans: N/A					
Title: Target Control (TC) and Target Augmentation and Auxiliary Systems (TA/AS)					
Articles:					
	6.214	6.064	5.981	-	5.981
	-	-	-	-	-
Description: Continue to support TC and TA/AS capable of supporting Test and Evaluation (T&E) and fleet training activities. TC involves the improved command and control systems capable of controlling multiple targets simultaneously while delivering adequate fidelity of T&E telemetry data. Continue to support design, development and qualification of Target Mission Support Systems (TMSS) including but not limited to Scalar Scorers, Scoring Ground Station, Telemetry Antennas, Radar and Locator Beacons, Identification Friend or Foe and associated Test Sets. Augmentation and Auxiliary systems must be capable of augmenting targets in support of radar acquisition test, electronic countermeasures (jamming) evaluation, infrared measurement/ test, radar cross section evaluation, decoy effectiveness, maneuver analysis, electronic warfare, warhead effectiveness and evaluation of fleet tactics, readiness and training.					
FY 2014 Accomplishments: Continue development, prototype and integration of threat electronic attack & active emitter simulators. Gather and exploit threat intelligence.					
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	Project (Number/Name) 0609 / <i>Aerial Target System Dev</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue development, prototype and integration of threat electronic attack & active emitter simulators. Gather and exploit threat intelligence. FY 2016 Base Plans: Continue development, prototype and integration of threat electronic attack & active emitter simulators. Gather and exploit threat intelligence. Support the development and qualification of TMSS. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	52.229	56.296	75.498	-	75.498

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

<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• WPN 228000: <i>Aerial Targets</i>	39.460	45.683	40.792	-	40.792	81.678	83.406	93.537	95.426	Continuing	Continuing
• WPN 612020: <i>Initial Spares</i>	2.374	-	1.657	-	1.657	-	0.917	0.939	0.943	Continuing	Continuing

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

EFFORT	PERFORMANCE REQUIREMENT	OBJECTIVE	THRESHOLD	TEST RESULT
BQM-177 EMD program	Maximum Speed at Low Altitude [Mach (M) at feet (ft) above wave crest at WMO Sea State conditions]	0.95 M @ 6.6 ft @ Sea State 5	0.90 M @ 10.0 ft @ Sea State 3	TBD
GQM-173A EMD	Speed of separated sprint vehicle	Mach 2.2 to Mach 3.5	Threshold=Objective	TBD
TC-TA/AS Emitter Simulators Target Threat	High Frequency Band Microwave Threat Simulation Systems- Threshold=Objective Second Source	TBD	100 Watts output	High Fidelity Threat Electronic Attack & Active

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	Project (Number/Name) 0609 / <i>Aerial Target System Dev</i>
Simulation Program		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>				Project (Number/Name) 0610 / <i>Wpn Sys T&E Trng Dev/Proc</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0610: <i>Wpn Sys T&E Trng Dev/Proc</i>	-	13.664	-	31.818	-	31.818	32.000	0.048	-	-	-	77.530
Quantity of RDT&E Articles		2	-	5	-	5	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the development and procurement of aerial targets and associated systems used exclusively for test and evaluation of naval weapons systems which closely represent current and projected threats to fleet units in the joint strike and the littoral warfare environments. These representations must include characteristics related to size, performance envelope, and electromagnetic and infrared signatures. As threats change, changes must be made to keep the targets threat representative in response to changes in the test requirements of the developers of naval weapons systems.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Air Superiority Target (AST)	12.391	-	31.000	-	31.000
Articles:	2	-	5	-	5
Description: The AST is being developed as the follow-on to the current Full Scale Aerial Target and is an Air Force managed program. The QF-16 is a converted F-16 aircraft that provides a supersonic, high altitude, remote-controlled aerial target. This target will have full command and control capability through normal flight maneuvers. The AST target presentations will support aircraft and weapons systems testing and development, including that of the Joint Strike Fighter (JSF), AIM-9X Sidewinder missile, Advanced Medium Range Air-to-Air Missile (AMRAAM), and Standard Missile 6 (SM-6).					
FY 2014 Accomplishments: Procurement of two AST assets with RDT&E,N funding. Conduct depreservation and conversion of two more QF-16 aircraft retrieved from Davis Monthan AFB storage.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: Procure five AST assets with RDT&E,N funding. Conduct depreservation and conversion of additional QF-16 aircraft retrieved from Davis Monthan AFB storage.					
FY 2016 OCO Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	Project (Number/Name) 0610 / <i>Wpn Sys T&E Trng Dev/Proc</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: QF-4 FSAT Description: The Full Scale Aerial Target (FSAT) is a supersonic, high altitude, remote-controlled aerial target. This target has full command and control capability through normal flight maneuvers. The program will include engineering and logistics support for the FSAT, including aviation depot level repairables and procurement of kit material. The QF-4 target presentations support aircraft and weapons systems testing and development, including that of the JSF, AIM-9X Sidewinder missile, AMRAAM and Standard Missile 6. FY 2014 Accomplishments: Continue to maintain and operate the fielded inventory for the Navy. FY 2015 Plans: N/A FY 2016 Base Plans: Continue to maintain and operate the fielded inventory for the Navy. FY 2016 OCO Plans: N/A	1.273 -	- -	0.818 -	- -	0.818 -
Accomplishments/Planned Programs Subtotals	13.664	-	31.818	-	31.818

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

EFFORT	PERFORMANCE REQUIREMENT	OBJECTIVE	THRESHOLD	TEST RESULT
QF-4 Full	Flight Termination Sys.- Reliable & effective auto & manual failsafe	Achieve requirement	Threshold=objective	Satisfactory

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	Project (Number/Name) 0610 / <i>Wpn Sys T&E Trng Dev/Proc</i>	
Scale Target	fast destruct, orbit destruct, & destruct receiver capability		
AST - Air Superiority Target (QF-16)	Capable of carrying, operating and monitoring required payloads	Achieve requirement	Threshold=objective TBD

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>				Project (Number/Name) 0612 / <i>Surface Targets Development</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0612: <i>Surface Targets Development</i>	-	1.363	1.262	1.236	-	1.236	1.299	1.274	1.303	1.329	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops seaborne targets and their related target augmentation systems in support of air-to-surface and surface-to-surface weapons test and evaluation and fleet training.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Surface Targets Development	1.363	1.262	1.236	-	1.236
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Developed short burst data communication by satellite with Portable Command and Control Unit (PCCU) aboard seaborne platforms. Evaluated transmission latency and applicability with over the horizon counter-swarm strategies. Supported software development and continued testing of the transition to single hardware platform for joint hosting of PCCU and System for Naval Target Control (SNTC). Developed PCCU ground station enhancements allowing for control of greater than 15 independent remote targets. Reviewed existing capabilities of seaborne Program of Record (POR) platform inventory with regard to threats, weapons test schedules and evolving fleet training requirements. Evaluated fleet counter-swarm efforts and evaluated adequacy of existing POR targets for fleet support. Evaluated high-speed targets with regard to Anti-Surface Warfare (ASuW) weapons test requirements and recommended a path forward. Refined Humanequin Graphical User Interface (GUI) on PCCU display to ease utility. Improved scoring algorithms for real-time feedback for small caliber weapons. Worked with Multiple Integrated Laser Engagement System (MILES) systems developers to incorporate larger shipboard weapon systems with MILES technology. Developed updated Technical Data Package (TDP) for replacement Mobile Ship Target (MST) based upon lessons learned and emerging ship-sized target requirements. Provided cost analysis of new missile capable patrol boat simulator. Initiated development of upgraded polyethylene hull components for towed targets with goal of reduced unit cost and enhanced survivability. Refined design and fabrication of passive Radio Frequency (RF) reflectors across varied aperture lengths to reduce unit cost and ease fabrication. Developed large polyethylene towed target (>50') for ASuW alternatives to high value powered targets.					
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	Project (Number/Name) 0612 / <i>Surface Targets Development</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Research potential target modifications and operational changes to reduce Explosive Ordnance Disposal (EOD) involvement during exercises involving High Explosive (HE) or tracer rounds. Research inboard JP-5 engine version of High Speed Maneuverable Surface Target (HSMST) to increase engine service life when JP-5 fuel is required. Research electronic steering remote control interface for powered seaborne targets. Support software development and continued testing of the transition to single hardware platform for joint hosting of PCCU and SNTC. Test PCCU ground station enhancements allowing for control of greater than 15 independent remote targets. Review existing capabilities of POR seaborne targets inventory with regard to threats, weapons test schedules and evolving fleet training requirements. Evaluate fleet counter-swarm efforts to date and evaluate adequacy of existing POR targets for fleet support. Continue working with MILES systems developers to incorporate larger shipboard weapon systems with MILES technology. Work with MILES systems developers to increase realism and utility of MILES for training against surface threats. Continue refining design and fabrication of passive RF reflectors across varied aperture lengths to reduce unit cost and ease fabrication. Research additional lower cost manufacturing and fielding methods for POR targets.</p> <p>FY 2016 Base Plans: Integrate and test electronic steering and throttle remote control interfaces for powered seaborne targets. Perform tests for development of streamlined High Speed Maneuverable Seaborne Target (HSMST). Develop upgrades to PCCU software to increase utility and safety. Work with Multiple Integrated Laser Engagement System (MILES) systems developers to increase training effectiveness on Navy platforms. Re-baseline radar cross section measurements for various target configurations to meet changing threats. Revise remote control system designs to reduce component costs. Research and test new configurations of Low Cost Modular Target (LCMT) to meet changing weapon system testing and fleet training requirements. Review existing capabilities of Program of Record (POR) seaborne targets inventory with regard to threats, weapon system test schedules, and evolving fleet training requirements.</p> <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	1.363	1.262	1.236	-	1.236

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

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/5455: ASW Range SE	22.990	-	-	-	-	-	-	-	-	-	84.837
• OPN/5429: ASW SE	-	-	14.593	-	14.593	12.870	10.605	10.850	11.075	-	59.993

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	Project (Number/Name) 0612 / <i>Surface Targets Development</i>

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

<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u> <u>Base</u>	<u>FY 2016</u> <u>OCO</u>	<u>FY 2016</u> <u>Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Review capability of inventory with respect to threat, weapons test schedules and fleet training requirements. OBJECTIVE: Available inventory of seaborne targets to meet fleet requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	Project (Number/Name) 2159 / <i>ASW TARGET</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2159: <i>ASW TARGET</i>	-	3.008	9.160	4.054	-	4.054	1.505	1.266	1.327	1.358	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

A new cost effective Advanced Expendable Mobile ASW Training Target (new nomenclature MK1 Mod 0 Parrotfish Expendable Target) is required to acoustically and dynamically emulate threat submarines for fleet qualification and proficiency training on and off undersea ranges. Acoustically a new target is required to stimulate higher fidelity active sonar systems and torpedo sonar systems which have expanded frequency coverage than current systems. These sonar and torpedo systems are being fielded on the P-8, SH-60R, and AN/SQQ-89 capable surface ships and the MK54 Mod 0 and MK48 Mod 7 Torpedoes. Dynamically the target needs to emulate both low and high speed ends of threat submarines performance envelope to provide required training realism.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: ASW Target Development	3.008	9.160	4.054	-	4.054
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Supported acquisition documentation development and specification development to be supported by performing risk reduction engineering analysis in areas of transducers, high energy batteries, water entry, air & surface launch technologies, and underwater commandability. Engaged fleet commands/users to develop and refine detailed system performance requirements, industry engagement, and draft RFP release.					
FY 2015 Plans: RDT&E,N funding in FY15 will be used to fund modifications to MK30 Mod 1 and Mk39 EMATT TER targets to address some of the performance shortfalls identified in ASW Targets AoA.					
FY 2016 Base Plans: RDT&E,N funding in FY16 will be used to continue to address performance shortfalls in the current fleet of ASW Targets and to conduct gap analysis and technology development for next-generation ASW Targets programs.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	3.008	9.160	4.054	-	4.054

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / <i>Target Systems Development</i>	Project (Number/Name) 2159 / <i>ASW TARGET</i>

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

<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u> <u>Base</u>	<u>FY 2016</u> <u>OCO</u>	<u>FY 2016</u> <u>Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 3141: <i>ASW Targets</i>	7.135	2.515	6.912	-	6.912	9.861	10.876	11.084	11.308	-	59.691

Remarks

D. Acquisition Strategy

Not applicable

E. Performance Metrics

- Frequent IPT meetings with contract and government technical program personnel.
- Rigorous acoustic, environmental and in-water dynamic test program.
- Specification with threshold and objectives requirements.
- Issue initial RFI to industry.
- Draft RFP released for industry review

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604759N / <i>Major T&E Investment</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	37.974	123.993	61.234	-	61.234	45.729	42.647	42.433	43.832	Continuing	Continuing
2195: <i>T & E Investment</i>	0.000	37.974	123.993	61.234	-	61.234	45.729	42.647	42.433	43.832	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project corrects major deficiencies, improves Test & Evaluation (T&E) capabilities, and increases T&E support effectiveness at Navy Major Range and Test Facility Base. The T&E Investment project provides improved test capabilities at the following test facilities: the Naval Undersea Warfare Center Division Newport Atlantic Undersea Test and Evaluation Center, Andros Island, Bahamas; the Nanoose and Dabob ranges of the Naval Undersea Warfare Center Division Keyport, Keyport, WA; the Sea Range, Land Range, Electronic Combat Range, Targets, Ordnance T&E Facility, Test Wing Pacific, and the Air Vehicle Modification and Instrumentation facility located at the Naval Air Warfare Center Weapons Division, Point Mugu, CA and China Lake, CA; and the Atlantic Test Range, Air Combat Environment T&E Facility, Electromagnetic Environmental Effects, Air Vehicle Modification and Instrumentation facility, Test Wing Atlantic, Targets, and the Propulsion Systems Evaluation Facility located at the Naval Air Warfare Center Aircraft Division, Patuxent River, MD and the test and evaluation capabilities located at the Pacific Missile Range Facility, Kauai, HI.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	38.033	123.993	62.526	-	62.526
Current President's Budget	37.974	123.993	61.234	-	61.234
Total Adjustments	-0.059	-	-1.292	-	-1.292
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.059	-			
• Program Adjustments	-	-	-0.092	-	-0.092
• Rate/Misc Adjustments	-	-	-1.200	-	-1.200

Change Summary Explanation

The FY 2016 funding request was reduced by -\$10.0 million to account for the availability of prior year execution balances.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604759N / <i>Major T&E Investment</i>	
Technical: Not applicable.		
Schedule: Not applicable.		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0604759N / Major T&E Investment				Project (Number/Name) 2195 / T & E Investment			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2195: T & E Investment	-	37.974	123.993	61.234	-	61.234	45.729	42.647	42.433	43.832	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project corrects major deficiencies, improves Test & Evaluation (T&E) capabilities, and increases T&E support effectiveness at Navy Major Range and Test Facility Base. The T&E Investment project provides improved test capabilities at the following test facilities: the Naval Undersea Warfare Center Division Newport Atlantic Undersea Test and Evaluation Center (AUTEK), Andros Island, Bahamas; the Nanoose and Dabob ranges of the Naval Undersea Warfare Center Division Keyport, Keyport, WA; the Sea Range, Land Range, Electronic Combat Range, Targets, Ordnance T&E Facility, Test Wing Pacific, and the Air Vehicle Modification and Instrumentation facility located at the Naval Air Warfare Center Weapons Division, Point Mugu, CA and China Lake, CA; and the Atlantic Test Range, Air Combat Environment T&E Facility, Electromagnetic Environmental Effects, Air Vehicle Modification and Instrumentation facility, Test Wing Atlantic, Targets, and the Propulsion Systems Evaluation Facility located at the Naval Air Warfare Center Aircraft Division, Patuxent River, MD and the test and evaluation capabilities located at the Pacific Missile Range Facility, Kauai, HI.

The increase in funding in FY 2015 is for procurement of a Range Support Aircraft (RSA). RSA will provide range clearance and Beyond Line-of-Sight, Telemetry (TM) and Flight Termination Services on Navy sea ranges - primarily Pt. Mugu, CA and Pacific Missile Range Facility, HI. The current TM equipped P-3 aircraft must be replaced because the airframe is not supportable beyond FY 2019.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: UNDERSEA RANGE INVESTMENTS	8.105	7.437	4.927	-	4.927
Articles:	-	-	-	-	-
Description: This effort funds the modernization, upgrades, and new test and evaluation capabilities required at the Navy's Major Range Test Facility Base undersea ranges, to include AUTEK, Andros Island, Bahamas; the Nanoose and Dabob ranges of the Naval Undersea Warfare Center Division Keyport, Keyport, WA.					
Funds decreased from FY15 to FY16 due to the completion of the range noise monitoring at Nanoose and Dabob and the T&E Target at Nanoose and Dabob projects. The majority materials for the range craft service life extension at Nanoose and Dabob will be purchased in FY15 which decreases the FY16 requirement.					
FY 2014 Accomplishments:					
- Continue the minor upgrade and modernization of test capabilities at AUTEK, Nanoose and Dabob.					
- Continue the development of Information Operations T&E capability at AUTEK.					
- Complete the refurbishment and service life extension of a range vessel at AUTEK.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604759N / Major T&E Investment	Project (Number/Name) 2195 / T & E Investment
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Initiate range data information assurance project at Nanoose and Dabob. - Initiate range noise monitoring project at Nanoose and Dabob. - Initiate range radar obsolescence project at Nanoose and Dabob. <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Continue the minor upgrade and modernization of test capabilities at Atlantic Undersea Test and Evaluation Center (AUTEC), Nanoose and Dabob. - Continue the development of Information Operations Test & Evaluation (T&E) capability at AUTEC. - Continue range data information assurance project at Nanoose and Dabob. - Continue range radar obsolescence project at Nanoose and Dabob. - Complete range noise monitoring project at Nanoose and Dabob. - Complete the upgrade to the T&E target at Nanoose and Dabob. - Initiate replacement of in-water sensors at AUTEC. - Initiate range craft service life extension at Nanoose and Dabob. - Initiate and complete tracking radar replacement at Nanoose and Dabob. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Continue the minor upgrade and modernization of test capabilities at AUTEC, Nanoose and Dabob. - Continue replacement of in-water sensors at AUTEC. - Continue range craft service life extension at Nanoose and Dabob. - Complete the development of Information Operations T&E capability at AUTEC. - Complete range data information assurance project at Nanoose and Dabob. - Complete range radar obsolescence project at Nanoose and Dabob. - Initiate replace of range tracking radar at AUTEC. <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: OPEN AIR RANGE INVESTMENTS</p> <p align="right">Articles:</p> <p>Description: This effort funds the modernization and upgrades of existing capabilities and the development of new T&E capabilities required at the Navy's Major Range Test Facility Base open air ranges at the Naval Air Warfare Center Aircraft Division, Patuxent River, MD, Naval Air Warfare Center Weapons Division, Point Mugu, CA and China Lake, CA and Pacific Missile Range Facility, Kauai, HI.</p>	28.404	114.933	53.207	-	53.207
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604759N / Major T&E Investment	Project (Number/Name) 2195 / T & E Investment
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>The increase in funding in FY 2015 is for procurement of a Range Support Aircraft (RSA). RSA will provide range clearance and Beyond Line-of-Sight Telemetry and Flight Termination Services on Navy sea ranges - primarily Pt. Mugu, CA and Pacific Missile Range Facility, HI. The current telemetry equipped P-3 aircraft must be replaced because the airframe is not supportable beyond FY 2019.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> - Continue the minor upgrade and modernization of test capabilities at Naval Warfare Center Aircraft Division (NAWCAD), Naval Air Warfare Center Weapons Division (NAWCWD), and Pacific Missile Range Facility (PMRF). - Continue cultural resources surveys at NAWCWD. - Continue development of the Aircraft Prototype Facility secure network at NAWCAD. - Complete radar service life extension project at NAWCAD. - Complete video instrumentation modernization at NAWCAD. - Initiate upgrade to the Land Range communications infrastructure. - Initiate Sea Range telemetry antenna servo upgrades. - Initiate procurement of new aircraft position tracking system. - Initiate the purchase of secure network system for the aircraft prototyping facility. - Initiate the replacement of the voice switch at NAWCAD. - Initiate the upgrade to the airborne separation video system at NAWCAD. - Initiate and complete the modernization of a radar signal processor at NAWCAD. - Initiate the modernization of the Kineto Tracking Mounts at NAWCAD. - Initiate the modernization of the telemetry system at PMRF. - Initiate the modernization of the imaging radar at PMRF. <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Continue the minor upgrade and modernization of test capabilities at NAWCAD, NAWCWD and PMRF. - Continue Sea Range telemetry antenna servo upgrades. - Continue procurement of new aircraft position tracking system. - Continue the upgrade to the airborne separation video system at NAWCAD. - Continue the modernization of the Kineto Tracking Mounts at NAWCAD. - Continue the modernization of the telemetry system at PMRF. - Complete upgrade to the Land Range communications infrastructure. - Complete cultural resources surveys at NAWCWD. - Continue the purchase of secure network system for the aircraft prototyping facility. 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604759N / Major T&E Investment	Project (Number/Name) 2195 / T & E Investment
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Complete the replacement of the voice switch at NAWCAD. - Continue the modernization of the imaging radar at PMRF. - Initiate the modernization of the moving target scoring system at NAWCWD. - Initiate video microwave link replacement at Naval Air Warfare Center Weapons Division (NAWCWD). - Initiate target vessel modernization at NAWCWD. - Initiate procurement of Range Support Aircraft. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Continue the minor upgrade and modernization of test capabilities at Naval Warfare Center Aircraft Division (NAWCAD), NAWCWD and Pacific Missile Range Facility (PMRF). - Continue procurement of new aircraft position tracking system. - Continue the modernization of the imaging radar at PMRF. - Complete Sea Range telemetry antenna servo upgrades. - Continue target vessel modernization at NAWCWD. - Continue procurement of Range Support Aircraft. - Complete the upgrade to the airborne separation video system at NAWCAD. - Complete the modernization of the Kineto Tracking Mounts at NAWCAD. - Complete the modernization of the telemetry system at PMRF. - Complete the purchase of secure network system for the aircraft prototyping facility. - Complete the modernization of the moving target scoring system at NAWCWD. - Complete video microwave link replacement at NAWCWD. - Initiate and complete the installation and instrumentation of a quad launcher at NAWCWD. - Initiate the upgrade of the telemetry processing system at NAWCAD. - Initiate the purchase and installation of communication, IT and video equipment in P-155 at NAWCAD. - Initiate the modernization of the Land Range telemetry receivers at NAWCWD. - Initiate a study for the replacement of the FOCUS cable at NAWCWD. <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: TEST FACILITIES INVESTMENTS</p> <p align="right">Articles:</p> <p>Description: This effort funds the modernization and upgrades of existing capabilities and the development of new Naval Air Warfare Center Aircraft Division, Patuxent River, MD, and Naval Air Warfare Center Weapon Division, Point Mugu, CA and China Lake, CA.</p>	1.465	1.623	3.100	-	3.100
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604759N / Major T&E Investment	Project (Number/Name) 2195 / T & E Investment
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Funding increases from FY15 to FY16 are due to the helicopter propulsion data acquisition system project moving from the design phase in FY 15 to the implementation phase in FY16. The materials, which are the major expense for the project, will be purchased during the implementation phase in FY16.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> - Continue the minor upgrade and modernization of test capabilities at Naval Air Warfare Center Aircraft Division (NAWCAD) and Naval Air Warfare Center Weapon Division (NAWCWD). - Initiate the upgrade to general instrumentation and equipment. <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Continue the minor upgrade and modernization of test capabilities at NAWCAD and NAWCWD. - Continue the upgrade to general instrumentation and equipment. - Initiate the modernization of the helicopter propulsion data acquisition system. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Continue the minor upgrade and modernization of test capabilities at NAWCAD and NAWCWD. - Continue the upgrade to general instrumentation and equipment. - Continue the modernization of the helicopter propulsion data acquisition system. <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	37.974	123.993	61.234	-	61.234

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

N/A

Remarks

D. Acquisition Strategy

Not Applicable.

E. Performance Metrics

Successfully achieve Initial Operational Capability of 8-15 Improvement and Modernization projects per year and have 90% of test capabilities scheduled in support of Navy acquisition test programs within 180 days.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity	R-1 Program Element (Number/Name)											
1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	PE 0605126N / (U)Joint Theater Air and Missile Defense Org											
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	1.322	4.960	6.995	-	6.995	3.238	0.071	-	-	-	16.586
3307: <i>Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)</i>	0.000	1.322	4.960	6.995	-	6.995	3.238	0.071	-	-	-	16.586

A. Mission Description and Budget Item Justification

Maritime Integrated Air and Missile Defense (IAMD) Planning System (MIPS) is an automated air and missile defense planning tool that supports the Joint Force Maritime Component Commander at the operational level of war by automatically and optimally allocating and stationing ships in support of Ballistic Missile Defense (BMD) or Anti-Air Warfare (AAW). MIPS contains United States Army Patriot and Terminal High Altitude Air Defense (THAAD) models to ensure synergistic allocation and positioning of maritime units in relation to other joint units, providing optimized mutual defense for selected defended assets against selected BMD and AAW threats. MIPS is currently developing significantly improved inorganic Ballistic Missile Defense planning capabilities through the incorporation of Long Range Surveillance and Training, Cued Engagement, and Launch on Tactical Digital Information Links (TADIL) planning functionality. In FY2015, MIPS will begin development to deliver an automated planning capability for Naval Integrated Fire Control-Counter Air (NIFC-CA) operations.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	1.352	4.960	7.172	-	7.172
Current President's Budget	1.322	4.960	6.995	-	6.995
Total Adjustments	-0.030	-	-0.177	-	-0.177
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.030	-			
• Program Adjustments	-	-	-0.177	-	-0.177

Change Summary Explanation

The FY 2016 funding request was reduced by \$.177 million to account for the availability of prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605126N / (U)Joint Theater Air and Missile Defense Org				Project (Number/Name) 3307 / Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3307: <i>Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)</i>	-	1.322	4.960	6.995	-	6.995	3.238	0.071	-	-	-	16.586
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Maritime Integrated Air and Missile Defense (IAMD) Planning System (MIPS) is an automated air and missile defense planning tool that supports the Joint Force Maritime Component Commander at the operational level of war by automatically and optimally allocating and stationing ships in support of Ballistic Missile Defense (BMD) or Anti-Air Warfare (AAW). MIPS contains United States Army Patriot and Terminal High Altitude Air Defense (THAAD) models to ensure synergistic allocation and positioning of maritime units in relation to other joint units, providing optimized mutual defense for selected defended assets against selected BMD and AAW threats. MIPS is currently developing significantly improved inorganic Ballistic Missile Defense planning capabilities through the incorporation of Long Range Surveillance and Training, Cued Engagement, and Launch on Tactical Digital Information Links (TADIL) planning functionality. In FY2015, MIPS will begin development to deliver an automated planning capability for Naval Integrated Fire Control-Counter Air (NIFC-CA) operations.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Systems Engineering	1.322	4.960	6.995	-	6.995
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided system updates that included incorporation of Low Range Search and Track (LRS&T), Launch on TADIL and Cued Engagement planning capabilities. Conducted test and evaluation events.					
FY 2015 Plans: Develop Long Range Search and Track (LRS&T, Cured Engagement and Launch on TADIL (LoT) planning capability by: - Conduct System Engineering Technical Review (TRR) - Complete contractor testing and DT&OT testing - Achieve approval to field. Begin developing CEC stationing, Bottom Contours and NIFC-CA planning capability by performing the following: - Complete NIFC-CA risk reduction prototyping.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605126N / (U)Joint Theater Air and Missile Defense Org	Project (Number/Name) 3307 / Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Establish development Contract for design, development, implementation, testing and delivery of the capability. FY 2016 Base Plans: Funding increase from FY15 supports the development of the MIPS competitive contract. Commence Development of Phase 2, Increment I update to MIPS includes develop of CEC stationing, Bottom Contours and NIFC-CA planning capability by performing the following: - Receive required GFI to update the MIPS modeling to consider bottom contours, incorporate CEC capability in planning and NIFC-CA requirements. - Allocate the requirements for Bottom Contours, CEC Stationing and NIFC-CA to the MIPS system elements determining the area impacted and requiring development. - Conduct Systems Engineering Technical Review(s) (PDR/CDR) on the development ensuring the development is properly managed and risks are properly managed. - Complete development of detailed design. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.322	4.960	6.995	-	6.995

C. Other Program Funding Summary (\$ in Millions)										
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete Total Cost
• OPN/5265: MIPS	2.779	-	-	-	-	-	-	-	-	11.097

Remarks

D. Acquisition Strategy

ACAT III designation granted February 2011 and will be initiated as a Program of Record at Milestone B. The MIPS Capabilities Development Document (CDD) is currently in Joint Staff Office and is expected to be completed early FY 2015.

Contracts:
MIPS RDT&E FY12-FY15

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605126N / (U)Joint Theater Air and Missile Defense Org	Project (Number/Name) 3307 / Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)

E. Performance Metrics

FY14:

- Continued development of LRS&T, Cued Engagement, and Launch on TADIL planning capabilities.
- Conducted test and evaluation developmental tests in support of software development efforts.
- Conducted Technical Interchange Meetings (TIM) as needed to explore and resolve emergent design and requirement issues.

FY15:

- Commence development of first increment NIFC-CA planning capability, and Bottom Contours, CEC stationing model updates.
- Continue to conduct Developmental Tests (DT) and Operational Tests (OT) to support fielding the LRS&T, Cued Engagement and Launch on TADIL updated.
- Conduct TIMs as needed to explore and resolve emergent design and requirement issues.

FY16:

- Continue development of first increment NIFC-CA planning capability, and Bottom Contours, CEC stationing model updates.
- Continue to conduct DT and OT to support fielding the new software.
- Continue TIMs as needed to explore and resolve emergent design and requirement issues.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>					R-1 Program Element (Number/Name) PE 0605152N / <i>Studies & Analysis Supt - Navy</i>							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	5.453	3.484	4.011	-	4.011	4.722	4.707	4.733	4.832	Continuing	Continuing
2092: <i>Naval Warfare Studies</i>	0.000	0.732	0.744	0.751	-	0.751	0.771	0.787	0.805	0.822	Continuing	Continuing
2097: <i>Manpower Personnel & Training</i>	0.000	0.696	0.495	0.323	-	0.323	0.600	0.566	0.497	0.508	Continuing	Continuing
3310: <i>Naval Aviation Developmental Planning</i>	0.000	4.025	2.245	2.937	-	2.937	3.351	3.354	3.431	3.502	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program provides analytical support to the Secretary of the Navy and the Chief of Naval Operations as a basis for major policy, planning and acquisition program execution decisions. It supports research and development strategy development and planning. It supports studies in the areas of manpower, personnel, training, and aviation. It also develops analytical tools for evaluating effectiveness of U.S. weapons against potential foreign threat ships and submarines.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	5.553	8.296	5.937	-	5.937
Current President's Budget	5.453	3.484	4.011	-	4.011
Total Adjustments	-0.100	-4.812	-1.926	-	-1.926
• Congressional General Reductions	-	-0.018			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-4.794			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.100	-			
• Program Adjustments	-	-	19.438	-	19.438
• Rate/Misc Adjustments	-	-	-21.364	-	-21.364

Change Summary Explanation

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605152N / <i>Studies & Analysis Supt - Navy</i>	
Technical: Not applicable.		
Schedule: Not applicable.		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605152N / <i>Studies & Analysis Supt - Navy</i>				Project (Number/Name) 2092 / <i>Naval Warfare Studies</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2092: <i>Naval Warfare Studies</i>	-	0.732	0.744	0.751	-	0.751	0.771	0.787	0.805	0.822	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports detailed mission, capability, and technical analysis of future naval warfighting requirements. This work provides the analytical basis for integration and prioritization of overall military capability requirements and acquisition programs in support of executing the Naval Capability Development Process and development/delivery of Mission Capability Packages, Naval Capability Packages, and Integrated Strategic Capability Plans for Chief of Naval Operations. The Resource Allocation Model (RAM) is an analytic Portfolio Management Methodology used to aid Navy leadership with both investment and divestment programming decisions. This methodology provides an assessment process that fosters informed, understandable, repeatable investment decisions with consistent, pedigreed, and retrievable information. The focus of this effort is to refine the system to identify programs as potential candidates for divestment. It provides leadership and resource sponsors with a starting point for their offset decision process as well as an issue ranking capability. RAM will include linkage of programs to N3/N5 strategic imperatives, programs mapped to warfare areas, program interdependencies annotated, and balance factors that can be adjusted to reflect Navy Leadership Priorities. The effort expands on Portfolio Management Decision Support System by capturing and mapping issues/funding adjustments, and providing a system capable of identifying fiscal interdependencies and consideration to risk in order to increase accuracy in calculating programmatic risk.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Resource Allocation Model (RAM)	0.732	0.744	0.751	-	0.751
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continue establishing the RAM to provide an analytic portfolio management methodology to aid Navy leadership with investment decision support. Provide an assessment process that fosters informed, understandable, repeatable investment decisions with consistent, pedigreed, and retrievable information. Assess programs of record and their proposed modifications on their capability to contribute to future warfighting requirements.					
FY 2015 Plans: Continue establishing the RAM to provide an analytic portfolio management methodology to aid Navy leadership with investment decision support. Provide an assessment process that fosters informed, understandable, repeatable investment decisions with consistent, pedigreed, and retrievable information. Assess programs of record and their proposed modifications on their capability to contribute to future warfighting requirements.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605152N / <i>Studies & Analysis Supt - Navy</i>	Project (Number/Name) 2092 / <i>Naval Warfare Studies</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Develop techniques that optimize the usage of the Warfare Capability Baseline Kill Chain data and enable capability trade-offs based on sound algorithmic or mathematical analysis. FY 2016 Base Plans: Continue establishing the Resource Allocation Model (RAM) to provide an analytic portfolio management methodology to aid Navy leadership with investment decision support. Provide an assessment process that fosters informed, understandable, repeatable investment decisions with consistent, pedigreed, and retrievable information. Assess programs of record and their proposed modifications on their capability to contribute to future warfighting requirements. Develop techniques that optimize the usage of the Warfare Capability Baseline Kill Chain data and enable capability trade-offs based on sound algorithmic or mathematical analysis. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.732	0.744	0.751	-	0.751

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

The RAM methodology and analysis will be used to assist with the prioritization, planning, and programming of Naval warfare program budgets to achieve interoperable warfighting capability solutions. Identification of capability gaps and seams will be used to inform budgetary decision-making with current fiscal budgetary constraints.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605152N / <i>Studies & Analysis Supt - Navy</i>				Project (Number/Name) 2097 / <i>Manpower Personnel & Training</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2097: <i>Manpower Personnel & Training</i>	-	0.696	0.495	0.323	-	0.323	0.600	0.566	0.497	0.508	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Chief of Naval Personnel has a continuing need for studies and analysis of Manpower and Personnel (M&P) policies and programs and critical M&P issues that have Navy-wide implications. This project provides an essential management tool to: (a) assess the effectiveness of existing M&P policies and programs; (b) identify needs for new policies and programs; (c) determine the required manpower and training mix relative to changing demographic, societal and legislative/regulatory actions, and to evolving strategic and geopolitical factors; (d) study the impact of M&P programs on Navy accession, attrition, retention, and performance; and, (e) to develop, validate and/or refine a broad range of M&P forecasting models. The program permits Navy to more effectively utilize Research and Development expertise to respond to emergent M&P issues on a continuing basis. This program is funded under RDT&E operational systems development because it encompasses engineering and development of new end-items prior to production approval decision.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Manpower Personnel & Training	0.696	0.495	0.323	-	0.323
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
<ul style="list-style-type: none"> - Continue assessing Econometric Modeling System and updating elasticities. - Continue assessing and updating elasticities used in the Recruiting PRO Model. - Continue assessing SRB Policies. - Continue assessing Special and Incentive Pay policies. - Continue assessing and evaluating retention, accession and training trade-offs. - Continue assessing economic factors and relationships to MPTE business lines ISO forecasting and responses. - Continue assessing factors, thresholds and mitigation strategies to avoid a Hollow Force. 					
FY 2015 Plans:					
<ul style="list-style-type: none"> - Continue assessing Econometric Modeling System and updating elasticities. - Continue assessing Special and Incentive Pay policies. - Continue assessing and evaluating retention, accession and training trade-offs. - Continue assessing economic factors and relationships to MPTE business lines ISO forecasting and responses. 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605152N / <i>Studies & Analysis Supt - Navy</i>	Project (Number/Name) 2097 / <i>Manpower Personnel & Training</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continue assessing factors, thresholds and mitigation strategies to avoid a Hollow Force.					
<i>FY 2016 Base Plans:</i>					
- Continue assessing Econometric Modeling System and updating elasticities.					
- Continue assessing Special and Incentive Pay policies.					
- Continue assessing and evaluating retention, accession and training trade-offs.					
- Continue assessing economic factors and relationships to MPTE business lines ISO forecasting and responses.					
- Continue assessing factors, thresholds and mitigation strategies to avoid a Hollow Force.					
<i>FY 2016 OCO Plans:</i>					
N/A					
Accomplishments/Planned Programs Subtotals	0.696	0.495	0.323	-	0.323

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This PE provides funding to support continuing need for studies and analysis of issues critical to decisions required by the Chief of Naval Personnel and his staff regarding manpower, personnel, training and education policies, and programs that have far-reaching implications to service members and the Navy budget. This PE supports research of both Naval Postgraduate School faculty and students, and in FY10 began the formulation of focused economic research, to include behavioral economics. This focus will provide continuing analysis and research to facilitate the data gathering and synthesis to provide consistent and timely update to economic indicators to use in the numerous models that support management decisions within the MPTE arena that have significant impact on the efficient use of the nearly \$27B Manpower & Personnel, Navy budget. The economic research will consolidate the data necessary to perform elasticity estimations and maintain this data for subsequent estimations. To gather the data necessary to perform such estimations, would conservatively cost more than \$300K on each such occasion. The MPTE enterprise uses dozens of models, most of which require elasticity updates. Consolidating the data repository to support this analysis will result in a cost avoidance of more than \$1M and this does not include any of the actual model revisions.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605152N / <i>Studies & Analysis Supt - Navy</i>				Project (Number/Name) 3310 / <i>Naval Aviation Developmental Planning</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3310: <i>Naval Aviation Developmental Planning</i>	-	4.025	2.245	2.937	-	2.937	3.351	3.354	3.431	3.502	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding supports Naval aviation pre-Milestone B developmental activities to include the conduct and integration of systems engineering activities. This project unit provides information, automated tools, and decision aids necessary to perform acquisition planning in support of warfighter capability requirements. This project unit also supports research, development, and analysis efforts to include various studies, joint requirements analysis, and cost analysis requirements in support of systems engineering activities, analyses of alternatives, and development of the 30-Year Aviation Plan a Congressionally mandated product. Due to high turnover and end of service life of several Naval aircraft set against increasing threat capabilities, DOD 5000 series mandates documentation of capability requirements and mechanisms to obtain these capabilities. This project unit allows Naval aviation the means to properly identify capability gaps and potential solutions required to maintain maximum warfighting capability realizing (or achieving) reductions to technical risks and overall program costs.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Naval Aviation Developmental Planning	4.025	2.245	2.937	-	2.937
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conduct various studies for F/A-18, P-8A, MH-60R, and MH-60S with integrated logistics and manpower requirements. Meet emergent engineering requirements to defend platforms within the N98 portfolio. Update decision support toolset to include data repositories, manpower, and computer programs.					
FY 2015 Plans: Conduct various studies for training aircraft, FA-18E/F/G, MH-60R, and MH-60S with integrated engineering, logistics, and manpower requirements. Meet emergent engineering requirements documentation within the N98 portfolio. Update decision support toolset to facilitate internal N98 and program office total life-cycle trades, and reduce long-term costs of data repositories, manpower, and computer programs. Fund analysis modeling environment required for multiple anticipated analyses of alternatives on fighter, adversary, and rotary-wing aircraft to reduce total cost of all studies through FY17. Analyses are required to meet pre-Milestone B, DOD 5000 series mandated activities, as well as timelines mandated by the Congressional requirements for an Aviation Investment Plan.					
FY 2016 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605152N / <i>Studies & Analysis Supt - Navy</i>	Project (Number/Name) 3310 / <i>Naval Aviation Developmental Planning</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue various studies for training aircraft, FA-18E/F/G, P-8A, MH-60R, and MH-60S with integrated engineering, logistics, and manpower requirements. Meet emergent engineering requirements documentation within the N98 portfolio. Update decision support toolset to facilitate internal N98 and program office total life-cycle trades, and reduce long-term costs of data repositories, manpower, and computer programs. Fund total life-cycle analysis modeling environment required for multiple anticipated analyses of alternatives on fighter, adversary, and rotary-wing aircraft to reduce total cost of all studies through FY17. Analyses are required to meet pre-Milestone B, DOD 5000 series mandated activities, as well as timelines mandated by the Congressional requirements for an Aviation Investment Plan. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	4.025	2.245	2.937	-	2.937

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
Produce and deliver 30-Year Aviation Plan (Congressionally mandated product). Studies performed will be used to identify known warfighter capability gaps and support acquisition planning requirements associated with potential solutions. Studies provide coherent and integrated cost and capability data to support long-term planning for Naval Aviation consistent with DOD 5000 series instructions.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>					R-1 Program Element (Number/Name) PE 0605154N / <i>Center For Naval Analyses</i>							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	44.928	44.696	48.563	-	48.563	49.773	50.899	52.080	53.113	Continuing	Continuing
0031: <i>MCOAG</i>	0.000	6.077	5.695	5.921	-	5.921	6.098	6.253	6.412	6.546	Continuing	Continuing
0148: <i>Center For Naval Analyses (CNA)</i>	0.000	38.851	39.001	42.642	-	42.642	43.675	44.646	45.668	46.567	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Center for Naval Analyses (CNA) is the Department of the Navy's (DoN) only Federally Funded Research and Development Center (FFRDC). CNA provides independent, objective, and expert analyses based on its unique access to sensitive data and hands-on exposure to fleet operations gained through its world-wide field program. CNA's research program is centrally funded by this program element and is primarily concentrated along one Marine Corps category and thirteen Navy categories of study called product areas. These product areas are structured to enhance CNA's focus of research and analysis upon the major present and future needs and issues of the Navy and the Marine Corps. Because of rapid advances in technology, changes in the fleet, the increasing complexity of weapon systems, and reductions in manpower, force structure, budgets, the current security environment, and Department of Defense (DoD) transformation, the Navy and Marine Corps have a greater need for analyses that are sophisticated, relevant, and timely. CNA conducts research and analysis at all security classification levels, to include Sensitive Compartmented Information (SCI) and Special Access Programs (SAP).

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	46.655	45.752	45.990	-	45.990
Current President's Budget	44.928	44.696	48.563	-	48.563
Total Adjustments	-1.727	-1.056	2.573	-	2.573
• Congressional General Reductions	-	-1.056			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.727	-			
• Program Adjustments	-	-	3.000	-	3.000
• Rate/Misc Adjustments	-	-	-0.427	-	-0.427

Change Summary Explanation

Technical: N/A

Schedule: N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605154N / <i>Center For Naval Analyses</i>				Project (Number/Name) 0031 / <i>MCOAG</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0031: <i>MCOAG</i>	-	6.077	5.695	5.921	-	5.921	6.098	6.253	6.412	6.546	Continuing	Continuing
Quantity of RDT&E Articles	9	9	9	8	-	8	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the Marine Corps portion of the Department of Navy, CNA, Center for Naval Analysis Research Program, and is managed as an element of the Marine Corps Studies System. This program provides the Marine Corps with independent and objective research and analysis of specific issues/topics appropriately performed by a Federally Funded Research and Development Center (FFRDC). Marine Corps Division analysts work at CNA headquarters and, through CNA's Field representative Program serve at commands worldwide, including: Marine Forces Command, Marine Forces Pacific, Marine Special Operations Command, the three Marine Expeditionary Forces, Marine Aviation Weapons and Tactics Squadron One (MAWTS-1), and in Iraq, providing on-site analysis to deployed Marine forces there. CNA also assigns analysts to support the Deputy Commandants and their staffs as well as other Marine Corps organizations such as the Marine Corps Warfighting Lab, Marine Corps Systems Command, and the Commander, Marine Forces Reserve. The program areas are linked to the Marine Corps Advocacy (prepotency), which are: (1) Logistics and Infrastructure; (2) Manpower and Training; (3) Research, Development and Acquisition; (4) Operations and Plans; (5) Programs and Resources; (6) Aviation; (7) Combat Development and Integration; and (8) Intelligence, Surveillance and Reconnaissance. Scientific Analyst support provides six scientific analysts for the following six focus areas: Deputy Commandant (DC), Plans, Policies and Operations; DC Aviation; DC Installation and Logistics; DC Programs and Resources; DC Manpower Reserve Affairs; and Director, Manpower Plans (MP) - Manpower and Reserve Affairs (M&RA). The program continues analytical support for field exercises, Ad Hoc and Quick Response study requirements.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MARINE CORPS OPERATIONS AND ANALYSIS GROUP	6.077	5.695	5.921	-	5.921
Articles:	9	9	8	-	8
FY 2014 Accomplishments:					
- Continued the following efforts from the FY13 Marine Corps Studies System Master Plan (MCSSMP): Marine Aviation Requirements Study; USMC Pacific Posture: Basing and Presence for the Future; Demographic Profile of Successful/At Risk Transitional Marines; Understanding Enduring Requirements for Unit Cohesion & Potential to Avoid "Tiered" Personnel Readiness; Strategy for USMC Installations in Future Budget Environment; Determining Best Practices for ANSF Advising; Marine Air Ground Task Force (MAGTF) Organic Sensing Strategy Study.					
- Provided formal study and analysis support to the operating forces and headquarters elements included in the annual MCSSMP.					
- Scientific analysts for direct analytical support to Marine Corps Headquarters staff elements: DCMC Plans, Policies, and Operations; DCMC Installations and Logistics; DCMC Manpower and Reserve Affairs (x2); DCMC Aviation; and DCMC Programs and Resources, Marine Forces Command, Marine Forces Pacific, Marine Special					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605154N / <i>Center For Naval Analyses</i>	Project (Number/Name) 0031 / <i>MCOAG</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Operations Command, the three Marine Expeditionary Forces, Marine Aviation Weapons and Tactics Squadron One (MAWTS-1), and in Iraq, providing on-site analysis to deployed Marine forces there. CNA also assigns analysts to support the Deputy Commandants and their staffs as well as other Marine Corps organizations such as the Marine Corps Warfighting Lab, Marine Corps Systems Command, and the Commander, Marine Forces Reserve.</p> <ul style="list-style-type: none"> - Field Representatives for direct analytical support to the Commander Marine Forces Pacific (COMMARFORPAC), Commander Marine Forces Command (MARFORCOM), Commanding General I Marine Expeditionary Force (CG I MEF), Commanding General II Marine Corps Expeditionary Force (CG II MEF), Commanding General II Marine Expeditionary Forces Forward, (II MEF Fwd), Commanding General III Marine Expeditionary Force (CG III MEF), and Commanding General, Marine Air Weapons Training Squadron (MAWTS). - The program areas are linked to the Marine Corps Advocacy (prepotency), which are: (1) Logistics and Infrastructure; (2) Manpower and Training; (3) Research, Development and Acquisition; (4) Operations and Plans; (5) Programs and Resources; (6) Aviation; (7) Combat Development and Integration; and (8) Intelligence, Surveillance and Reconnaissance. - Initiate efforts in support of the Women in Infantry program that will integrate women into occupational fields to the maximum extent possible and determine potential impacts of women in Marine Corps occupational specialties with focus on infantry. - Initiate high priority study and analysis projects approved in FY14 Marine Corps Studies System Master Plan (MCSSMP). <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Continue all efforts of FY14 - Initiate high priority study and analysis projects approved in FY15 MCSSMP. - Initiate new efforts associated with the Marine Forces Integration Plan (MCFIP) Women in Infantry. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Continue all efforts of FY15 - Initiate high priority study and analysis projects approved in FY16 MCSSMP. <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	6.077	5.695	5.921	-	5.921

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605154N / <i>Center For Naval Analyses</i>	Project (Number/Name) 0031 / MCOAG
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C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This project supports the Marine Corps portion of the Department of Navy, CNA Center for Naval Analysis Research Program, and is managed as an element of the Marine Corps Studies System. This program provides the Marine Corps with independent and objective research and analysis of specific issues/topics appropriately performed by a Federally Funded Research and Development Center (FFRDC). Marine Corps Division analysts work at CNA headquarters and, through CNA's Field representative Program serve at commands worldwide, including: Marine Forces Command, Marine Forces Pacific, Marine Special Operations Command, the three Marine Expeditionary Forces, Marine Aviation Weapons and Tactics Squadron One (MAWTS-1), and in Iraq, providing on-site analysis to deployed Marine forces there. CNA also assigns analysts to support the Deputy Commandants and their staffs as well as other Marine Corps organizations such as the Marine Corps Warfighting Lab, Marine Corps Systems Command, and the Commander, Marine Forces Reserve. The program areas are linked to the Marine Corps Advocacy (prepotency), which are: (1) Logistics and Infrastructure; (2) Manpower and Training; (3) Research, Development and Acquisition; (4) Operations and Plans; (5) Programs and Resources; (6) Aviation; (7) Combat Development and Integration; and (8) Intelligence, Surveillance and Reconnaissance. Scientific Analyst support provides six scientific analysts for the following six focus areas: Deputy Commandant (DC), Plans, Policies and Operations; DC Aviation; DC Installation and Logistics; DC Programs and Resources; DC Manpower Reserve Affairs; and Director, Manpower Plans (MP) - Manpower and Reserve Affairs (M&RA).

The Marine Corps' portion of the CNA program is executed via the Marine Corps Studies System (MCSS) Annual Plan which is reviewed and updated on a quarterly basis. The MCSS maintains a comprehensive listing of all CNA studies performed for the Marine Corps. The MCSS ensures there are no duplicate analytical efforts within the Marine Corps. Additionally, the Operations Analysis Division of Combat Integration Division (CD&I, MCCDC) provides analytical review of all CNA products for the Marine Corps and integrates the results and recommendations into a quarterly newsletter for research and analysis. Other evaluation processes are as follows:

A) Contract Status Meetings: The Marine Corps participates in contract status meetings. The Contracting Officer chairs monthly meetings with the Marine Corps, and members of the CNA Business Support Group to provide guidance regarding contract management to include reviewing the Defense Technical Information Center (DTIC) database requirements to emphasize the contractual requirement that all ongoing research be submitted to DTIC to ensure against duplication to reviewing CNA's cost effectiveness and efficiency.

B) Marine Corps Three-Star Flag Officer Review: The Commanding General, CD&I, MCCDC and the Director, Operations Analysis Division (OAD) frequently to review the current research program and provide guidance to CNA regarding future research requirements. Meetings are essential to provide CNA to ensure that research conducted is of the greatest value to the Marine Corps. The meetings serve as a roadmap for future projects. The Marine Corps' research plan is consolidated with the DoN's Annual Plan that is submitted to the Deputy Chief of Naval Operations for Integration of Capabilities and Resources (N8) for final review and acceptance.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605154N / <i>Center For Naval Analyses</i>				Project (Number/Name) 0148 / <i>Center For Naval Analyses (CNA)</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0148: <i>Center For Naval Analyses (CNA)</i>	-	38.851	39.001	42.642	-	42.642	43.675	44.646	45.668	46.567	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program supports the Navy's portion of the CNA Research Program, which is primarily concentrated along thirteen Navy categories of study called product areas. These product areas include the following: (1) Manpower/Personnel, Medical and Training; (2) Intelligence, Information and Networks; (3) Plans, Policy, and Operations; (4) Infrastructure and Readiness; (5) Resources, Programs, and Assessments; (6) Capability Integration; (7) Research, Development and Acquisition; (8) Navy Field Program; (9) Navy Field Exercise Program; (10) Scientific Analyst Program; (11) Navy Quick Response Projects; (12) Navy General Concept Development and (13) CNA Initiated Projects. This program provides the Navy with independent and objective research and analysis of specific issues/topics appropriately performed by a FFRDC and includes studies support (to include quick response studies support), field support to fleet commanders, scientific analyst support to Deputy Chiefs of Naval Operations (DCNOs) and their staffs, exercise support, and ad hoc support. CNA's analyses have resulted in substantial improvements in force structure, fleet effectiveness, and significant cost avoidance

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: CENTER FOR NAVAL ANALYSES, NAVY	38.851	39.001	42.642	-	42.642
Articles:	-	-	-	-	-
Description: Funding in this project supports integrated research for the Department of Navy (DoN) and other DoD components across a broad range of issues including the development and evaluation of tactics, operations testing of new systems, assessment of current capabilities, logistics and readiness, work-force management, space and space-related activities, cyber operations, cost and operational program analysis, assessment of advanced technology, force planning, and strategies implications of political-military developments.					
The increase from FY15 to FY16 reflects the Navy priorities to expand the ability to respond to both CNO tasking and anticipated real-world contingencies.					
FY 2014 Accomplishments: CNA initiated 451 analytic efforts in FY14. This work is for a wide range of DoN and DoD sponsors including: OPNAV and HQMC, the Navy Secretariat, Type Commanders, the numbered Fleets and Navy/Marine Corps component commanders, Combatant Commands, Operational test and evaluation activities including					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605154N / <i>Center For Naval Analyses</i>	Project (Number/Name) 0148 / <i>Center For Naval Analyses (CNA)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>OPTEVFOR and DOT&E, SYSCOMs, Office of the Secretary of Defense, Defense agencies and the Defense Intelligence Community. A few examples of recently completed or ongoing efforts that parallel the general topics mentioned in the preceding section include: helping train Carrier Strike Groups (CSGs) to operate successfully in contested RF environments; support for operational testing of the F-35, a new sensor package for the F/A-18E/F, and LCS mission packages; an independent assessment of the Afghan National Security Forces; assessing the consequence of maintenance delays on ship deployment readiness and analysis of Navy logistics resiliency in WESTPAC; developing recommendations to help the Navy improve FIT and FILL on its surface combatants, assessing the impact of increased OPTEMPO on officer retention, and providing analytical support for the Marine Corps Force Integration plan; analysis of cyber activity conducted against the Navy's intranet in 2013 and helping improve Fleet cyber defense; helping the Program Assessment and Root Cause Analysis (PARCA) office in OSD anticipate cost and schedule changes in defense acquisition programs; conducting a series of wargames to help the Navy examine future fleet architecture; assessing the PLA and PLAN views of the U.S rebalance to Asia and helping the Navy develop a competitive strategy for Iran.</p> <p>CNA has 43 field billets at Navy, Marine Corps, Joint and Combatant Commander commands throughout the world. Work done by CNA has supported three deployed Navy CSGs and I MEF(Forward) in ongoing operations in the CENTCOM AOR.</p> <p>FY 2015 Plans: - Continue all efforts of FY14.</p> <p>FY 2016 Base Plans: - Continue all efforts of FY15. - Initiate high priority China studies. - Increase efforts in Cyber security. - Provide additional support in the area of Electronic Warfare.</p> <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	38.851	39.001	42.642	-	42.642

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

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy Date: February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605154N / <i>Center For Naval Analyses</i>	Project (Number/Name) 0148 / <i>Center For Naval Analyses (CNA)</i>
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D. Acquisition Strategy

N/A

E. Performance Metrics

CNA is reviewed throughout the research year on several different levels to ensure that research produced is not duplicated elsewhere. The primary (and most effective) method of review for duplication is the Contracting Officer's Technical Representative (COTR) review and approval of each and every project proposal submitted by CNA. This method is highly effective in providing the necessary oversight to ensure that duplication of effort does not occur. The Marine Corps Studies System (MCSS) maintains a comprehensive listing of all CNA studies performed for the USMC. The MCSS ensures that there are no duplicate analytical efforts within the USMC. Additionally, the Studies and Analysis Division of the Marine Corps Combat Development Command (MCCDC) provides analytical review of all CNA products for the USMC and integrates the results and recommendations into a quarterly newsletter and an annual plan for research and analysis. Other evaluation processes:

A) DoN Contract Status Meetings: As part of the CNA oversight process, the Office of Naval Research Contracting Officer chairs a monthly meeting with the COTR, the USMC, and the CNA's Chief Financial Office to provide guidance regarding contract management.

B) Two-Star Flag Officers and VCNO Corporate Board Meetings: DoN Two-Star and their equivalent civilian counterparts meet several times a year to review the current fiscal year's research and provide guidance to CNA regarding their future research for DoN. These high level meetings are essential to provide CNA with DoN's guidance to ensure that the research conducted is of the greatest value to DoN. The meetings also serve as the catalyst for the formation of the CNA Annual Plan, CNA's roadmap for research during the upcoming fiscal year. The CNA Annual Plan is then submitted to VCNO/N8 for final review and acceptance.

C) CNA Comprehensive Review: Prior to contract renewal, CNA, as an FFRDC, must be evaluated to ensure that the DoN wants to renew CNA's contract for an additional five year period. DoN completes an exhaustive review of sponsors' technical needs and mission requirements; DoN's consideration of other sources; CNA's efficiency and effectiveness; CNA's management and cost effectiveness; as well as the FFRDC establishment criteria and sponsorship agreement. The CNA Comprehensive Review is approved by ASN (RDA) and accepted by OSD (AT&L).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605285N / <i>Next Generation Fighter</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	-	4.794	5.000	-	5.000	-	-	-	-	-	9.794
2937: <i>Next Generation Fighter</i>	0.000	-	4.794	5.000	-	5.000	-	-	-	-	-	9.794

A. Mission Description and Budget Item Justification

This program provides analytical support to the Secretary of the Navy and the Chief of Naval Operations as a basis for major policy, planning and acquisition program execution decisions. It supports research and development strategy development and planning. It supports studies in the areas of manpower, personnel, training, and aviation. It also develops analytical tools for evaluating effectiveness of U.S. weapons against potential foreign threat ships and submarines.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	4.794	5.000	-	5.000
Total Adjustments	-	4.794	5.000	-	5.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	4.794			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	5.000	-	5.000

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605285N / <i>Next Generation Fighter</i>				Project (Number/Name) 2937 / <i>Next Generation Fighter</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2937: <i>Next Generation Fighter</i>	-	-	4.794	5.000	-	5.000	-	-	-	-	-	9.794
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

New Start in FY15

This project was originally budgeted in PE 0605152N PU 3365 but was transferred at Congressional request to a new program element.

A. Mission Description and Budget Item Justification

This project supports the analysis of the advanced air dominance family of systems to replace capabilities lost with the end of service life of the F/A-18E/F and EA-18G.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Next Generation Air Dominance Analysis	-	4.794	5.000	-	5.000
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Establish the analytic environment to support the recapitalization of Naval Aviation capabilities to include those inherent in the F/A-18E/F/G that will be approaching end of service life within the timeframes to meet pre-Milestone B, DOD 5000 series mandated activities, as well as timelines mandated by the Congressional requirements for an Aviation Investment Plan. The environment includes the analysis and support for planning and development of documentation to support a Materiel Development Decision, Analysis of Alternatives planning and execution, and Advanced Development Program Office planning. The products include automated tools and decision aids necessary to perform acquisition planning in support of warfighter capability requirements.					
FY 2016 Base Plans: Conduct an Analysis of Alternatives (AoA) to establish cost and capability tradespaces described by the capability requirements described in the Next Generation Air Dominance Initial Capabilities Document. Conduct systems engineering analysis to sufficiently review capabilities provided by industry proposals. Conduct cost analysis with sufficient fidelity across the total life-cycle of the industry proposals to identify a preferred system concept. The environment includes analysis and support of AoA execution and Advanced Development Program Office planning. Products include automated tools and decision aids necessary to perform acquisition planning					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605285N / <i>Next Generation Fighter</i>	Project (Number/Name) 2937 / <i>Next Generation Fighter</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
in support of warfighter capability requirements, as well as briefing support as required by excursions at the direction of the AoA executive steering group. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	-	4.794	5.000	-	5.000

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
Produce and deliver FA-XX (Next Generation Air Dominance) Analysis of Alternatives and Initial Capabilities Document development in accordance with Office of the Secretary of Defense Cost Assessment and Program Evaluation guidance. Analysis performed will be used to identify known warfighter capability gaps and support acquisition planning requirements associated with potential solutions. Analysis provides coherent and integrated cost, risk, and effectiveness data to support long-term planning for Naval Aviation consistent with DOD 5000 series instructions.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	294.649	-	-	-	-	-	-	-	-	-	294.649
0000: <i>UNDIST</i>	0.000	2.436	-	-	-	-	-	-	-	-	-	2.436
1812: <i>NAVAIR SBIR Program</i>	0.000	68.933	-	-	-	-	-	-	-	-	-	68.933
1813: <i>SPAWAR SBIR Program</i>	0.000	9.710	-	-	-	-	-	-	-	-	-	9.710
1814: <i>NAVSEA SBIR Program</i>	0.000	67.254	-	-	-	-	-	-	-	-	-	67.254
1824: <i>CMC SBIR Program</i>	0.000	13.943	-	-	-	-	-	-	-	-	-	13.943
1862: <i>SSPO SBIR Program</i>	0.000	6.151	-	-	-	-	-	-	-	-	-	6.151
1863: <i>NAVSUP SBIR Program</i>	0.000	1.000	-	-	-	-	-	-	-	-	-	1.000
1864: <i>CNR SBIR Program</i>	0.000	58.249	-	-	-	-	-	-	-	-	-	58.249
1865: <i>SBIR Administration</i>	0.000	3.882	-	-	-	-	-	-	-	-	-	3.882
2016: <i>NAVFAC SBIR Program</i>	0.000	1.000	-	-	-	-	-	-	-	-	-	1.000
2204: <i>Small Business Tech Transfer Program</i>	0.000	22.256	-	-	-	-	-	-	-	-	-	22.256
2240: <i>Navy Dual Use Technology Program</i>	0.000	0.875	-	-	-	-	-	-	-	-	-	0.875
2241: <i>SBIR ADMIN - SPAWAR</i>	0.000	0.558	-	-	-	-	-	-	-	-	-	0.558
2242: <i>SBIR ADMIN - NAVSEA</i>	0.000	5.112	-	-	-	-	-	-	-	-	-	5.112
2243: <i>SBIR ADMIN - NAVAIR</i>	0.000	4.015	-	-	-	-	-	-	-	-	-	4.015
2244: <i>SBIR ADMIN - NAVFAC</i>	0.000	0.050	-	-	-	-	-	-	-	-	-	0.050
2245: <i>SBIR ADMIN - NAVSUP</i>	0.000	0.050	-	-	-	-	-	-	-	-	-	0.050
2248: <i>SBIR ADMIN - SSPO</i>	0.000	0.353	-	-	-	-	-	-	-	-	-	0.353
2813: <i>SBIR - NSMA</i>	0.000	7.210	-	-	-	-	-	-	-	-	-	7.210
2814: <i>SBIR ADMIN - NSMA</i>	0.000	0.469	-	-	-	-	-	-	-	-	-	0.469
3201: <i>SBIR CPP - NAVAIR</i>	0.000	0.728	-	-	-	-	-	-	-	-	-	0.728
3202: <i>SBIR CPP - SPAWAR</i>	0.000	0.101	-	-	-	-	-	-	-	-	-	0.101
3203: <i>SBIR CPP - NAVSEA</i>	0.000	0.701	-	-	-	-	-	-	-	-	-	0.701

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity					R-1 Program Element (Number/Name)									
1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>					PE 0605502N / <i>Small Business Innovative Research</i>									
3204: <i>SBIR CPP - MARINE CORPS</i>	0.000	0.159	-	-	-	-	-	-	-	-	-	-	-	0.159
3205: <i>SBIR CPP - ONR</i>	0.000	0.743	-	-	-	-	-	-	-	-	-	-	-	0.743
3213: <i>NAVAIR STTR Program</i>	0.000	12.404	-	-	-	-	-	-	-	-	-	-	-	12.404
3233: <i>SPAWAR STTR Program</i>	0.000	0.082	-	-	-	-	-	-	-	-	-	-	-	0.082
3344: <i>SBIR Trial Admin Program</i>	0.000	6.225	-	-	-	-	-	-	-	-	-	-	-	6.225

A. Mission Description and Budget Item Justification

The Small Business Research and Development Reauthorization Act of 2011 as amended (15 U.S.C. 638) requires each Federal agency that has an extramural budget for R/R&D in excess of \$100,000,000 must participate and shall expend with small business concerns (SBC) not less than 2.6% in FY 2012 for specific small business research initiatives awarded through a Small Business Innovation Research (SBIR) solicitation. For FY 2013 through FY 2016 this increases annually by 0.1% and in FY 2017 increases by 0.2%. The Small Business Technology Transfer (STTR) program requires each Federal agency that has an extramural budget for R&D in excess of \$1,000,000,000 to set aside 0.35% for STTR in FY 2012, and increases 0.05% every two years beginning in FY 2012 through FY 2016.

B. Program Change Summary (\$ in Millions)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	294.649	-	-	-	-
Total Adjustments	294.649	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.016	-			
• SBIR/STTR Transfer	294.665	-			

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 0000 / <i>UNDIST</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0000: <i>UNDIST</i>	-	2.436	-	-	-	-	-	-	-	-	-	2.436
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Undistributed	2.436	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	2.436	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1812 / <i>NAVAIR SBIR Program</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1812: <i>NAVAIR SBIR Program</i>	-	68.933	-	-	-	-	-	-	-	-	-	68.933
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Title: Phase I Feasibility</p> <p align="right">Articles:</p> <p>FY 2014 Accomplishments: Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting proposals from small companies.</p> <p>Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC).</p> <p>FY 2015 Plans: N/A</p> <p>FY 2016 Base Plans: N/A</p> <p>FY 2016 OCO Plans: N/A</p>	7.469	-	-	-	-
<p>Title: Phase II Technology Development</p> <p align="right">Articles:</p> <p>FY 2014 Accomplishments:</p>	61.464	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1812 / <i>NAVAIR SBIR Program</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Phase II awards are based on the small business concerns Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level and providing prototyping to other sources validating the technology. FY 2015 Plans: N/A FY 2016 Base Plans: N/A FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	68.933	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>				Project (Number/Name) 1813 / SPAWAR SBIR Program			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1813: SPAWAR SBIR Program	-	9.710	-	-	-	-	-	-	-	-	-	9.710
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SPAWAR SBIR Program	9.710	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
SBIR:					
Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting proposals from small companies.					
Phase I Feasibility:					
Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC).					
Phase II Technology Development:					
Phase II awards are based on the SBC's Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level (TRL) and providing prototypes or other sources validating the technology.					
Phase III - Since the DOD started tracking DOD Phase III contract awards in 2000, the Navy continues annually to award more in Phase III contracts than the rest of the DOD combined and continues to be called out in studies and Congressional language as the premier DOD SBIR program. Although no government SBIR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's SBIR effort into products, tools or services that benefit the Navy acquisition community.					
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1813 / <i>SPAWAR SBIR Program</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 Base Plans:					
N/A					
FY 2016 OCO Plans:					
N/A					
Accomplishments/Planned Programs Subtotals	9.710	-	-	-	-

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1814 / NAVSEA SBIR Program
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1814: NAVSEA SBIR Program	-	67.254	-	-	-	-	-	-	-	-	-	67.254
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAVSEA SBIR PROGRAM	67.254	-	-	-	-
Articles:	-	-	-	-	-
<i>FY 2014 Accomplishments:</i>					
Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting proposals from small companies.					
Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC).					
Phase II Technology Development: Phase II awards are based on the SBC's Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level(TRL) and providing prototypes or other sources validating the technology.					
Phase III - Since the DOD started tracking DOD Phase III contract awards in 2000, the Navy continues annually to award more in Phase III contracts than the rest of the DOD combined and continues to be called out in studies and Congressional language as the premier DOD SBIR program. Although no government SBIR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's SBIR effort into products, tools or services that benefit the Navy acquisition community.					
<i>FY 2015 Plans:</i>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1814 / <i>NAVSEA SBIR Program</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 Base Plans:					
N/A					
FY 2016 OCO Plans:					
N/A					
Accomplishments/Planned Programs Subtotals	67.254	-	-	-	-

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1824 / <i>CMC SBIR Program</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1824: <i>CMC SBIR Program</i>	-	13.943	-	-	-	-	-	-	-	-	-	13.943
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: USMC SBIR Program	13.943	-	-	-	-
Articles:	-	-	-	-	-
<i>FY 2014 Accomplishments:</i> Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting proposals from small companies. Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC). Phase II Technology Development: Phase II awards are based on the SBC's Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level(TRL) and providing prototypes or other sources validating the technology. Phase III - Since the DOD started tracking DOD Phase III contract awards in 2000, the Navy continues annually to award more in Phase III contracts than the rest of the DOD combined and continues to be called out in studies and Congressional language as the premier DOD SBIR program. Although no government SBIR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's SBIR effort into products, tools or services that benefit the Navy acquisition community.					
<i>FY 2015 Plans:</i>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1824 / <i>CMC SBIR Program</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 Base Plans:					
N/A					
FY 2016 OCO Plans:					
N/A					
Accomplishments/Planned Programs Subtotals	13.943	-	-	-	-

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1862 / <i>SSPO SBIR Program</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1862: <i>SSPO SBIR Program</i>	-	6.151	-	-	-	-	-	-	-	-	-	6.151
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SSPO SBIR Program	6.151	-	-	-	-
Articles:	-	-	-	-	-
<i>FY 2014 Accomplishments:</i>					
Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting proposals from small companies.					
Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC).					
Phase II Technology Development: Phase II awards are based on the SBC's Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level(TRL) and providing prototypes or other sources validating the technology.					
Phase III - Since the DOD started tracking DOD Phase III contract awards in 2000, the Navy continues annually to award more in Phase III contracts than the rest of the DOD combined and continues to be called out in studies and Congressional language as the premier DOD SBIR program. Although no government SBIR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's SBIR effort into products, tools or services that benefit the Navy acquisition community.					
<i>FY 2015 Plans:</i>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1862 / <i>SSPO SBIR Program</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 Base Plans:					
N/A					
FY 2016 OCO Plans:					
N/A					
Accomplishments/Planned Programs Subtotals	6.151	-	-	-	-

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1863 / <i>NAVSUP SBIR Program</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1863: <i>NAVSUP SBIR Program</i>	-	1.000	-	-	-	-	-	-	-	-	-	1.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAVSUP SBIR Program	1.000	-	-	-	-
Articles:	-	-	-	-	-
<i>FY 2014 Accomplishments:</i>					
Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting proposals from small companies.					
Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC).					
Phase II Technology Development: Phase II awards are based on the SBC's Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level(TRL) and providing prototypes or other sources validating the technology.					
Phase III - Since the DOD started tracking DOD Phase III contract awards in 2000, the Navy continues annually to award more in Phase III contracts than the rest of the DOD combined and continues to be called out in studies and Congressional language as the premier DOD SBIR program. Although no government SBIR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's SBIR effort into products, tools or services that benefit the Navy acquisition community.					
<i>FY 2015 Plans:</i>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1863 / <i>NAVSUP SBIR Program</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.000	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1864 / <i>CNR SBIR Program</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1864: <i>CNR SBIR Program</i>	-	58.249	-	-	-	-	-	-	-	-	-	58.249
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: CNR SBIR Program	58.249	-	-	-	-
Articles:	-	-	-	-	-
<i>FY 2014 Accomplishments:</i>					
Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting proposals from small companies.					
Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC).					
Phase II Technology Development: Phase II awards are based on the SBC's Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level (TRL) and providing prototypes or other sources validating the technology.					
Phase III - Since the DOD started tracking DOD Phase III contract awards in 2000, the Navy continues annually to award more in Phase III contracts than the rest of the DOD combined and continues to be called out in studies and Congressional language as the premier DOD SBIR program. Although no government SBIR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's SBIR effort into products, tools or services that benefit the Navy acquisition community.					
<i>FY 2015 Plans:</i>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1864 / <i>CNR SBIR Program</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 Base Plans:					
N/A					
FY 2016 OCO Plans:					
N/A					
Accomplishments/Planned Programs Subtotals	58.249	-	-	-	-

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 1865 / <i>SBIR Administration</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1865: <i>SBIR Administration</i>	-	3.882	-	-	-	-	-	-	-	-	-	3.882
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SBIR Administration	3.882	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	3.882	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2016 / NAVFAC SBIR Program
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2016: NAVFAC SBIR Program	-	1.000	-	-	-	-	-	-	-	-	-	1.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAVFAC SBIR Program	1.000	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting proposals from small companies.					
Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC).					
Phase II Technology Development: Phase II awards are based on the SBC's Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level(TRL) and providing prototypes or other sources validating the technology.					
Phase III - Since the DOD started tracking DOD Phase III contract awards in 2000, the Navy continues annually to award more in Phase III contracts than the rest of the DOD combined and continues to be called out in studies and Congressional language as the premier DOD SBIR program. Although no government SBIR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's SBIR effort into products, tools or services that benefit the Navy acquisition community.					
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2016 / NAVFAC SBIR Program

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 Base Plans:					
N/A					
FY 2016 OCO Plans:					
N/A					
Accomplishments/Planned Programs Subtotals	1.000	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>				Project (Number/Name) 2204 / <i>Small Business Tech Transfer Program</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2204: <i>Small Business Tech Transfer Program</i>	-	22.256	-	-	-	-	-	-	-	-	-	22.256
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Technology Transfer (STTR) program requires each Federal agency that has an extramural budget for R&D in excess of \$1,000,000,000 to set aside 0.40% for STTR in FY 2014. This funds cooperative R&D between small businesses and research institutions. The program goals are to create vehicles from moving ideas from research institutions to market; enable researchers to pursue commercial application of technologies; and bridge funding gap between basic research and commercial product.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Small Business Tech Transfer Program	22.256	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC).					
Phase II Technology Development: Phase II awards are based on the SBC's Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level (TRL) and providing prototypes or other sources validating the technology.					
Phase III - Since the DOD started tracking DOD Phase III contract awards in 2000, the Navy continues annually to award more in Phase III contracts than the rest of the DOD combined and continues to be called out in studies and Congressional language as the premier DoD SBIR program. Although no government SBIR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's SBIR effort into products, tools or services that benefit the Navy acquisition community.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2204 / <i>Small Business Tech Transfer Program</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
One important strength of the SBIR program is that once a company has received a Phase I award the follow-on Phase II and III awards can be awarded in a non competitive process since the competitive process took place under phase I. FY 2015 Plans: N/A FY 2016 Base Plans: N/A FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	22.256	-	-	-	-

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2240 / <i>Navy Dual Use Technology Program</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
<i>2240: Navy Dual Use Technology Program</i>	-	0.875	-	-	-	-	-	-	-	-	-	0.875
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: USMC SBIR Administration	0.875	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.875	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2241 / <i>SBIR ADMIN - SPAWAR</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2241: <i>SBIR ADMIN - SPAWAR</i>	-	0.558	-	-	-	-	-	-	-	-	-	0.558
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SPAWAR SBIR Administration	0.558	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.558	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2242 / <i>SBIR ADMIN - NAVSEA</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2242: <i>SBIR ADMIN - NAVSEA</i>	-	5.112	-	-	-	-	-	-	-	-	-	5.112
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAVSEA SBIR Administration	5.112	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	5.112	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2243 / <i>SBIR ADMIN - NAVAIR</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2243: <i>SBIR ADMIN - NAVAIR</i>	-	4.015	-	-	-	-	-	-	-	-	-	4.015
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAVAIR SBIR Administration	4.015	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	4.015	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2244 / <i>SBIR ADMIN - NAVFAC</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2244: <i>SBIR ADMIN - NAVFAC</i>	-	0.050	-	-	-	-	-	-	-	-	-	0.050
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAVFAC SBIR Administration	0.050	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.050	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2245 / <i>SBIR ADMIN - NAVSUP</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2245: <i>SBIR ADMIN - NAVSUP</i>	-	0.050	-	-	-	-	-	-	-	-	-	0.050
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAVSUP SBIR ADMIN	0.050	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals					-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2248 / <i>SBIR ADMIN - SSPO</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2248: <i>SBIR ADMIN - SSPO</i>	-	0.353	-	-	-	-	-	-	-	-	-	0.353
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SSPO SBIR ADMIN	0.353	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.353	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2813 / <i>SBIR - NSMA</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2813: <i>SBIR - NSMA</i>	-	7.210	-	-	-	-	-	-	-	-	-	7.210
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NSMA SBIR	7.210	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting proposals from small companies.					
Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns (SBC).					
Phase II Technology Development: Phase II awards are based on the SBC's Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level(TRL) and providing prototypes or other sources validating the technology.					
Phase III - Since the DOD started tracking DOD Phase III contract awards in 2000, the Navy continues annually to award more in Phase III contracts than the rest of the DOD combined and continues to be called out in studies and Congressional language as the premier DOD SBIR program. Although no government SBIR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's SBIR effort into products, tools or services that benefit the Navy acquisition community.					
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2813 / <i>SBIR - NSMA</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 Base Plans:					
N/A					
FY 2016 OCO Plans:					
N/A					
Accomplishments/Planned Programs Subtotals	7.210	-	-	-	-

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 2814 / <i>SBIR ADMIN - NSMA</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2814: <i>SBIR ADMIN - NSMA</i>	-	0.469	-	-	-	-	-	-	-	-	-	0.469
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NSMA SBIR ADMIN	0.469	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.469	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3201 / <i>SBIR CPP - NAVAIR</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3201: <i>SBIR CPP - NAVAIR</i>	-	0.728	-	-	-	-	-	-	-	-	-	0.728
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public Law No. 109-163 allowed up to 1% of the SBIR be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The Commercialization Pilot Program is no longer a pilot program, and is now known as the Commercialization Readiness Program (CRP) as part of the SBIR/STTR Reauthorization Act of 2011.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Small Business Innovative Research Pilot Program	0.728	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Manage the Commercialization Readiness Program (CRP)					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.728	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

CPP Administration

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3202 / <i>SBIR CPP - SPAWAR</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3202: <i>SBIR CPP - SPAWAR</i>	-	0.101	-	-	-	-	-	-	-	-	-	0.101
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public Law No. 109-163 allowed up to 1% of the SBIR be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The Commercialization Pilot Program is no longer a pilot program, and is now known as the Commercialization Readiness Program (CRP) as part of the SBIR/STTR Reauthorization Act of 2011.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SBIR CPP - SPAWAR	0.101	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Commercialization Readiness program (CRP) funds: Prevent/Detect Fraud, Waste, and Abuse: Through education and communication with respective agencies' Office of Inspector General, Naval Criminal Investigative Service (NCIS), awardees, and applicants. Implement Counter-Intelligence initiatives within the lifecycle of SBIRs. Streamlining and Simplification: Improve SBIR processes by identifying and collecting metrics on the duration of time between solicitation close, selection, award notification, and period of performance dates. Outreach: Focus technical assistance to underrepresented groups of applicants and awardees (women and socially/economically disadvantaged persons) in collaborating with military stakeholders.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.101	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3202 / <i>SBIR CPP - SPAWAR</i>

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3203 / <i>SBIR CPP - NAVSEA</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3203: <i>SBIR CPP - NAVSEA</i>	-	0.701	-	-	-	-	-	-	-	-	-	0.701
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public Law No. 109-163 allowed up to 1% of the SBIR be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The Commercialization Pilot Program is no longer a pilot program, and is now known as the Commercialization Readiness Program (CRP) as part of the SBIR/STTR Reauthorization Act of 2011.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAVSEA SBIR CPP	0.701	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Manage the Commercialization Readiness Program (CRP)					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.701	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3204 / <i>SBIR CPP - MARINE CORPS</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3204: <i>SBIR CPP - MARINE CORPS</i>	-	0.159	-	-	-	-	-	-	-	-	-	0.159
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public Law No. 109-163 allowed up to 1% of the SBIR be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The Commercialization Pilot Program is no longer a pilot program, and is now known as the Commercialization Readiness Program (CRP) as part of the SBIR/STTR Reauthorization Act of 2011.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MARINE CORPS SBIR CPP	0.159	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Manage the Commercialization Readiness Program (CRP)					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.159	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3204 / <i>SBIR CPP - MARINE CORPS</i>

E. Performance Metrics

None.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3205 / <i>SBIR CPP - ONR</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3205: <i>SBIR CPP - ONR</i>	-	0.743	-	-	-	-	-	-	-	-	-	0.743
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public Law No. 109-163 allowed up to 1% of the SBIR be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The Commercialization Pilot Program is no longer a pilot program, and is now known as the Commercialization Readiness Program (CRP) as part of the SBIR/STTR Reauthorization Act of 2011.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: ONR SBIR CPP	0.743	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Manage the Commercialization Readiness Program (CRP)					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.743	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3213 / <i>NAVAIR STTR Program</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3213: <i>NAVAIR STTR Program</i>	-	12.404	-	-	-	-	-	-	-	-	-	12.404
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Technology Transfer (STTR) program requires each Federal agency that has an extramural budget for Research and Development (R&D) in excess of \$1,000,000,000 to set aside 0.40% for STTR in FY 2014. This funds cooperative R&D between small businesses and research institutions. The program goals are to create vehicles from moving ideas from research institutions to market; enable researchers to pursue commercial application of technologies; and bridge funding gap between basic research and commercial product.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Title: Phase I Feasibility</p> <p align="right">Articles:</p> <p>FY 2014 Accomplishments: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns.</p> <p>FY 2015 Plans: N/A</p> <p>FY 2016 Base Plans: N/A</p> <p>FY 2016 OCO Plans: N/A</p>	1.860	-	-	-	-
	-	-	-	-	-
<p>Title: Phase II Technology Development</p> <p align="right">Articles:</p> <p>FY 2014 Accomplishments: Phase II awards are based on the small business concerns Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level and providing prototypes or other sources validating the technology.</p> <p>FY 2015 Plans:</p>	10.544	-	-	-	-
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3213 / <i>NAVAIR STTR Program</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
<i>FY 2016 Base Plans:</i>					
N/A					
<i>FY 2016 OCO Plans:</i>					
N/A					
Accomplishments/Planned Programs Subtotals	12.404	-	-	-	-

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3233 / SPAWAR STTR Program
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3233: SPAWAR STTR Program	-	0.082	-	-	-	-	-	-	-	-	-	0.082
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Technology Transfer (STTR) program requires each Federal agency that has an extramural budget for R&D in excess of \$1,000,000,000 to set aside 0.40% for STTR in FY 2014. This funds cooperative R&D between small businesses and research institutions. The program goals are to create vehicles from moving ideas from research institutions to market; enable researchers to pursue commercial application of technologies; and bridge funding gap between basic research and commercial product.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Phase I and Phase II STTR	0.082	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns.					
Phase II awards are based on the small business concerns Phase I results and potential of the Phase II proposal to address the Navy's needs. These awards further developed the technology, maturing the Technology Readiness Level and providing prototypes or other sources validating the technology.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.082	-	-	-	-

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3233 / <i>SPAWAR STTR Program</i>

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
None.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3344 / <i>SBIR Trial Admin Program</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3344: <i>SBIR Trial Admin Program</i>	-	6.225	-	-	-	-	-	-	-	-	-	6.225
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for R&D in excess of \$100,000,000 to set aside 2.8% for SBIR in FY 2014. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

This project provides funding for the pilot administrative program authorized by the FY 2012 National Defense Authorization Act (SEC. 5141. PILOT TO ALLOW FUNDING FOR ADMINISTRATIVE, OVERSIGHT, AND CONTRACT PROCESSING COSTS.)

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SBIR Trial Admin	6.225	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	6.225	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / <i>Small Business Innovative Research</i>	Project (Number/Name) 3344 / <i>SBIR Trial Admin Program</i>

E. Performance Metrics

None.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605804N / <i>Technical Information Services</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	1.046	0.876	0.925	-	0.925	0.946	0.962	0.984	1.004	Continuing	Continuing
0835: <i>Tech Info System</i>	0.000	0.610	0.876	0.925	-	0.925	0.946	0.962	0.984	1.004	Continuing	Continuing
2296: <i>Federal Lab Consortium</i>	0.000	0.436	-	-	-	-	-	-	-	-	-	0.436

A. Mission Description and Budget Item Justification

The Technical Information Services program provides support to achieve affordability in the development of Navy systems by reducing life-cycle costs through the facilitation of advanced technology associations between U.S. industry and the Navy. Warfighting effectiveness is enhanced through strategic relationships with industry to commercialize the science and technology developed by the Naval Research Enterprise and to gain strategic understanding of industry Research and Development Programs and plans; access concepts and technologies; and access to business practices within the civil sector.

B. Program Change Summary (\$ in Millions)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	0.637	0.876	0.934	-	0.934
Current President's Budget	1.046	0.876	0.925	-	0.925
Total Adjustments	0.409	-	-0.009	-	-0.009
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	0.409	-			
• Program Adjustments	-	-	-0.002	-	-0.002
• Rate/Misc Adjustments	-	-	-0.007	-	-0.007

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605804N / <i>Technical Information Services</i>	Project (Number/Name) 0835 / <i>Tech Info System</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0835: <i>Tech Info System</i>	-	0.610	0.876	0.925	-	0.925	0.946	0.962	0.984	1.004	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The goal for this project is to enhance warfighter effectiveness by: leveraging industry independent Research and Development science and technology base; developing strategic partnerships with industry to transition private sector technology; and transferring appropriate Navy-developed innovative concepts and inventions to the private sector for purposes of commercialization. (Public Law 96-480, Federal Technology Transfer Act of 1986)

This project also provides the Department of the Navy (DoN) interface to the Office of the Assistant Secretary of Defense for Rapid Fielding, and to the Assistant Secretary of Commerce for Technology Policy for matters relating to policy and reporting requirements for technology transfer.

The funding increases FY 2014 to FY 2015 are due to the return on investment of T2 pilot projects to the Naval Research Enterprise by Chief of Naval Research.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: TECHNICAL INFORMATION SERVICES	0.610	0.876	0.925	-	0.925
Articles:	-	-	-	-	-
Description: Technical Information Services supports the spin-in and spin-out of research and development performed by Navy laboratories and industry. This program develops the tools and provides management oversight of the DoN Domestic Technology Transfer (T2) Program. The Navy plans on initiating two new pilot programs per year with the objective of increasing the visibility and transfer of the Navy developed technologies.					
FY 2014 Accomplishments:					
-Continued development of a database to capture value of technology transfer to the Navy and, if possible, platform insertion information.					
-Continued efforts to raise visibility of Navy technologies through a more widely defined publications program.					
-Continued studies to analyze trends of Cooperative Research and Development Agreements (CRADAs) in the Navy Defense Technology Transfer Information System (NDTTIS).					
-Continued efforts to implement Navy participation in support of new DoD T2 Strategic Plan. - Continued efforts to advance the Navy engagement in the DOD 1401 T2 Program.					
-Continued efforts to increase intellectual property mining activities at Navy laboratories.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605804N / <i>Technical Information Services</i>	Project (Number/Name) 0835 / <i>Tech Info System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Continued Two new pilot programs to support Technology Transfer (T2) efforts at Navy Office of Research and Technology Application (ORTA) activities across laboratories.</p> <p>-Continued Effort to develop guidelines to implement the use of CRADAs in the Navy Acquisition Program.</p> <p>-Continued Effort for Phase III of Navy Defense Technology Transfer Information System (NDTTIS) database to include value/impact of CRADAs including T2 and First Responder results of commercialization and benefits to the Warfighter.</p> <p>-Continued Effort to implement two standardized T2 agreements.</p> <p>-Continued development of new T2 training course.</p> <p>Initiated the following efforts:</p> <ul style="list-style-type: none"> - Efforts to raise visibility of Navy technologies through publications with a goal of 2 additional Trade publications. - Effort for Phase IV of Navy Defense Technology Transfer Information System (NDTTIS) database to include additional value/impact of CRADAs and investigate a new search engine. - Effort to establish a Navy wide T2 Intellectual Property Mining Program. - Effort to provide ONR guidance to Navy wide Laboratory Management encouraging Office of Research and Technology Applications (ORTAs) to cross train with Acquisition/Program Managers. <p>FY 2015 Plans: Continue all efforts of FY 2014. Initiate the following efforts:</p> <ul style="list-style-type: none"> - Two new pilot programs per year to support Technology Transfer (T2) efforts at Navy Office of Research and Technology Application (ORTA) activities across laboratories. - Efforts to raise visibility of Navy technologies through publications. - Effort for Phase V of Navy Defense Technology Transfer Information System (NDTTIS) database to continue additional value/impact of Cooperative Research and Development Agreements (CRADAs) and investigate a new search engine. - Effort to continue a Navy wide T2 Innovation Discovery/Intellectual Property Mining Program. - Effort to provide ONR guidance to Navy wide Laboratory Management encouraging representatives of the Office of Research and Technology Applications (ORTAs) accept developmental assignments in Acquisition. <p>FY 2016 Base Plans: Continue all efforts of FY 2015. Initiate the following efforts:</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605804N / <i>Technical Information Services</i>	Project (Number/Name) 0835 / <i>Tech Info System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Two new pilot programs per year to support Technology Transfer (T2) efforts at Navy Office of Research and Technology Application (ORTA) activities across laboratories. - Efforts to raise visibility of Navy technologies through publications and/or videos. - Effort to improve Navy Defense Technology Transfer Information System (NDTTIS) database to continue additional value/impact of Cooperative Research and Development Agreements (CRADAs). - Effort to continue the Navy wide T2 Innovation Discovery/Intellectual Property Mining Program. - Effort to coordinate/support a regional technology transfer industry day. <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	0.610	0.876	0.925	-	0.925

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
Demonstrate support for technological transitions from the Naval Research Enterprise into industrial and commercial enterprises supporting Navy programs of record and warfighter needs, by being responsive to Offices of Research and Technology Applications focal points for technology transfer in their development of Cooperative Research and Development Agreements (CRADA), and reducing transaction/information exchange timeframes by 25%.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605804N / <i>Technical Information Services</i>	Project (Number/Name) 2296 / <i>Federal Lab Consortium</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2296: <i>Federal Lab Consortium</i>	-	0.436	-	-	-	-	-	-	-	-	-	0.436
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Federal Laboratory Consortium for Technology Transfer (FLC) was established by Congress under the Federal Technology Transfer Act of 1986 (P.L. 99-502, 20 October 1986, as amended). The FLC, in cooperation with federal laboratories and the private sector, provides services to enhance the transfer of federally-developed technology to include activities such as: developing and administering technology transfer training courses and materials; assisting Federal agencies and laboratories in their technology transfer programs; and providing a clearinghouse for technology transfer requests.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: New Accomplishment/Planned Program Entry	0.436	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.436	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605804N / <i>Technical Information Services</i>	Project (Number/Name) 2296 / <i>Federal Lab Consortium</i>

E. Performance Metrics

In accordance with the Federal Technology Transfer Act of 1986 (P.L. 99-502, 20 October 1986, as amended), disseminated funding judiciously.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	81.919	87.038	78.143	-	78.143	106.144	105.268	101.754	103.764	Continuing	Continuing
0149: <i>International Coop RDT&E</i>	0.000	4.288	3.608	2.584	-	2.584	3.818	3.758	3.520	3.642	Continuing	Continuing
1767: <i>Naval War Col Strategic Studies Supt</i>	0.000	5.313	4.762	4.386	-	4.386	4.459	4.578	4.696	4.794	Continuing	Continuing
2098: <i>Navy Postgraduate School (NPS) Studies Support</i>	0.000	13.757	5.000	8.924	-	8.924	13.846	13.230	12.000	12.000	Continuing	Continuing
2221.: <i>JT Mission Assessment Studies</i>	0.000	22.500	24.880	17.063	-	17.063	28.335	28.120	26.802	27.350	Continuing	Continuing
2801: <i>Anti-Tamper</i>	0.000	-	1.374	1.374	-	1.374	1.374	1.374	1.374	1.401	Continuing	Continuing
3025: <i>Mid-Range Financial Improvement Plans</i>	0.000	0.819	0.717	-	-	-	-	-	-	-	-	1.536
3027: <i>Defense Critical Infrastructure Program</i>	0.000	-	-	5.800	-	5.800	6.170	6.603	7.107	7.100	Continuing	Continuing
3039: <i>CHENG</i>	0.000	18.186	13.241	10.827	-	10.827	16.002	15.724	14.904	15.215	Continuing	Continuing
3330: <i>Naval Research Laboratory (NRL) Facilities Modernization</i>	0.000	2.392	1.611	13.849	-	13.849	16.429	16.449	16.207	16.801	Continuing	Continuing
3363: <i>PACOM Initiative</i>	0.000	7.664	7.945	13.336	-	13.336	15.711	15.432	15.144	15.461	Continuing	Continuing
3381: <i>JIE Initiative</i>	0.000	-	8.900	-	-	-	-	-	-	-	-	8.900
9999: <i>Congressional Adds</i>	0.000	7.000	15.000	-	-	-	-	-	-	-	-	22.000

A. Mission Description and Budget Item Justification

International Cooperative RDT&E: provide program management, execution, and support to implement a broad range of cooperative Naval Research and Development, Test and Evaluation initiatives to improve coalition interoperability, harmonize US Navy requirements with allied and friendly nations, and identify cooperative international opportunities, and improve coalition interoperability. In addition, it develops coherent approaches, coordinating with partner nations, to sea-based missile defense, command, control, communications, computers and intelligence (C4I), and cooperative acquisition programs while also identifying technology to support the Global Maritime Partnership initiative.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	
<p>Naval War College Strategic Studies Support: Provides research, analysis and gaming activities which serve as a focal point, stimulus, and major source of strategic and operational thought within the Navy, joint and interagency communities. These efforts generate strategic and operational alternatives, quantitative analysis, war gaming and political military assessments, and provide recommendations regarding the formulation and execution of maritime options . The War Gaming Department plans, designs, executes, analyzes and reports on the Navy's Title 10 war games. These war games provide analytical input to the Navy's Strategic Plan, assessments of future concepts, and recommendations to the Navy's Quadrennial Defense Review, force design, and strategy process. The War Gaming Department also designs, executes and analyzes war games for theater security cooperation plans and operational war fighting issues.</p> <p>Assessment Program: The Navy Assessment Program provides capability-based planning assessment for Joint Capabilities Integration and Development System (JCIDS), conducts analysis to affect war fighting capability trades and enterprise resources, identifies needs, gaps, and overlaps, and assesses alternative solutions to Joint needs. The program supports both the development and use of modeling, simulation and analytically-based warfare and provides business analyses and analytic tools that provide the basis for decision making with respect to concepts of operations (CONOPS), Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Systems (Information Dominance); warfare systems (Sea Strike, Sea Shield, and Sea Basing) and analytical underpinnings/ basis for programmatic decisions of the Navy's top leadership regarding their architectures, force structure, and the Navy's core "organize, train, and equip mission" (the warfare and provider Enterprises). The program provides overarching Planning, Programming, Budgeting and Execution System (PPBES) analyses and guidance for PPBES which provides gap analysis and investment strategy and total obligation authority allocation. It provides independent capability analysis and assists in structuring follow-on Navy analyses. The program coordinates Navy's position for the enhanced planning process and conducts net assessments. It serves as the lead campaign analysis to approve Navy warfare and support requirements. The program supports "A Cooperative Strategy for 21st Century Seapower 21" as modified by the Maritime Strategy which charts a course for the Navy, Coast Guard and Marine Corps to work collectively with each other and international partners to prevent crises from occurring or reacting quickly should one occur to avoid negative impact to the United States. It serves as an independent assessor providing a broad-view perspective across the Navy staff apart from resource sponsors, with an integrated look at both war fighting and war fighting support programs. The program supports the world class modeling efforts to attain a level of Modeling and Simulation (M&S) capability that is world class and establishes the Navy as a leader in the Department of Defense (DoD) M&S community. It provides Navy alternatives in assessing the implications embedded within resource decisions in a quantified context of costs versus capability versus risk. The program provides independent analytic support to Navy leadership in conjunction with various executive level decision forums. It develops tools and analytical methodologies that assist in evaluating Navy programs and provides technical leadership for the analysis functional area of Naval Modeling and Simulation.</p> <p>Mid-Range Financial Improvement Plans: This project supports the Research Development Test & Evaluation, Navy (RD TEN) portion of the larger DoD and Navy-wide effort to implement the financial improvement plan. Funding is for the sustainment of clean and auditable statements for RD TEN.</p> <p>Operations Integration Group: Classified</p> <p>CHENG: Develops and implements architecture-based systems engineering processes, methods and tools that assure integrated and interoperable systems are delivered to the fleet. This project provides the mission-oriented technical basis for implementing capability-based acquisition management within the Navy to engineer and field Navy and Marine Corps combat systems, weapon systems, and command, control, communications, computers and intelligence (C4I) programs that must operate as family-of-systems (FoS) or system-of-systems (SoS). The focus of this project is on identifying the functions, relationships, and connections between</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>
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systems at both the force and unit level and across warfare mission areas, and encompasses three key elements: Systems Engineering to provide the framework for making engineering decisions by war fighting capability at the FoS/SoS level and supports consistent engineering and investment decision-making across Navy and Marine Corps programs within capability-based acquisition portfolios. Naval Collaborative Engineering Environment development and implementation as a DON enterprise resource for Naval integration and interoperability information to enable collaboration and decision support among Fleet organizations, Program Executive Offices, Program Managers, Systems Commands, prime contractors, Resource/Warfare Sponsors and Comptroller organizations. Standards, Policies and Guidelines engineering and technical staff to implement DoN, Office of the Secretary of Defense (OSD) and Joint integration and interoperability and Anti-Tamper initiatives.

Naval Research Laboratory (NRL)Facilities Modernization: This program has been established to provide a systematic and planned approach to improve vital in-house science and technology (S&T) laboratory facilities which are reaching or have reached critical stages of deterioration. The program includes restoration and modernization (R&M) initiatives for about 350,000 net square feet, where the average age of the buildings is 67 years old.

The Joint Information Environment (JIE) initiative provides the supporting IT capability framework comprised of shared information technology infrastructure, enterprise services, interoperability with coalition partners and a single security architecture that enables mission commanders to execute mission partnered operations. JIE provides the U.S. configuration controls necessary for enterprise capabilities. By utilizing a U.S enterprise-wide secure Identity and Access Management system, JIE ensures that authorized users at the right classification level gain access to only the data and services they are entitled. The continued development and refinement of a Joint Information Environment will provide for a significant improvement in data sharing within, and between, coalition maritime elements.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	83.494	72.070	76.569	-	76.569
Current President's Budget	81.919	87.038	78.143	-	78.143
Total Adjustments	-1.575	14.968	1.574	-	1.574
• Congressional General Reductions	-	-0.032			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.576	-			
• Program Adjustments	-	-	12.530	-	12.530
• Rate/Misc Adjustments	0.001	-	-10.956	-	-10.956

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Printed Circuit Board Executive Agent*

	FY 2014		FY 2015
	7.000		15.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>
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Congressional Add Details (\$ in Millions, and Includes General Reductions)

	FY 2014	FY 2015
Congressional Add Subtotals for Project: 9999	7.000	15.000
Congressional Add Totals for all Projects	7.000	15.000

Change Summary Explanation

The FY 2016 funding request was reduced by -\$14.5 million to account for the availability of prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 0149 / <i>International Coop RDT&E</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0149: <i>International Coop RDT&E</i>	-	4.288	3.608	2.584	-	2.584	3.818	3.758	3.520	3.642	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides program management, execution, and support to implement a broad range of cooperative naval Research and Development, Test and Evaluation (RDT&E) initiatives to improve coalition interoperability, harmonize US Navy requirements with allied and friendly nations, identify cooperative international opportunities, and improve coalition interoperability. In addition, it develops coherent approaches in coordination with combatant commanders (COCOMs), and appropriate partner nations, to sea-based missile defense, command, control, communications, computers and intelligence (C4I), and cooperative acquisition programs while also identifying technology to support the Global Maritime Partnership Initiative.

The project scope supports the strategic shift to the Pacific Region with emphasis on Maritime Domain Awareness (MDA) and Coalition Interoperability. Relationships have been, and are being initiated with a greatly expanded and diverse group of maritime countries, particularly those with nascent and littoral navies. The project was restructured internally to both maintain ongoing international relationships and projects, while preparing to facilitate support for a global network of maritime nations under MDA and Coalition Interoperability requirements.

Ongoing cooperative RDT&E programs, projects and exchanges are pursued to identify cooperative acquisition programs, enhance OCO efforts and MDA development, fill capability gaps, improve US/coalition interoperability, and set standardization with international partners. Such efforts have resulted in:

1. Negotiating and developing approximately 57 international RDT&E Agreements annually with allied and friendly nations;
2. Executing approximately 300 Information Exchange Annexes (IEAs) with foreign partners;
3. Improving IEA information dissemination with allied and friendly countries and within Department of the Navy (DoN);
4. Coordinating Navy inputs to the Office of the Under Secretary of Defense (OUSD) Acquisition, Technology, and Logistics (AT&L) Foreign Comparative Test (FCT) Program, and Coalition Warfare Program (CWT) as well as the DoN Technology Transfer Security Assistance Review Boards (TTSARB).
5. Represent the US Navy in Office of the Secretary of Defense (OSD) directed Armaments Cooperation Forums, including the Conference of NATO Armaments Directors' groups {NATO Naval Armaments Group (NNAG)}, and Senior National Representative-Maritime (SNR-M);
6. Funding of various international RDT&E support databases including Technical Project Officer (TPO), International Agreement Generators, Information/Data Exchange Agreements, and Project Agreements/Memorandums of Understanding;
7. Leading the Engineering and Scientist Exchange Program (ESEP).

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: International Coop RDT&E	4.288	3.608	2.584	-	2.584
Articles:	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 0149 / <i>International Coop RDT&E</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p><i>FY 2014 Accomplishments:</i></p> <ul style="list-style-type: none"> - Continue to support Maritime Theater Missile Defense (MTMD) Forum that obtained \$8.1M in R&D monies from Partner Nation contributions. The multi-lateral forum (9 Maritime Partner countries and the US Navy) entered into four international agreements (Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I); Distributed Engineering Plant; Open Architecture; and Modeling and Simulation (M&S). The MTMD has a goal of an at-sea capability demonstration in 2015. -Continue execution of approximately 300 Information Exchange Agreements/Date Exchange Agreements (IEA/DEA)with more than 30 countries. -Continue execution and support in placement of US Navy and partner nation engineers and scientists under OSD's Engineer and Scientist Exchange Program (ESEP). -Continue to coordinate US Navy participation in OUSD(AT&L)Coalition Warfare Program (CWP) selection processes to meet emerging military capability requirements. -Fund various evolving potential cooperative exchanges and projects contribution to Maritime Domain Awareness (MDA) and irregular warfare including Multi-Mission Aircraft (MMA), Broad Area Maritime Surveillance (BAMS), Submarine Littoral Weapons System, and Swimmer Engagement. Coordinate US Navy Support to OUSD (AT&L) International Cooperation Office. -Support new CNO-Initiated Strategy Dialogue with Australia, including Air and Expeditionary Warfare Working Groups for mutual development of requirements and projects. Support NATO Naval Armaments Group (NNAG) and Five Power Groups on cooperative programs including harbor protection, electronic warfare, and Defense Against Terrorism (DAT) trials. -Continue execution of Expeditionary Warfare Working Group (EWWG). -Execution of Assured Precision Strike (APS) Study. -Execution of Above Water Working Group(AWWG). -Execution of Undersea Warfare Working Group (UWWG). -Execution of Communication and Information Warfare Working Group (CIWWG). -Execution of Amphibious Operations Working Group (AOWG) -Execution of Pre-International Agreement Work. -Continue execution and support of NATO Maritime EW Trials/NATO Travel. <p><i>FY 2015 Plans:</i></p> <ul style="list-style-type: none"> -Continue all efforts of FY14. - Continue to support Maritime Theater Missile Defense (MTMD) Forum that obtained \$8.1M in R&D monies from Partner Nation contributions. The multi-lateral forum (9 Maritime Partner countries and the US Navy) 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 0149 / <i>International Coop RDT&E</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>entered into four international agreements (Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I); Distributed Engineering Plant; Open Architecture; and Modeling and Simulation (M&S). The MTMD has a goal of an at-sea capability demonstration in 2015.</p> <ul style="list-style-type: none"> -Continue execution of approximately 300 Information Exchange Agreements/Date Exchange Agreements (IEA/DEA)with more than 30 countries. -Continue execution and support in placement of US Navy and partner nation engineers and scientists under OSD's Engineer and Scientist Exchange Program (ESEP). -Continue to coordinate US Navy participation in OUSD(AT&L)Coalition Warfare Program (CWP) selection processes to meet emerging military capability requirements. -Fund various evolving potential cooperative exchanges and projects contribution to Maritime Domain Awareness (MDA) and irregular warfare including Multi-Mission Aircraft (MMA), Broad Area Maritime Surveillance (BAMS), Submarine Littoral Weapons System, and Swimmer Engagement. Coordinate US Navy Support to OUSD (AT&L) International Cooperation Office. -Support new CNO-Initiated Strategy Dialogue with Australia, including Air and Expeditionary Warfare Working Groups for mutual development of requirements and projects. Support NATO Naval Armaments Group (NNAG) and Five Power Groups on cooperative programs including harbor protection, electronic warfare, and Defense Against Terrorism (DAT) trials. -Continue execution of Expeditionary Warfare Working Group (EWWG). -Execution of Assured Precision Strike (APS) Study. -Execution of Above Water Working Group(AWWG). -Execution of Undersea Warfare Working Group (UWWG). -Execution of Communication and Information Warfare Working Group (CIWWG). -Execution of Amphibious Operations Working Group (AOWG) -Execution of Pre-International Agreement Work. -Continue execution and support of NATO Maritime EW Trials/NATO Travel. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> -Continue all efforts of FY15 -Continue to support Maritime Theater Missile Defense (MTMD) Forum that obtained \$8.1M in R&D monies from Partner Nation contributions. The multi-lateral forum (9 Maritime Partner countries and the US Navy) entered into four international agreements (Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I); Distributed Engineering Plant; Open Architecture; and Modeling and Simulation (M&S). 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 0149 / <i>International Coop RDT&E</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> -Continue execution of approximately 300 Information Exchange Agreements/Date Exchange Agreements (IEA/DEA)with more than 30 countries. -Continue execution and support in placement of US Navy and partner nation engineers and scientists under OSD's Engineer and Scientist Exchange Program (ESEP). -Continue to coordinate US Navy participation in OUSD(AT&L)Coalition Warfare Program (CWP) selection processes to meet emerging military capability requirements. -Fund various evolving potential cooperative exchanges and projects contribution to Maritime Domain Awareness (MDA) and irregular warfare including Multi-Mission Aircraft (MMA), Broad Area Maritime Surveillance (BAMS), Submarine Littoral Weapons System, and Swimmer Engagement. Coordinate US Navy Support to OUSD (AT&L) International Cooperation Office. -Support new CNO-Initiated Strategy Dialogue with Australia, including Air and Expeditionary Warfare Working Groups for mutual development of requirements and projects. Support NATO Naval Armaments Group (NNAG) and Five Power Groups on cooperative programs including harbor protection, electronic warfare, and Defense Against Terrorism (DAT) trials. -Continue execution of Expeditionary Warfare Working Group (EWWG). -Execution of Assured Precision Strike (APS) Study. -Execution of Above Water Working Group(AWWG). -Execution of Undersea Warfare Working Group (UWWG). -Execution of Communication and Information Warfare Working Group (CIWWG). -Execution of Amphibious Operations Working Group (AOWG) <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	4.288	3.608	2.584	-	2.584

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 0149 / <i>International Coop RDT&E</i>

E. Performance Metrics

The Navy International Cooperative RDT&E project supports the implementation of many international cooperative program activities throughout the Department of the Navy (DoN) RDT&E communities. The project funds DoN participation in NATO and OSD lead Armaments Cooperation as well as DoN lead international cooperation that promotes coalition interoperability and set standards with international partners. The focused activities under this project maximize the DoN's efforts by leveraging international technologies and funding to fill capabilities gaps, gain access to foreign research and testing data, and avoid duplication of research and development efforts. The performance goals and metrics are, in cooperation with Maritime Partner nations, to set and harmonize requirements, utilize respective technologies, encourage financial contributions and facilities use, and support forums and work that reduce DoN funding requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 1767 / Naval War Col Strategic Studies Supt			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1767: Naval War Col Strategic Studies Supt	-	5.313	4.762	4.386	-	4.386	4.459	4.578	4.696	4.794	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Naval War College (NWC) research, analysis and gaming activities serve as a focal point, stimulus, and major source of strategic and operational thought within the Navy, Joint and Interagency communities. These efforts generate strategic and operational alternatives, tactical imperatives, quantitative analysis, war gaming, political-military assessments, and provide recommendations to the Chief of Naval Operations (CNO), Fleet Commanders and numbered Fleet Commanders regarding the formulation and execution of maritime options for the President of the United States.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Strategic Studies	1.483	1.476	1.496	-	1.496
Articles:	-	-	-	-	-
<p>Description: Naval War College (NWC) conducts research in strategic studies in response to tasking from the Secretary of the Navy (SECNAV), Chief of Naval Operation (CNO), Fleet Commanders, numbered Fleet Commanders, and Combatant Commanders. NWC also hosts the activities of the CNO's Strategic Studies Group (SSG). The CNO SSG is a select group of senior naval officers handpicked by the CNO, who report to him in the development of revolutionary warfighting and operational concepts, such as Sea Strike and FORCEnet.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> - Continue research and analysis projects and provide supporting events for OPNAV, the numbered Fleets, Navy Component Commanders, and the Combatant Commanders. - Continue to support the OPNAV Staff on tasked research projects. - Continue CNO SSG tasking from the CNO to SSG XXXII to generate revolutionary operating and warfighting concepts for future Navy and maritime operations. Follow up on CNO and OPNAV actions resulting from SSG XXXI Final Report. - Continue research into the Chinese Maritime capabilities and affairs in order to enhance understanding of global developments and provide studies and advice for the CNO and the fleet. 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 1767 / Naval War Col Strategic Studies Supt

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>- Conduct research in support of the refresh to the Navy's Strategy "Cooperative Strategy for the 21st Century."</p> <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Continue research and analysis projects and provide supporting events for OPNAV, the numbered Fleets, Navy Component Commanders, and the Combatant Commanders. - Continue to support the OPNAV Staff on tasked research projects. - Continue CNO SSG tasking from the CNO to SSG XXXIII to generate revolutionary operating and warfighting concepts for future Navy and maritime operations. Follow up on CNO and OPNAV actions resulting from SSG XXXII Final Report. - Continue research into the Chinese Maritime capabilities and affairs in order to enhance understanding of global developments and provide studies and advice for the CNO and the fleet. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Conduct research and analysis projects and provided supporting events for OPNAV, the numbered Fleets, Navy Component Commanders, and the Combatant Commanders. - Continue to support the OPNAV Staff on tasked research projects. - CNO SSG tasking from the CNO to SSG XXXV to generate revolutionary operating and warfighting concepts for future Navy and maritime operations. Following up on CNO and OPNAV actions resulting from SSG XXXIV Final Report. - Conduct research into the Chinese Maritime capabilities and affairs in order to enhance understanding of global developments and provide studies and advice for the CNO and the fleet. <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Naval War Gaming Support</p> <p align="right">Articles:</p> <p>Description: Naval War College (NWC) conducts strategic and operational war gaming and research for Office of the Chief of Naval Operations (OPNAV), the numbered Fleets, Fleet Commanders, and the Combatant Commanders. Each year, 55-60 major war games and associated events provide support to efforts that explore and analyze military, political, informational and economic aspects of differing strategic and operational scenarios and tactical imperatives.</p> <p>FY 2014 Accomplishments:</p>	2.721	2.528	2.023	-	2.023
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 1767 / <i>Naval War Col Strategic Studies Supt</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Continue to conduct 55-60 major war games and related events in support of OPNAV, the numbered Fleets, and the Combatant Commands. - Continue to support CNO and OPNAV with Navy Title X war games, research, and analysis. Continue to provide war gaming expertise to other services' Title 10 war games. - Continue to provide research, analysis, and war gaming support to senior Navy leadership in areas as directed, such as MDA, Irregular Warfare, cyber, and C4ISR. - Continue to foster and sustain cooperative relationships with international partners through the use of war gaming, research, and analysis. - Continue to conduct research supporting war games co-sponsored with Naval Warfare Development Command (NWDC). - Continue to conduct advanced research and analysis for OPNAV on determining measures of effectiveness for the implementation of Cooperative Strategy for 21st Century Seapower. - Continue to conduct high level policy analytic research and gaming addressing Proliferation Security Initiatives for the Office of the Secretary of Defense (OSD). - Continue war gaming, research and analytical support for Navy core capabilities, such as deterrence, maritime security, and sea control. - Continue International War Gaming in support of Maritime Security Cooperation and implementation of Cooperative Strategy for 21st Century Seapower. - Continue to conduct research and analysis on key operational challenges such as theater anti-submarine Warfare, maritime missile defense, global maritime security, maritime homeland defense, maritime domain awareness, and sea basing. - Develop educational materials for the Maritime Advanced Warfighting School. <p>FY 2015 Plans:</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Continue to conduct 55-60 major war games and related events in support of OPNAV, the numbered Fleets, and the Combatant Commands. - Continue to support CNO and OPNAV with Navy Title X war games, research, and analysis. Continue to provide war gaming expertise to other services' Title 10 war games. - Continue to provide research, analysis, and war gaming support to senior Navy leadership in areas as directed, such as MDA, Irregular Warfare, cyber, and C4ISR. - Continue to foster and sustain cooperative relationships with international partners through the use of war gaming, research, and analysis. - Continue to conduct research supporting war games co-sponsored with Naval Warfare Development Command (NWDC). - Continue to support Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection. - Continue to conduct advanced research and analysis for OPNAV on determining measures of effectiveness for the implementation of Cooperative Strategy for 21st Century Seapower. - Continue to conduct high level policy analytic research and gaming addressing Proliferation Security Initiatives for Office of the Secretary of Defense (OSD). - Continue war gaming, research and analytical support for Navy core capabilities, such as deterrence, maritime security, and sea control. - Continue to develop educational materials for the Maritime Advanced Warfighting School. - Continue to conduct research and analysis on key operational challenges such as theater ASW, IAMD, global maritime security, maritime homeland defense, MDA, and sea basing. - Continue to conduct research, analysis, and gaming on current area denial and anti access issues confronting naval forces. - Conduct research, analysis, and war gaming of emerging concepts such as anti access and area denial and air sea 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 1767 / <i>Naval War Col Strategic Studies Supt</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>battle.</p> <ul style="list-style-type: none"> - Provide research, analysis, and war gaming in support of Navy and Marine Corps issues identified by the Naval Board. - Conduct analytic research on maritime security cooperation planning for forward based fleets. - Lead the effort to conduct analytical research in operational concepts of Cyber Warfare. - Advance the concept of cyber war gaming, including development of cyber Common Operational Picture. - Support Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection and counter piracy. - Support Fleet Commanders with high quality Course of Action Analysis and war games of operational plans. - Provide direct support to Navy operational level programs such as the maritime staff Operators Course, Executive Leaders Operational Course, CFMCC Course, and JFMCC Course. - Develop advanced war gaming analytical methods and tools such as the use of multi touch multi user boards and web based applications. <p><i>FY 2016 Base Plans:</i></p> <ul style="list-style-type: none"> - Continue to conduct 45-50 major war games and related events in support of OPNAV, the numbered Fleets, and the Combatant Commands. - Continue to support CNO and OPNAV with Navy Title X war games, research, and analysis. Continue to provide war gaming expertise to other services' Title 10 war games. - Continue to provide research, analysis, and war gaming support to senior Navy leadership in areas as directed, such as MDA, Irregular Warfare, cyber, and C4ISR. - Continue to conduct research, analysis, and war gaming of emerging concepts such as anti access and area denial and air sea battle. - Continue to provide research, analysis, and war gaming in support of Navy and Marine Corps issues identified by the Naval Board. - Continue to foster and sustain cooperative relationships with international partners through the use of war gaming, research, and analysis. - Continue to conduct analytic research on maritime security cooperation planning for forward based fleets. - Continue to lead the effort to conduct analytical research in operational concepts of Cyber Warfare. 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Continue to advance the concept of cyber war gaming, including development of cyber Common Operational Picture - Continue to support Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection and counter piracy. - Continue to conduct research supporting war games co-sponsored with Naval Warfare Development Command (NWDC). - Continue to support Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection. - Continue to support Fleet Commanders with high quality Course of Action Analysis and war games of operational plans. - Continue to conduct advanced research and analysis for OPNAV on determining measures of effectiveness for implementation of Cooperative Strategy for 21st Century Seapower. - Continue to conduct high level policy analytic research and gaming addressing Proliferation Security Initiatives for Office of the Secretary of Defense (OSD). - Continue war gaming, research and analytical support for Navy core capabilities, such as deterrence, maritime security, and sea control. - Continue to develop educational materials for the Maritime Advanced Warfighting School. - Continue to provide direct support to Navy operational level programs such as the maritime staff Operators Course, Executive Leaders Operational Course, CFMCC Course, and JFMCC Course. - Continue to conduct research and analysis on key operational challenges such as theater ASW, IAMD, global maritime security, maritime homeland defense, MDA, and sea basing. - Continue to conduct research, analysis, and gaming on current area denial and anti access issues confronting naval forces. - Continue to develop advanced war gaming analytical methods and tools such as use of multi touch multi user boards and web based applications. <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Warfare Analysis and Research</p> <p align="right">Articles:</p> <p>Description: Naval War College (NWC) supports senior decision-makers from the Department of Defense, Department of the Navy, the numbered Fleets, Fleet Commanders and Combatant Commanders in reaching</p>	0.380	0.421	0.392	-	0.392
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 1767 / <i>Naval War Col Strategic Studies Supt</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>well-informed, objective decisions on strategic, operational and programmatic issues through collaborative research which integrates traditional research and analysis with advanced decision support tools.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> - Continue to conduct major decision events in support of OPNAV, the numbered Fleets, Fleet Commanders, and the Combatant Commanders. Projects are in direct support of warfighting analysis requirements for numbered fleet commanders and will expand to include the Commander Seventh Fleet (C7F) with particular focus on India and the Indian Ocean. - Continue to conduct analytical research on key strategic and operational challenges such as maritime ballistic missile defense, proliferation security initiative, global maritime security, maritime situational awareness, maritime operations headquarters, interconnectivity, and multi-service force deployment. - Continue additional evaluation of concepts and decision events in conjunction with war gaming center. - Continue to conduct research targeted at the strategic and policy level decision making within China. - Continue to provide direct support to NWC student research groups and war gaming. - 25-30 major decision events will be conducted in support of these efforts. <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Continue to conduct major decision events in support of OPNAV, the numbered Fleets, Fleet Commanders, and the Combatant Commanders. Projects were in direct support of warfighting analysis requirements for numbered fleet commanders and will expand to include the Commander Seventh Fleet (C7F) with particular focus on India and the Indian Ocean. - Continue to conduct analytical research on key strategic and operational challenges such as maritime ballistic missile defense, proliferation security initiative, global maritime security, maritime situational awareness, maritime operations headquarters, interconnectivity, and multi-service force deployment. - Continue additional evaluation of concepts and decision events in conjunction with war gaming center. - Continue to conduct research targeted at the strategic and policy level decision making within China. - Continue to provide direct support to NWC student research groups and war gaming. 					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>- 30-40 major decision events will be conducted in support of these efforts.</p> <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> - Continue to conduct major decision events in support of OPNAV, the numbered Fleets, Fleet Commanders, and the Combatant Commanders. Projects were in direct support of warfighting analysis requirements for numbered fleet commanders and were expanded to include Commander Seventh Fleet (C7F) with particular focus on India and the Indian Ocean. - Conduct analytical research on key strategic and operational challenges such as maritime ballistic missile defense, proliferation security initiative, global maritime security, maritime situational awareness, maritime operations headquarters, interconnectivity, and multi-service force deployment. - Continue additional evaluation of concepts and decision events in conjunction with war gaming center. - Conduct research targeted at the strategic and policy level decision making within China. - Continue to provide direct support to NWC student research groups and war gaming. - 25-30 major decision events will be conducted in support of there efforts. <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: NWC Student Research Projects</p> <p align="right">Articles:</p> <p>Description: Selected top performing Naval War College (NWC) students to conduct focused research and analysis of current and future strategic and operational challenges and tactical imperatives. These students are organized under the supervision of the Mahan Scholars Program and the Halsey Group Program.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> - Continue to conduct focused research, analysis and war gaming of current and future strategic/operational challenges and tactical imperatives by the Halsey Groups and Mahan Scholars programs. - Research groups continue to conduct focused research, analysis and free-play war gaming of current and future operational challenges and tactical imperatives arising from regional threats, homeland defense and access denial efforts at the high end of the conflict spectrum in the Pacific, European Command (EUCOM), Central Command 	0.117	0.118	0.090	-	0.090
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 1767 / <i>Naval War Col Strategic Studies Supt</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>CENTCOM) and Northern Command (NORTHCOM) area of responsibility (AOR). Research and analysis efforts continue in those areas above, and will be expanded to include a detailed focus on counter-targeting, operational deception, and countering information denial and missile defense at the theater joint operational level.</p> <p>- Continue to Conduct research for the Deputy Secretary of Defense (DEPSECDEF) on matters tasked to the College.</p> <p>FY 2015 Plans:</p> <p>- Continue to conduct focused research, analysis and war gaming of current and future strategic/operational challenges and tactical imperatives by the Halsey Groups and Mahan Scholars programs.</p> <p>- Research groups continue to conduct focused research, analysis and free-play war gaming of current and future operational challenges and tactical imperatives arising from regional threats, homeland defense and access denial efforts at the high end of the conflict spectrum in the Pacific, European Command (EUCOM), Central Command (CENTCOM) and Northern Command (NORTHCOM) area of responsibility (AOR). Research and analysis efforts continue in those areas above, and will be expanded to include a detailed focus on counter-targeting, operational deception, and countering information denial and missile defense at the theater joint operational level.</p> <p>- Continue to conduct research for the Deputy Secretary of Defense (DEPSECDEF) on matters tasked to the College.</p> <p>FY 2016 Base Plans:</p> <p>- Conduct focused research, analysis and war gaming of current and future strategic/operational challenges and tactical imperatives by the Halsey Groups and Mahan Scholars programs.</p> <p>- Research groups continue to conduct focused research, analysis and free-play war gaming of current and future operational challenges and tactical imperatives arising from regional threats, homeland defense and access denial efforts at the high end of the conflict spectrum in the Pacific, European Command (EUCOM), Central Command (CENTCOM) and Northern Command (NORTHCOM) area of responsibility (AOR). Research and analysis efforts continue in those areas above, and will be expanded to include a detailed focus on counter-targeting, operational deception, and countering information denial and missile defense at the theater joint operational level.</p>					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Conduct research for Deputy Secretary of Defense (DEPSECDEF) on matters tasked to the College.					
FY 2016 OCO Plans: N/A					
Title: Maritime Headquarters / Maritime Operations Center (MOC) Analysis	0.612	0.219	0.385	-	0.385
Articles:	-	-	-	-	-
Description: Formerly JFMCC/Worldwide Naval Component Commanders (WNCC). Naval War College (NWC) conducts research and analysis at the operational level of war, including direct support for the Maritime Headquarters (MHQ) and Maritime Operations Centers (MOC), as well as Combined/Joint Forces Maritime Component Commander (C/JFMCC) activities. These activities include support for concept and doctrine development of numbered fleet war games, exercises, education, research and analysis. NWC is responsible for development of Professional Military Education for Naval Component Commanders and Numbered Fleet Staff personnel, and the Numbered Fleet Commander, including education and research initiatives in support of concept of operations development, training and C/JFMCC advisory and assist team.					
FY 2014 Accomplishments: Maritime Staff Operators Course (MSOC): - Expand research into the required competencies for Maritime Staff Operations Course for officer and enlisted personnel to successfully operate at the operational level of war. - Actively participate in creation and review of existing and emerging doctrine, and have active involvement in development of evolving operational level issues. - Incorporate more interactive technologies for staff collaboration while conducting distributed operations. - Conduct research in advanced adaptive intelligence, information warfare, and other advanced decision-support tools, including adapting Spiral-developed systems into the MOC classroom environment. - Conduct research to improve coalition-related MOC education programs for International Officers and senior officers (continued improvements). Includes support for Maritime Advanced Warfighting School (MAWS) and alignment with all other operational level of education at NWC and other Service educational facilities. - Examine gaps in education at the Operational Level of War (OLW); develop Course of Instructions (COI) to close same gaps (Information management/knowledge management, et al).					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Assist and Assess Team (AAT):</p> <ul style="list-style-type: none"> - Expand research and analysis into integrating lateral and vertical operations of Commander, TENTH Fleet MOC with operations at existing numbered fleet MOCs, USSFC and US Pacific Fleet, as well as upward to the new USCYBERCOM and downward to subordinate CTFs and commands. - Conduct research and analysis into potential methods for integration of information operations (to include cyber operations) with traditional kinetic joint fires operations. Cyber operations (network attack, defense, and exploitation) present unique challenges due to the global nature of the domain, the potential effects on other MOCs and the importance of alignment for effective strategic communication. - Conduct research into how Navy units worldwide can support the Commander, TENTH Fleet in the execution of the full spectrum of information and cyber operations. - Provide tailored assistance to Commander, TENTH Fleet and Commanders of other MOCs to communicate results of above research and analysis efforts and to strengthen staff knowledge of joint information operations planning, execution, and assessment. <p>Joint/Combined Forces Maritime Commanders Course (J/CFMCC):</p> <ul style="list-style-type: none"> - Conduct development/research in national and international implications of maritime commander leadership roles, and development of new flag course curriculum accordingly. - Conduct research in the impacts of transition from contract to government employee support for senior mentors with regards to the implementation of CNO's priorities on operational level leadership and flag academics. <p>FY 2015 Plans:</p> <p>Maritime Staff Operators Course (MSOC):</p> <ul style="list-style-type: none"> - Continue research as noted, including expansion of undersanding of emergent warfare areas in MOC development and education. - Continue research/development on understanding and mitigation of gaps in education at the OLW. 					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>- Continue research to develop COI to close same gaps (Information management/knowledge management, et al).</p> <p>Assist and Assess Team (AAT):</p> <p>- Conduct research and analysis into integrating emerging doctrinal issues, thus improving the effectiveness of operations at existing numbered fleet MOCs, USFFC and US Pacific Fleet, as well as upward to the new USCYBERCOM and downward to subordinate CTFs and commands.</p> <p>Joint/Combined Forces Maritime Commanders Course (J/CFMCC):</p> <p>- Continue development/research in national and international implications of evolving maritime commander leadership roles, emergent doctrine and national/international relationships, and development of new flag course curriculum accordingly.</p> <p>- Continue research on other senior leader development within MOCs, including deputy, chiefs of staff, and other executives responsible for team leadership and decision making.</p> <p>- Continue research to improve JFMCC integration with component commanders (JFLCC, JFACC, JSOCC) with respect to emerging joint and service doctrine</p> <p>FY 2016 Base Plans:</p> <p>All activities</p> <p>- Remain credible, relevant and focused through continued development of MOC processes, doctrine and educational products</p> <p>MSOC</p> <p>- Continue research as noted, including expansion of undersanding of emergent warfare areas in MOC development and education</p> <p>- Continue research/development on understanding and mitigation of gaps in education at the OLW</p> <p>- Continue research to develop COI to close same gaps (Information management/knowledge management, et al)</p> <p>Assist and Assess Team (AAT):</p> <p>- Conduct research and analysis into integrating emerging doctrinal issues, thus improving the effectiveness of operations at existing numbered fleet MOCs, USFFC and US Pacific Fleet as well as upward to the new USCYBERCOM and downward to subordinate CTFs and commands.</p> <p>- Conduct research and analysis into potential methods for integration of emerging doctrinal issues with traditional MOC operations.</p> <p>Joint/Combined Forces Maritime Commanders Course (J/CFMCC):</p>					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Continue development/research in national and international implications of evolving maritime commander leadership roles, emergent doctrine and national/international relationships, and development of new flag course curriculum accordingly. - Continue research on other senior leader development within MOCs, including deputy, chiefs of staff, and other executives responsible for team leadership and decisionmaking. - Continue research to improve JFMCC integration with component commanders (JFLCC, JFACC, JSOCC) with respect to emerging joint and service doctrine <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	5.313	4.762	4.386	-	4.386

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
This project provides research, analysis and war gaming to meet the needs of the Secretary of the Navy, the Chief of Naval Operations, and Fleet Commanders. Performance is measured in terms of both the quantity and quality of war games, analysis and the extent to which demand for war games and research products can be accommodated within funding levels. Results of research products and war games are evaluated through customer feedback and the extent to which findings are incorporated into follow-on research and practical applications such as Navy doctrine, operational tactics, and programming decisions made during the Planning, Programming, Budgeting & Execution (PPBE) process.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 2098 / Navy Postgraduate School (NPS) Studies Support			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2098: Navy Postgraduate School (NPS) Studies Support	-	13.757	5.000	8.924	-	8.924	13.846	13.230	12.000	12.000	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Navy Postgraduate School (NPS) research and analysis activities serve as a focal point, stimulus, and major source of strategic, tactical and operational thought within the Navy communities. These efforts generate strategic and operational alternatives, tactical imperatives, quantitative analyses, technical developments and assessments, and political-military assessments. Also, provide recommendations to the Chief of Naval Operations (CNO), Fleet Commanders and numbered Fleet Commanders regarding the formulation and execution of maritime options for the President of the United States. Research will be conducted to support graduate students theses determination and completion as part of Faculty projects. These research activities also serve as a means for OPNAV Resource Sponsors and Major Commands to have analysis and decision support research conducted in the uses of the applied, soft, and hard sciences in solving diverse and complex resource allocation and strategic issues facing the Navy today and envisioned in the future.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Faculty and Student Studies, Analysis and Research	13.757	5.000	8.924	-	8.924
Articles:	-	-	-	-	-
Description: Navy Postgraduate School (NPS) supports senior decision-makers from the Department of the Navy, the Office of the Chief of Naval Operations, Budget Submission Offices and Fleet Commanders in reaching well-informed, objective decisions on strategic, operational and programmatic issues through collaborative research which integrates traditional research and analysis with advanced decision support tools. Student Theses will be an integral part of this program in support of the critical analysis and research conducted by the Faculty.					
FY 2014 Accomplishments: Conducted over 90 Faculty Research projects in support of Navy and Marine Corps in a full gamut of subject areas that include Manpower, Personnel, Training, Education, Logistics, Navy Plans and Policy, Warfare Requirements, Financial Management, and Information Technology and Dominance.					
- Conducted studies in support of OPNAV N1 - Conducted studies in support of Naval Education and Training Command - Conducted studies in support of Bureau of Naval Personnel					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 2098 / <i>Navy Postgraduate School (NPS) Studies Support</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Conducted studies in support of Navy Personnel Command - Conducted studies in support of Navy Recruiting Command - Conducted studies in support of Navy Service Training Command - Conducted studies in support of Navy Manpower Analysis Center - Conducted studies in support of OPNAV N2/N6 - Conducted studies in support of OPNAV N3/N5 - Conducted studies in support of OPNAV N4 - Conducted studies in support of OPNAV N9 - Conducted studies in support of US Fleet Forces Command - Conducted studies in support of the Secretary of the Navy <p>FY 2015 Plans: Conduct over 40 Faculty Research projects in support of Navy and Marine Corps in a full gamut of subject areas that include Manpower, Personnel, Training, Education, Logistics, Navy Plans and Policy, Warfare Requirements, Financial Management, and Information Technology and Dominance</p> <ul style="list-style-type: none"> - Conduct studies in support of OPNAV N1 - Conduct studies in support of OPNAV N2/N6 - Conduct studies in support of OPNAV N3/N5 - Conduct studies in support of OPNAV N4 - Conduct studies in support of OPNAV N8 - Conduct studies in support of OPNAV N9 - Conduct studies in support of US Fleet Forces Command - Conduct studies in support of the Secretary of the Navy <p>FY 2016 Base Plans: Conduct over 70 Faculty Research projects in support of Navy and Marine Corps in a full gamut of subject areas that include Manpower, Personnel, Training, Education, Logistics, Navy Plans and Policy, Warfare Requirements, Financial Management, and Information Technology and Dominance.</p> <ul style="list-style-type: none"> - Conduct studies in support of OPNAV N1 - Conduct studies in support of OPNAV N2/N6 - Conduct studies in support of OPNAV N3/N5 - Conduct studies in support of OPNAV N4 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 2098 / <i>Navy Postgraduate School (NPS) Studies Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> - Conduct studies in support of OPNAV N8 - Conduct studies in support of OPNAV N9 - Conduct studies in support of US Fleet Forces Command - Conduct studies in support of the Secretary of the Navy <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	13.757	5.000	8.924	-	8.924

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This Project provides funding to support continuing need for studies and analysis to meet the needs of the Secretary of the Navy, the Chief of Naval Operations, Resource Sponsors, Major Commands and Fleet Commanders. Performance is measured in terms of both the quantity and quality of the studies, research and analysis products that can be accommodated within funding levels. Results of research products are evaluated through customer feedback and the extent to which findings are incorporated into follow-on research and practical applications such as Navy doctrine, operational tactics, and programming decisions made during the Planning, Programming, Budgeting & Execution (PPBE) process. This project supports research of both Naval Postgraduate School faculty and students,

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Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>				Project (Number/Name) 2221. / <i>JT Mission Assessment Studies</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2221.: <i>JT Mission Assessment Studies</i>	-	22.500	24.880	17.063	-	17.063	28.335	28.120	26.802	27.350	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Navy Assessment Program provides capability-based planning assessment for Joint Capabilities Integration and Development System (JCIDS), conducts analysis to affect war fighting capability trades and enterprise resources, identifies needs, gaps, and overlaps, and assesses alternative solutions to Joint needs. The program supports both the development and use of modeling, simulation and analytically-based warfare and provides business analyses and analytic tools that provide the basis for decision making with respect to concepts of operations, Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance Systems (Information Dominance); warfare systems (Sea Strike, Sea Shield, and Sea Basing) and analytical underpinnings/basis for programmatic decisions of the Navy's top leadership regarding their architectures, force structure, and the Navy's core "organize, train, and equip mission" (the warfare and provider Enterprises). The program provides overarching Planning, Programming, Budgeting and Execution System (PPBES) analyses and guidance for PPBES which provides gap analysis and investment strategy and total obligation authority allocation. It provides independent capability analysis and assists in structuring follow-on Navy analyses. The program coordinates Navy's position for the enhanced planning process and conducts net assessments. It serves as the lead campaign analysis to approve Navy warfare and support requirements. The program supports "A Cooperative Strategy for 21st Century Seapower 21" as modified by the Maritime Strategy which charts a course for the Navy, Coast Guard and Marine Corps to work collectively with each other and international partners to prevent crises from occurring or reacting quickly should one occur to avoid negative impact to the United States. It serves as an independent assessor providing a broad-view perspective across the Navy staff apart from resource sponsors, with an integrated look at both war fighting and war fighting support programs. The program supports the world class modeling efforts to attain a level of Modeling and Simulation (M&S) capability that is world class and establishes the Navy as a leader in the Department of Defense M&S community. It provides Navy alternatives in assessing the implications embedded within resource decisions in a quantified context of costs versus capability versus risk. The program provides independent analytic support to Navy leadership in conjunction with various executive level decision forums.

Beginning in FY 2014, this project also includes funding for Concept Formulation (CONFORM) efforts. This is a shift of funding from PE 0605152N, Studies and Analysis Support, Project 2092, Naval Warfare Studies. CONFORM for ships, boats and unmanned maritime vehicles must be continuously exercised to remain viable. It takes years to train competent practitioners, and knowledge currency is quickly lost without practice. Evolving threats and technologies drive concepts (and the tools, processes, and skills needed to produce them) towards obsolescence without constant attention. Capability Based Assessments and Analysis of Alternatives (AoA) timelines are insufficient for establishing potential material solution cost versus capability relationships without significant concept formulation work beforehand. Active collaboration between the Office of the Chief of Naval Operations requirement sponsors, Program Offices, and the various System Command (Naval Sea Systems Command, Naval Air Systems Command and Space and Naval Warfare Systems Command) engineers is critical for fully exploring the trade space by conducting analysis for affordability, effectiveness and risk.

The majority of Total Ownership Cost (TOC) is locked into a design before it is even a program. In the later stages of a program it becomes much more costly to make changes that will significantly impact TOC. Investment up front in concept design can have a high payoff in TOC reduction over the life of a platform class.

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<p>This project funds concept development engineering, mission effectiveness analysis, and other analyses for formulation of future surface ship and associated platform force structure along with development of the tools to accomplish these efforts. Advanced platform concept studies and systems technology assessments will be conducted as will the development and upgrade of concept design and engineering tools, methods, and criteria.</p> <p>Outputs include concept costing and performance parameterization for comparative assessment against capability objectives and synthesis to quantify overall (Fleet) capabilities. These products (expressions of cost vs. capability) will serve as the basis of requirements and Joint Capabilities Integration and Development System analysis, define the trade space for AoA efforts, and underpin discussion of force architecture/structure during Quadrennial Defense Review, Long Range Shipbuilding Strategy builds, and Joint Requirements Oversight Council reviews.</p> <p>The majority of Total Ownership Cost (TOC) is locked into a design before it is even a program. In the later stages of a program it becomes much more costly to make changes that will significantly impact TOC. Investment up front in concept design can have a high payoff in TOC reduction over the life of a platform class.</p> <p>This project funds concept development engineering, mission effectiveness analysis, and other analyses for formulation of future surface ship and associated platform force structure along with development of the tools to accomplish these efforts. Advanced platform concept studies and systems technology assessments will be conducted as will the development and upgrade of concept design and engineering tools, methods, and criteria.</p> <p>Outputs include concept costing and performance parameterization for comparative assessment against capability objectives and synthesis to quantify overall (Fleet) capabilities. These products (expressions of cost vs. capability) will serve as the basis of requirements and Joint Capabilities Integration and Development System analysis, define the trade space for AoA efforts, and underpin discussion of force architecture/structure during Quadrennial Defense Review, Long Range Shipbuilding Strategy builds, and Joint Requirements Oversight Council reviews.</p> <p>Capabilities-Based Assessment (CBA) is the Joint Capabilities Integration and Development System (JCIDS) analysis process that includes three phases: Functional Area Analysis (FAA), Functional Needs Analysis (FNA), and Functional Solution Analysis (FSA). The results of the CBA are used to develop a joint capabilities document (based on the FAA and FNA) or initial capabilities document (based on the full analysis). CBA funding provides the resource sponsors the means to develop the analytic underpinning required by Chairman of the Joint Chiefs of Staff Instruction 3170.01G to support the determination of Naval warfighting capabilities and force structure needed to support the Joint Requirements Oversight Council (JROC)/JCIDS requirements validation process and to inform Program Objective Memorandum programming decisions. This analysis includes evaluation of integration and interoperability gaps of current weapons systems.</p> <p>Capabilities-Based Assessment (CBA) is the Joint Capabilities Integration and Development System (JCIDS) analysis process that includes three phases: Functional Area Analysis (FAA), Functional Needs Analysis (FNA), and Functional Solution Analysis (FSA). The results of the CBA are used to develop a joint capabilities document (based on the FAA and FNA) or initial capabilities document (based on the full analysis). CBA funding provides the resource sponsors the means to develop the analytic underpinning required by Chairman of the Joint Chiefs of Staff Instruction 3170.01G to support the determination of Naval warfighting capabilities and force structure needed to support the Joint Requirements Oversight Council (JROC)/JCIDS requirements validation process and to inform Program Objective Memorandum programming decisions. This analysis includes evaluation of integration and interoperability gaps of current weapons systems.</p>		

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Navy Standard Scenarios with Warfare and Warfare Support Analyses	1.184	1.289	0.799	-	0.799
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
<ul style="list-style-type: none"> -Develop and continue to update and maintain detailed level Navy Standard scenarios based on DPG.-Continue to develop alternative scenarios in support of Defense Review guidance, Joint studies, and Navy resource analyses. -Develop, update, and maintain analytic baselines for the MCO based on DPG. -Continue to develop details required to execute analysis of designated Defense Planning Scenarios and their respective Multi-Service Force Deployment Plans. -Update the high-level readiness model that fully integrates all aspects of warfighting support (operational utilization, training cycles, training centers, depots, etc.) and personnel (recruitment, training,development, deployment,retention,etc.) across the Navy's warfighting platforms(aircraft,ships,submarines,etc.),facilities and personnel development centers. -Develop and continue to maintain a framework and common set of processes to ensure that essential elements of warfare analyses, including scenarios, operational concepts, tactics, capabilities of platforms and systems (for Navy, Joint, coalition and threat forces), key assumptions and input data were defined and traceable to government approved/provided source material. -Continue to develop scenarios and operational concepts based on government inputs that are sufficiently detailed for use in naval and joint campaign analyses. -Continue to develop MOPs and MOEs and recommend appropriate modeling/methodology to support analyses. -At the mission level, script OPSITS or TACSITS for use in effectiveness analyses in specific warfare mission areas. 					
FY 2015 Plans:					
<ul style="list-style-type: none"> -Continue to develop, update and maintain detailed level Navy Standard scenarios based on DPG. -Continue to develop alternative scenarios in support of Defense Review guidance, Joint studies, and Navy resource analyses. -Continue to develop, update, and maintain analytic baselines for the MCO) based on DPG. -Continue to develop details required to execute analysis of designated Defense Planning Scenarios and their respective Multi-Service Force Deployment Plans. -Continue to develop and maintain a framework and common set of processes to ensure that essential elements of warfare analyses, including scenarios, operational concepts, tactics, capabilities of platforms and systems 					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>(for Navy, Joint, coalition and threat forces), key assumptions and input data were defined and traceable to government approved/provided source material.</p> <ul style="list-style-type: none"> -Continue to develop scenarios and operational concepts based on government inputs that are sufficiently detailed for use in naval and joint campaign analyses. -Continue to develop MOPs and MOEs and recommend appropriate modeling/methodology to support analyses. -At the mission level, continue to script OPSITS or TACSITS for use in effectiveness analyses in specific warfare mission areas. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> -Continue to develop, update and maintain detailed level Navy Standard scenarios based on DPG. -Continue to develop alternative scenarios in support of Defense Review guidance, Joint studies, and Navy resource analyses. -Continue to develop, update, and maintain analytic baselines for the MCO) based on DPG. -Continue to develop details required to execute analysis of designated Defense Planning Scenarios and their respective Multi-Service Force Deployment Plans. -Continue to develop and maintain a framework and common set of processes to ensure that essential elements of warfare analyses, including scenarios, operational concepts, tactics, capabilities of platforms and systems (for Navy, Joint, coalition and threat forces), key assumptions and input data were defined and traceable to government approved/provided source material. -Continue to develop scenarios and operational concepts based on government inputs that are sufficiently detailed for use in naval and joint campaign analyses. -Continue to develop MOPs and MOEs and recommend appropriate modeling/methodology to support analyses. -At the mission level, continue to script OPSITS or TACSITS for use in effectiveness analyses in specific warfare mission areas. <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Capability Based Assessments with Campaign Mission Analyses Analytical and Technical Support</p> <p align="right">Articles:</p>	2.701	2.531	1.584	-	1.584
<p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> -Perform collaborative assessment with capability sponsors. -Proactively participate in Capability Sponsors' Integrated Process Teams. -Present opposing analytically-based points of view to the CNO and Navy senior leadership. 	-	-	-	-	-

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> -Provide analytically-based decision recommendations to CNO for both war fighting and support areas. -Develop CNO investment strategy recommendations and assessments for Program Review and POM. -Assess capability sponsors' products for senior leadership decision forums. -Conduct Verification, Validation & Accreditation of warfare, performance, and pricing models. -Conduct OCO CBAs that provide a rapid and scalable process to utilize a Concept of Operation, develop investment strategy, and a capability roadmap. -Conduct Tactical Aircraft Recapitalization alternatives and Theater Ballistic Missile Defense cost capability trade off assessments. -Conduct independent assessment of Anti-Submarine Warfare. -Conduct weapons safety and sea basing capability assessments. -Conduct ISR and METOC assessment to determine the optimal mix of Naval ISR and METOC sensors, platforms, and processing, analysis and fusion disposition to support MCOs, the OCO, and intelligence preparation of the environment for both MCOs and OCO. -Perform CBAs to meet the requirements of current and future scenarios, and make strategic decisions within a constrained economic framework. -Perform rigorous, time critical naval and joint campaign and mission-level analyses, usually based on modeling and simulation that illuminate complex warfare issues which support decision-making in the Planning, Programming, Budgeting Execution process. -Perform analyses and provide technical and engineering support, including joint campaign analysis that examine the ability to counter a range of coordinate threat capabilities, high level tradeoffs between service capabilities, or impact of large-scale architecture, mission-level effectiveness analyses that determine system capabilities; conduct analyses of alternative force structures that determine the ability to meet peacetime deployment or steady-state requirements and respond to transition to war and contingency operations. -Conduct cost analyses, cost-effectiveness analyses, and analyses of new technologies in support of Sponsor Program Proposal, Navy POM or Warfare Capability Plan. -Develop innovative analysis techniques that evaluate the effectiveness of operations on the Long War focus on Irregular Warfare and Sea Shaping (influence) activities such as Theater Security Cooperation. -Provide rigorous business case assessments of complex issues relating to the war fighting support processes, manpower and personnel, training and education, infrastructure, both afloat and ashore readiness, Naval Medical Program and provider enterprise operations. 					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Perform analyses for accreditation of models, use estimate cost and performance of performance-based modeled programs such as the Flying Hour Program, ship operations, ship and aircraft maintenance, spares, facilities, and base operation support.</p> <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> -Continue to perform collaborative assessment with capability sponsors. -Continue to proactively participate in Capability Sponsors' Integrated Process Teams. -Continue to present opposing analytically-based points of view to the CNO and Navy senior leadership. -Continue to provide analytically-based decision recommendations to CNO for both war fighting and support areas. -Continue to develop CNO investment strategy recommendations and assessments for Program Review and Program Objective Memorandum. -Continue to assess capability sponsors' products for senior leadership decision forums. -Continue to conduct Verification, Validation & Accreditation of warfare, performance, and pricing models. -Continue to conduct OCO CBAs that provide a rapid and scalable process to utilize a Concept of Operation, develop investment strategy, and a capability roadmap. -Continue to conduct Tactical Aircraft Recapitalization alternatives and Theater Ballistic Missile Defense cost capability trade off assessments. -Continue to conduct independent assessment of Anti-Submarine Warfare. -Continue to conduct weapons safety and sea basing capability assessments. -Continue to conduct ISR and METOC assessment to determine the optimal mix of Naval ISR and METOC sensors, platforms, and processing, analysis and fusion disposition to support MCOs, the OCO, and intelligence preparation of the environment for both MCOs and OCO. -Continue to perform CBAs to meet the requirements of current and future scenarios, and make strategic decisions within a constrained economic framework. -Continue to perform rigorous, time critical naval and joint campaign and mission-level analyses, usually based on modeling and simulation that illuminate complex warfare issues which support decision-making in the PPBES process. -Continue to perform analyses including joint campaign analysis that examine the ability to counter a range of coordinate threat capabilities, high level tradeoffs between service capabilities, or impact of large-scale architecture, mission-level effectiveness analyses that determine system capabilities; conduct analyses of alternative force structures that determine the ability to meet peacetime deployment or steady-state requirements and respond to transition to war and contingency operations. 					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Continue to conduct cost-effectiveness analyses and analyses of new technologies in support of Sponsor Program Proposal, Navy Program Objective Memorandum or Warfare Capability Plan.</p> <p>-Continue to develop innovative analysis techniques that evaluate the effectiveness of operations on the Long War focus on Irregular Warfare and Sea Shaping (influence) activities such as Theater Security Cooperation.</p> <p>-Continue to provide rigorous business case assessments of complex issues relating to the war fighting support processes, manpower and personnel, training and education, infrastructure, both afloat and ashore readiness, Naval Medical Program and provider enterprise operations.</p> <p>-Continue to use estimate cost and performance of performance-based modeled programs such as the Flying Hour Program, ship operations, ship and aircraft maintenance, spares, facilities, and base operation support.</p> <p>FY 2016 Base Plans:</p> <p>-Continue to perform collaborative assessment with capability sponsors.</p> <p>-Continue to proactively participate in Capability Sponsors' Integrated Process Teams.</p> <p>-Continue to present opposing analytically-based points of view to the CNO and Navy senior leadership.</p> <p>-Continue to provide analytically-based decision recommendations to CNO for both war fighting and support areas.</p> <p>-Continue to develop CNO investment strategy recommendations and assessments for Program Review and Program Objective Memorandum.</p> <p>-Continue to assess capability sponsors' products for senior leadership decision forums.</p> <p>-Continue to conduct Verification, Validation & Accreditation of warfare, performance, and pricing models.</p> <p>-Continue to conduct OCO CBAs that provide a rapid and scalable process to utilize a Concept of Operation, develop investment strategy, and a capability roadmap.</p> <p>-Continue to conduct Tactical Aircraft Recapitalization alternatives and Theater Ballistic Missile Defense cost capability trade off assessments.</p> <p>-Continue to conduct independent assessment of Anti-Submarine Warfare.</p> <p>-Continue to conduct weapons safety and sea basing capability assessments.</p> <p>-Continue to conduct ISR and METOC assessment to determine the optimal mix of Naval ISR and METOC sensors, platforms, and processing, analysis and fusion disposition to support MCOs, the OCO, and intelligence preparation of the environment for both MCOs and OCO.</p> <p>-Continue to perform CBAs to meet the requirements of current and future scenarios, and make strategic decisions within a constrained economic framework.</p>					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Continue to perform rigorous, time critical naval and joint campaign and mission-level analyses, usually based on modeling and simulation that illuminate complex warfare issues which support decision-making in the PPBES process.</p> <p>-Continue to perform analyses including joint campaign analysis that examine the ability to counter a range of coordinate threat capabilities, high level tradeoffs between service capabilities, or impact of large-scale architecture, mission-level effectiveness analyses that determine system capabilities; conduct analyses of alternative force structures that determine the ability to meet peacetime deployment or steady-state requirements and respond to transition to war and contingency operations.</p> <p>-Continue to conduct cost-effectiveness analyses and analyses of new technologies in support of Sponsor Program Proposal, Navy Program Objective Memorandum or Warfare Capability Plan.</p> <p>-Continue to develop innovative analysis techniques that evaluate the effectiveness of operations on the Long War focus on Irregular Warfare and Sea Shaping (influence) activities such as Theater Security Cooperation.</p> <p>-Continue to provide rigorous business case assessments of complex issues relating to the war fighting support processes, manpower and personnel, training and education, infrastructure, both afloat and ashore readiness, Naval Medical Program and provider enterprise operations.</p> <p>-Continue to use estimate cost and performance of performance-based modeled programs such as the Flying Hour Program, ship operations, ship and aircraft maintenance, spares, facilities, and base operation support.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Campaign Analysis-Modeling and Simulation</p> <p align="right">Articles:</p>	4.702 -	4.757 -	2.977 -	- -	2.977 -
<p>FY 2014 Accomplishments:</p> <p>-Develop and maintain common baselines from which campaign excursions and mission-level analyses are executed.</p> <p>-Identify, develop, and improve data and modeling.</p> <p>-Lead Navy's participation in the OSD/Joint Staff analytic agenda, baseline development, and collection of data.</p> <p>-Provide coordination across the Navy.</p> <p>-Broker agreements upon assumptions, CONOPS, scenarios, and data.</p> <p>-Lead campaign analysis for OPNAV.</p> <p>-Conduct modeling and simulation support for ongoing OPNAV missile defense analysis requirements.</p> <p>FY 2015 Plans:</p>					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<ul style="list-style-type: none"> -Continue to develop and maintain common baselines from which campaign excursions and mission-level analyses are executed. -Continue to identify, develop and improve data and modeling. -Continue to lead Navy's participation in OSD/Joint Staff analytic agenda, baseline development, and collection of data. -Continue to provide coordination across the Navy. -Continue to broker agreements upon assumptions, CONOPS, scenarios, and data. -Continue to lead campaign analysis for OPNAV. -Continue to conduct modeling and simulation support for ongoing OPNAV missile defense analysis requirements. <p>FY 2016 Base Plans:</p> <ul style="list-style-type: none"> -Continue to develop and maintain common baselines from which campaign excursions and mission-level analyses are executed. -Continue to identify, develop and improve data and modeling. -Continue to lead Navy's participation in OSD/Joint Staff analytic agenda, baseline development, and collection of data. -Continue to provide coordination across the Navy. -Continue to broker agreements upon assumptions, CONOPS, scenarios, and data. -Continue to lead campaign analysis for OPNAV. -Continue to conduct modeling and simulation support for ongoing OPNAV missile defense analysis requirements. <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: OSD/Joint Staff Study Analysis and Assessment with Investment Strategy Development</p> <p align="right">Articles:</p>	1.712	1.733	0.985	-	0.985
<p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> -Coordinate and lead OSD/Navy's Analytic Agenda in Defense Planning Scenario, Multi-Service Force Deployment, Enhance Planning Process, Strategic Planning Guidance, and participate in Capability Sponsors' Integrated Process Teams. -Provide overarching PPBES analyses and guidance. -Provide analytically-based decision recommendations to OPNAV for joint war fighting and support areas. 	-	-	-	-	-

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Conduct net assessments and provide independent analytic support to Navy leadership in conjunction with various executive level decision forums.</p> <p>-Serve as the Navy's lead to Joint Requirements Oversight Council, Joint Capabilities Board, and Functional Capabilities Board.</p> <p>-Provide the lead requirements and acquisition for OPNAV.</p> <p>-Coordinate and lead Navy's role in Defense Planning Guidance, Program Decision Memoranda, Quadrennial Defense Review, and Defense Science Board studies.</p> <p>-Participate in OSD and JS analysis assessment and provided structure for coordination across the Navy.</p> <p>-Coordinate and support Joint Analytical Model Improvement Program.</p> <p>-Develop new analytic techniques for informing resource allocation decisions; conduct all campaign and warfare mission-level analyses and develop investment strategy.</p> <p>FY 2015 Plans:</p> <p>-Continue to coordinate and lead OSD/Navy's Analytic Agenda in Defense Planning Scenario, Multi-Service Force Deployment, Enhance Planning Process, Strategic Planning Guidance, and participate in Capability Sponsors' Integrated Process Teams.</p> <p>-Continue to provide overarching PPBES analyses and guidance.</p> <p>-Continue to provide analytically-based decision recommendations to OPNAV for joint war fighting and support areas.</p> <p>-Continue to conduct net assessments and provide independent analytic support to Navy leadership in conjunction with various executive level decision forums.</p> <p>-Continue to serve as the Navy's lead to Joint Requirements Oversight Council, Joint Capabilities Board, and Functional Capabilities Board.</p> <p>-Continue to provide the lead requirements and acquisition for OPNAV.</p> <p>-Continue to coordinate and lead Navy's role in Defense Planning Guidance, Program Decision Memoranda, Quadrennial Defense Review, and Defense Science Board studies.</p> <p>-Continue to participate in OSD and JS analysis assessment and provided structure for coordination across the Navy.</p> <p>-Continue to coordinate and support Joint Analytical Model Improvement Program.</p> <p>-Continue to develop new analytic techniques for informing resource allocation decisions; conduct all campaign and warfare mission-level analyses and develop investment strategy.</p> <p>FY 2016 Base Plans:</p>					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Continue to coordinate and lead OSD/Navy's Analytic Agenda in Defense Planning Scenario, Multi-Service Force Deployment, Enhance Planning Process, Strategic Planning Guidance, and participate in Capability Sponsors' Integrated Process Teams.</p> <p>-Continue to provide overarching PPBES analyses and guidance.</p> <p>-Continue to provide analytically-based decision recommendations to OPNAV for joint war fighting and support areas.</p> <p>-Continue to conduct net assessments and provide independent analytic support to Navy leadership in conjunction with various executive level decision forums.</p> <p>-Continue to serve as the Navy's lead to Joint Requirements Oversight Council, Joint Capabilities Board, and Functional Capabilities Board.</p> <p>-Continue to provide the lead requirements and acquisition for OPNAV.</p> <p>-Continue to coordinate and lead Navy's role in Defense Planning Guidance, Program Decision Memoranda, Quadrennial Defense Review, and Defense Science Board studies.</p> <p>-Continue to participate in OSD and JS analysis assessment and provided structure for coordination across the Navy.</p> <p>-Continue to coordinate and support Joint Analytical Model Improvement Program.</p> <p>-Continue to develop new analytic techniques for informing resource allocation decisions; conduct all campaign and warfare mission-level analyses and develop investment strategy.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: World Class Modeling, Simulation, and Capability Analysis</p> <p align="right">Articles:</p>	6.716	6.791	4.228	-	4.228
<p>FY 2014 Accomplishments:</p> <p>-Address the one-year backlog of Modeling and Simulation (M&S) efforts due to the lack of FY13 funding. Specifically modeling or analysis gaps that have been corporately deemed critical to improving POM decision-making.</p> <p>-Develop and improve analysis capabilities which support Joint and Navy analytic agendas and resource-allocation decision making by refining the linkages between cost and performance in performance-modeled programs in support of OPNAV analysis and assessment. Areas of tool development and improvement include mission- and campaign-level warfighting models, active and reserve manpower, afloat and ashore readiness, and medical capabilities.</p>	-	-	-	-	-

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Focus on integrated analysis capabilities that cut across business and program accounts. Specific efforts will address cyber warfare and security, optimizing the training pipeline, integrating ship maintenance and operations price performance models, and improving mission- and campaign-level C5ISR models and representations.</p> <p>-Update the high-level readiness model that fully integrates all aspects of warfighting support (operational utilization, training cycles, training centers, depots, etc.) and personnel (recruitment, training, development, deployment, retention, etc.) across the Navy's warfighting platforms (aircraft, ships, submarines, etc.), facilities and personnel development centers.</p> <p>FY 2015 Plans:</p> <p>-Continue to develop and improve the Navy's analysis capabilities which support Joint and Navy analytic agendas and resource-allocation decision making by refining the linkages between cost and performance in performance-modeled programs in support of OPNAV analysis and assessment. Areas of tool development and improvement include mission- and campaign-level warfighting models, active and reserve manpower, afloat and ashore readiness, and medical capabilities.</p> <p>-Continue to focus on integrated analysis capabilities that cut across business and program accounts. Specific efforts will address cyber warfare and security, optimizing the training pipeline, integrating ship maintenance and operations price performance models, and improving mission- and campaign-level C5ISR models and representations.</p> <p>-Develop medical analysis that links to campaign analysis including movement of injured between care facilities, life-saving treatment of injured and recuperation support of injured to support Navy Medical Program decisions.</p> <p>-Update the high-level readiness model that fully integrates all aspects of warfighting support (operational utilization, training cycles, training centers, depots, etc.) and personnel (recruitment, training, development, deployment, retention, etc.) across the Navy's warfighting platforms (aircraft, ships, submarines, etc.), facilities and personnel development centers.</p> <p>FY 2016 Base Plans:</p> <p>-Continue to develop and improve the Navy's analysis capabilities which support Joint and Navy analytic agendas and resource-allocation decision making by refining the linkages between cost and performance in performance-modeled programs in support of OPNAV analysis and assessment. Areas of tool development and improvement include mission- and campaign-level warfighting models, active and reserve manpower, afloat and ashore readiness, and medical capabilities.</p> <p>-Continue to focus on integrated analysis capabilities that cut across business and program accounts. Specific efforts will address cyber warfare and security, optimizing the training pipeline, integrating ship maintenance</p>					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	
and operations price performance models, and improving mission- and campaign-level C5ISR models and representations. -Develop medical analysis that links to campaign analysis including movement of injured between care facilities, life-saving treatment of injured and recuperation support of injured to support Navy Medical Program decisions. -Update the high-level readiness model that fully integrates all aspects of warfighting support (operational utilization, training cycles, training centers, depots, etc.) and personnel (recruitment, training, development, deployment, retention, etc.) across the Navy's warfighting platforms (aircraft, ships, submarines, etc.), facilities and personnel development centers. FY 2016 OCO Plans: N/A						
Title: CONFORM FY 2014 Accomplishments: - Conduct ship, boat and unmanned marine vehicle concept studies in preparation for Capabilities Based Assessments (CBAs) and Analysis of Alternatives (AoAs). Studies will be performed in a continuous manner to support future recapitalization of Surface Combatants, Amphibious Ships, Carriers, Auxiliary Ships and other emerging program requirements. - Collaborate with Warfare Systems design experts to perform continuous Warfare Systems analysis at the ship and fleet level. Warfare Systems effectiveness assessment tools will be continually developed and enhanced as required to address future concepts and to incorporate improvements in information technology systems. Additionally, collaboration with aircraft, C4ISR, and networks by continuing dialog and collaboration between NAVSEA, NAVAIR, and SPAWAR systems commands will refine fleet level requirements. - Refine platform concept stage cost analysis tools to predict cost better in areas where weight-based algorithms may not be appropriate. It will continually enhance tools to estimate total ownership cost more accurately at the ship and weapons system concept development stage. Conduct cost estimates in support of future concept design exploration, CBA, and AoA efforts. Further develop Cost Estimating Relationships (CERs) to accommodate emerging technologies incorporated in future platforms. Develop cost estimating tools which incorporate emerging technologies applicable to future platforms. - Conduct future force structure concept formulation. Fleet synthesis and analysis will be conducted, which includes capabilities requirements, platform design and cost and quantitative tracking of the long-term evolution of the fleet as new platforms are introduced and old ones are retired. Among the areas to be examined are	Articles:	2.998	3.530	2.766	-	2.766
	-	-	-	-	-	

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>interoperability concepts, force architecture impact studies, Long Range Shipbuilding Schedule (LRSS) support, and operational employment concept studies.</p> <p>-Continue CBA's for off-board data transfer for mine warfare systems, Navy Salvage, adversary aircraft, and underwater breathing apparatus. Commence CBA for surface connector replacement and undergraduate flight training.</p> <p>FY 2015 Plans:</p> <p>-Conduct ship, boat, and unmanned marine vehicle concept studies in preparation for Capabilities Based Assessments (CBAs) and Analysis of Alternatives (AoAs). Studies will be performed in a continuous manner to support future recapitalization of Surface Combatants, Amphibious Ships, Carriers, Auxiliary Ships and other emerging program requirements.</p> <p>-Collaborate with Warfare Systems design experts to perform continuous Warfare Systems analysis at the ship and fleet level. Warfare Systems effectiveness assessment tools will be continually developed and enhanced as required to address future concepts and to incorporate improvements in information technology systems. Additionally, collaboration with aircraft, C4ISR, and networks by continuing dialog and collaboration between NAVSEA, NAVAIR, and SPAWAR systems commands will refine fleet level requirements.</p> <p>-Refine platform concept stage cost analysis tools to predict costs better in areas where weight-based algorithms may not be appropriate. It will continually enhance tools to estimate total ownership costs more accurately at the ship and weapons system concept development stage. Conduct cost estimates in support of future concept design exploration, CBA, and AoA efforts. Further develop Cost Estimating Relationships (CERs) to accommodate emerging technologies incorporated in future platforms. Develop cost estimating tools which incorporate emerging technologies applicable to future platforms.</p> <p>-Conduct future force structure concept formulation. Fleet synthesis and analysis will be conducted, which includes capabilities requirements, platform design and cost and quantitative tracking of the long-term evolution of the fleet as new platforms are introduced and old ones are retired. Among the areas to be examined are interoperability concepts, force architecture impact studies, Long Range Shipbuilding Schedule (LRSS) support, and operational employment concept studies.</p> <p>-Complete CBA's for undergraduate flight training and surface connector replacement, and commence CBA's for candidate systems such as neutralization of sea mines in the near-surface zone and the active RF free-fall expendable decoy. Expand warfighting gap assessments to address interaction of mission area kill chain platforms, sensors, and weapons in a system-of-system construct. Provide analysis support for development of the Integrated Sponsor Program Guidance to Develop the Force Direction.</p> <p>FY 2016 Base Plans:</p>					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Conduct ship, boat, and unmanned marine vehicle concept studies in preparation for Capabilities Based Assessments (CBAs) and Analysis of Alternatives (AoAs). Studies will be performed in a continuous manner to support future recapitalization of Surface Combatants, Amphibious Ships, Carriers, Auxiliary Ships and other emerging program requirements.</p> <p>-Collaborate with Warfare Systems design experts to perform continuous Warfare Systems analysis at the ship and fleet level. Warfare Systems effectiveness assessment tools will be continually developed and enhanced as required to address future concepts and to incorporate improvements in information technology systems. Additionally, collaboration with aircraft, C4ISR, and networks by continuing dialog and collaboration between NAVSEA, NAVAIR, and SPAWAR systems commands will refine fleet level requirements.</p> <p>-Refine platform concept stage cost analysis tools to predict costs better in areas where weight-based algorithms may not be appropriate. It will continually enhance tools to estimate total ownership costs more accurately at the ship and weapons system concept development stage. Conduct cost estimates in support of future concept design exploration, CBA, and AoA efforts. Further develop Cost Estimating Relationships (CERs) to accommodate emerging technologies incorporated in future platforms. Develop cost estimating tools which incorporate emerging technologies applicable to future platforms.</p> <p>-Conduct future force structure concept formulation. Fleet synthesis and analysis will be conducted, which includes capabilities requirements, platform design and cost and quantitative tracking of the long-term evolution of the fleet as new platforms are introduced and old ones are retired. Among the areas to the examined are interoperability concepts, force architecture impact studies, Long Range Shipbuilding Schedule (LRSS) support, and operational employment concept studies.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Joint Mission Assessment Studies</p> <p align="right">Articles:</p>	2.487	4.249	3.724	-	3.724
<p>Description: CBA - The CBA is the JCIDS analysis process that includes three phases: the FAA, the FNA, and the FSA. The results of the CBA are used to develop a joint capabilities document (based on the FAA and FNA) or initial capabilities document (based on the full analysis). CBA funding provides the resource sponsors the means to develop the analytic underpinning required by Chairman of the Joint Chiefs of Staff Instruction 3170.01G to support the determination of Naval war fighting capabilities and force structure needed to support the JROC/JCIDS requirements validation process and to inform Program Objective Memorandum programming decisions.</p>	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 2221. / <i>JT Mission Assessment Studies</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p><i>FY 2014 Accomplishments:</i> Continue CBA's for off-board data transfer for mine warfare systems, Navy salvage, adversary aircraft, and underwater breathing apparatus. Commence CBA for surface connector replacement and undergraduate flight training.</p> <p><i>FY 2015 Plans:</i> Complete CBA's for undergraduate flight training and surface connector replacement, and commence CBA's for candidate systems such as neutralization of sea mines in the near-surface zone and the active Radio Frequency free-fall expendable decoy. Expand warfighting gap assessments to address interaction of mission area kill chain platforms, sensors, and weapons in a system-of-system construct.</p> <p><i>FY 2016 Base Plans:</i> Continue Capabilities-Based Assessments (CBA) such as advanced Naval surface fires and Naval aviation training to identify future capability requirements. Develop metrics to describe the effectiveness of solutions, and evaluate current and programmed systems ability to meet capability requirements to determine capability gaps. Expand warfighting gap assessments addressing interaction of mission area kill chain platforms, sensors, and weapons in a system-of-system construct.</p> <p><i>FY 2016 OCO Plans:</i> N/A</p>					
Accomplishments/Planned Programs Subtotals	22.500	24.880	17.063	-	17.063

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

N/A

Remarks

D. Acquisition Strategy

N/A.

N/A

E. Performance Metrics

The overall goal is to conduct analysis to support the Navy decisions needed to turn strategy and guidance into the Fleet needed within acceptable risk. The May 2007 revision of the Joint Chiefs of Staff's Joint Capabilities Integration and Development System (JCIDS) instruction (CJCSI 3170.01F) requires a Capabilities-Based

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 2221. / <i>JT Mission Assessment Studies</i>
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Assessment (CBA) to assess new requirements. A CBA instruction has been developed by the Chief Navy Office's warfare integration office that prescribes a procedure and structure to this warfighting requirements generation process (JCIDS). A CBA is required to address and validate capability shortfalls or gaps as defined by combatant commanders. It is an analytical process that includes three phases: the Functional Area Analysis, the Functional Needs Analysis, and the Functional Solution Analysis. This process is designed to address future warfighting requirements and analysis needs and improve the quality of Analysis of Alternatives. CBA supports Navy programming decisions and provides the means to develop the analytic underpinning to support the determination of Naval capabilities and force structure recapitalization investments required to fulfill the Maritime Strategy.

The May 2007 revision of the Joint Chiefs of Staff's Joint Capabilities Integration and Development System (JCIDS) instruction (CJCSI 3170.01F) requires a CBA to assess new requirements. A CBA instruction has been developed by the Chief Navy Office's warfare integration office that prescribes a procedure and structure to this warfighting requirements generation process (JCIDS). A CBA is required to address and validate capability shortfalls or gaps as defined by combatant commanders. It is an analytical process that includes three phases: the Functional Area Analysis, the Functional Needs Analysis, and the Functional Solution Analysis. This process is designed to address future warfighting requirements and analysis needs and improve the quality of Analysis of Alternatives. CBA supports Navy programming decisions and provides the means to develop the analytic underpinning to support the determination of Naval capabilities and force structure recapitalization investments required to fulfill the Maritime Strategy.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 2801 / Anti-Tamper
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2801: <i>Anti-Tamper</i>	-	-	1.374	1.374	-	1.374	1.374	1.374	1.374	1.401	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Realignment from PU 3039 to 2801 starting in FY15.

A. Mission Description and Budget Item Justification

Perform as the Navy Technical Process Owner for the Anti-Tamper (AT) systems engineering activity that is intended to prevent and/or delay the exploitation of critical technologies in U.S. Systems. Manage the research, design, development, implementation, and testing of AT measures. Coordinate with Department of Defense AT Executive Agent and implement Department of Navy AT policy in conjunction with the Deputy Assistant Secretary Navy. Manage Security and Information Security requirements commensurate with the requirements of ALL Navy Programs throughout their lifecycles.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Anti-Tamper (AT)	-	1.374	1.374	-	1.374
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Champion new technology with a focused and disciplined approach of development, assessment, evaluation, and transition to meet Navy program AT requirements. Maintain role in AT policy development for implementation and execution by the SYSCOMs incorporating Navy program AT requirements. Provide secure facilities, networks, computers, video/telephone conference and support personnel for collateral and Special Program operational environments to enable Anti-Tamper implementation and execution by SYSCOM's programs, incorporating AT requirements.					
FY 2016 Base Plans: Continue championing new technology with a focused and disciplined approach of development, assessment, evaluation, and transition to meet Navy program AT requirements. Maintain role in AT policy development for implementation and execution by the SYSCOMs incorporating Navy program AT requirements. Provide secure facilities, networks, computers, video/telephone conference and support personnel for collateral and					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 2801 / <i>Anti-Tamper</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Special Program operational environments to enable AT implementation and execution by SYSCOM's programs, incorporating AT requirements. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	-	1.374	1.374	-	1.374

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
Manage the research, design, development, implementation and testing of Anti-Tamper measures for the Department of the Navy. Manage Information Security for all navy programs throughout their lifecycles.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 3025 / Mid-Range Financial Improvement Plans			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3025: Mid-Range Financial Improvement Plans	-	0.819	0.717	-	-	-	-	-	-	-	-	1.536
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

One of DoD's and Navy's priority goals is to gain a clean and auditable financial statement. The Office of the Secretary of Defense (OSD) Comptroller, in his 8 August 2003 memorandum, directed the Military Departments and Defense Agencies, in coordination with the Defense Finance and Accounting Service (DFAS), to prepare a comprehensive mid-range financial improvement plan to identify measurable steps to ensure each material line is auditable, and ensure all major deficiencies are resolved.

This project supports the Research, Development, Test and Evaluation, Navy (RDT&E,N) portion of the larger DoD and Navy-wide effort to implement the Financial Improvement Plan (FIP). Corrective actions required to resolve known deficiencies and determine resource requirements (people and systems) are being identified.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Mid-Range Financial Improvement Plans	0.819	0.717	-	-	-
Articles:	-	-	-	-	-
Description: Increase from FY13 to FY14 due to increased effort for audit assertion.					
FY 2014 Accomplishments:					
- Continued to participate in the Navy Financial Management Office (FMO) Business Process Standardization (BPS) initiatives.					
- Continued to participate in the FMO segment testing which includes Reimbursable Work Order (RWO) Grantor, RWO-Performer, transportation of people, CivPay, and Funds Distribution and Reporting for the Navy's assertion of Audit readiness.					
- Continued eliminating problem disbursements older than 120 days, narrowing to 60 days, and potentially narrowing even further.					
- Continued performing obligation validations ensuring accuracy.					
FY 2015 Plans:					
- Continue all efforts of FY14.					
FY 2016 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 3025 / <i>Mid-Range Financial Improvement Plans</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- The Mid-Range Financial Improvement Plan effort was transferred to PE 0605861N Project 0135 for FY16 and out. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.819	0.717	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Financial records are compliant in accordance with the Chief Financial Officers Act.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 3027 / Defense Critical Infrastructure Program			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3027: Defense Critical Infrastructure Program	-	-	-	5.800	-	5.800	6.170	6.603	7.107	7.100	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funds received pursuant to the transfer of budget authority from OUSD Policy (OUSD (P)) Homeland Defense Mission Assurance Directorate will be used for infrastructure analysis, assessment, and research required to support execution of the Defense Critical Infrastructure Program (DCIP). Additionally, the transferred budget authority will be used to provide in-depth/cross-cutting analysis to the Mission Assurance (MA)/DCIP programs at the Office of the Secretary of Defense (OSD), Joint Staff, Military Departments/Services, Defense Sector Lead Agencies (DSLAs), and Combatant Commands. NSWC-MAD will also perform cyber mission assurance research and provide expertise in infrastructure mitigation techniques.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: DCIP Onsite Assessment, Analysis Support, and Reports	-	-	1.700	-	1.700
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: Mission Assurance Division (MAD) will conduct vulnerability assessments for the Combatant Commanders (CCMDs), Services, and Agencies as directed by Office of the Assistant Secretary of Defense for Homeland Defense (OASD HD) and in coordination with the Joint Staff. For the performance period, the MAD will support the Joint Mission Assurance Assessment Pilot (JMAAP) assessments as well as other critical infrastructure assessments based on OASD HD priorities. These on-site assessments of DCI are required to meet annual policy requirements and to ensure assets nominated as Defense Critical Asset (DCA) are fully vetted and validated. Assessment teams will normally consist of a mission analyst and four infrastructure analysts, but team composition may be modified based on the site and assessment requirements. The assessments include pre-site work, on-site work, and post-site report writing. The final assessment report will include collected research such as Baseline Elements of Information (BEI), Benchmarks and Standards, characterizing infrastructure / identifying vulnerabilities to missions, and completing the vulnerability portion of the Risk Decision Package.					

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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 3027 / <i>Defense Critical Infrastructure Program</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
The MAD will work with U.S. Air Force Criticality and Risk Assessment (CARA) and other service teams to supplement data evaluation for Critical Infrastructure Protection (CIP) offices as negotiated between OASD HD's MA Director, the Joint Staff J34 and Service CIP offices FY 2016 OCO Plans: N/A					
Title: Central Analytic Capability (CAC) for Research and Data Development FY 2014 Accomplishments: N/A FY 2015 Plans: N/A FY 2016 Base Plans: The MAD will serve as a centralized analytical arm and fusion center for DoD-owned infrastructure information and also for worldwide commercial and host nation owned infrastructure that DoD depends upon for MA. They will provide actionable analytic products and share infrastructure information with DCIP stakeholders and MA partners to meet requirements identified in Policy. They will continue to work with OASD HD to refine and mature the Critical Asset Identification Process (CAIP), including working with DCIP community members to document suggested improvements and identify interdependency trends and remediation opportunities. They will work with CCMDs, Services, Sectors, and Agencies to conduct deep-dive infrastructure research and develop web services to transfer data between DCIP Systems. The MAD will provide reachback desktop analysis support of regions and/or specific countries across CCMD areas of responsibility (AORs), with focus in U.S. Central Command (USCENTCOM), U.S. Pacific Command (USPACOM), and U.S. Southern Command (USSOUTHCOM) AORs in the upcoming period. In addition, the MAD will provide analytical and on-site assistance, as required, to look at the defense continuity aspects of MA. Additional tasks can include on-site analysis based on OASD HD and CCMD prioritization of needs / requirements. Tasks can range between full infrastructure analysis across particular countries for operational planning, to specific infrastructure analysis involving telecommunication assets, the Global Information Grid (GIG), and electric power infrastructure security. The MAD will assist Office of the Secretary of Defense (OSD) Policy, Acquisition Technology and Logistics Installations and Environment (AT&L I&E) and AT&L Operational Energy in developing and refining Energy Security documents, presentations, plans, and	-	-	0.970	-	0.970
Articles:	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 3027 / Defense Critical Infrastructure Program
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>procedures, and refining lists of potential mitigation options for energy-related vulnerabilities. They will serve as an integrating function by providing a source for historical and ongoing DCIP analysis information / assessment research data and feedback, geospatial information, and threat and hazard mapping. They will update and revise MA benchmark standards in conjunction with Joint Staff, Defense Thread Reduction Agency (DTRA), and selected assessment service teams. They will continue to update the DCIP benchmarks and standards data / information to support MA program execution requirements.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: DoD Cyber Critical Infrastructure Support</p> <p align="right">Articles:</p> <p>FY 2014 Accomplishments: N/A</p> <p>FY 2015 Plans: N/A</p> <p>FY 2016 Base Plans: The MAD will continue to work with OSD Cyber Policy and OASD HD on the Cyber dependencies in the Pacific region. In addition, they will be asked to provide follow on analysis of additional cyber studies in other regions. They will also assist in looking at how to better synchronize nascent cyber processes and capabilities, such as cyber assessments and cyber key terrain analysis, into the DCIP methodology. MAD will engage with CCMDs and Sector Agencies on identifying and developing cyber key terrain data and resilience metrics as they pertain to key critical assets in both public and private domains They will gather technical and situational Cyber Security information (all threats, particularly industrial control systems) from intelligence message traffic, internet, private sources, other government agencies, national labs, and industry that address cyber security threats and vulnerabilities.</p> <p>FY 2016 OCO Plans: N/A</p>	-	-	0.900	-	0.900
	-	-	-	-	-
<p>Title: Dependency Analysis for MA and Infrastructure Network Operations</p> <p align="right">Articles:</p> <p>FY 2014 Accomplishments:</p>	-	-	0.740	-	0.740
	-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: The MAD will provide dependency analysis to the DCIP Community. This analysis may include identifying CCMD and Sector dependencies upon specific DoD-owned infrastructure, and commercial critical infrastructure to include the Defense Industrial Base (DIB). Specific priorities in the performance period will include research of intelligence and mission continuity of assets, as well as COCOM mission assurance and infrastructure dependency reports. They will research Task Critical Asset (TCA) prioritization and perform analysis to develop the final nomination list for review by Chairman of the Joint Chiefs of Staff (CJCS) and to be signed by the OASD HD. This process will include identifying duplicative nominations and/or similar assets and work with stakeholders to de-conflict, and also work with Joint Staff to develop a vulnerability assessment schedule. The task will synchronize efforts for criticality, threat / hazard and vulnerability assessment, and risk response via risk decision packages.					
FY 2016 OCO Plans: N/A					
Title: Crisis Support, Exercise Support and Emergent Requirements Analysis	-	-	0.440	-	0.440
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: The MAD will provide deep dive technical analysis on critical infrastructure issues related to specific crises affecting DoD missions and Defense Security Cooperation Agency (DSCA) response efforts. They will develop inputs and provide the Global Situational Awareness Facility (GSAF) / National Military Command Center (NMCC) / Joint Staff J33 personnel and senior leaders with actionable analytic products and value-added strategic risk management recommendations for critical decision making during events. They will provide quick response infrastructure research and analysis to the OASD HD and Americas' Security Affairs (OASD(HD&ASA)), CCMDs, Services, Sectors, and Agencies in the form of technical analysis and					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>recommendations to the OASD (HD&ASA) and the DCIP Community on infrastructure networks and points of service related to pre-event and post-event analysis for manmade or natural disaster incidents and intelligence relating to threats. The crisis response / preparation of infrastructure analysis to the DCIP Community will also be utilized during planned exercises.</p> <p>Through this support, the MAD's infrastructure analysis will help identify the potential crisis impact and will support risk management recommendations during and after the exercises. They will support emergent requirements for DoD and National initiatives at the direction of the OASD (HD&ASA). This support may include infrastructure research and subject matter expertise (SME) analysis, participation in DoD or interagency working groups, and infrastructure-related inquiries by congress. They will identify emerging threat vectors and CIP-related gaps in coordination with CCMDs and DoD agencies related to MA and Critical Infrastructure Sectors, and their impacts via white papers and briefings. U.S. Northern Command (USNORTHCOM) submissions and on-site liaisons provided per request and approval; participation in USNORTHCOM outreach sessions is anticipated as part of this tasking.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: On-Site Liaison to OASD (HD&ASA) and Data Exchange Working Groups Leadership and Participation</p> <p align="right">Articles:</p>	-	-	0.180	-	0.180
<p>FY 2014 Accomplishments: N/A</p> <p>FY 2015 Plans: N/A</p> <p>FY 2016 Base Plans: The MAD will provide one liaison to reside within the OASD (HD&ASA) offices. The liaison will provide temporary support as team leader for the DCIP within the OASD HD&ASA's Mission Assurance Directorate. The liaison will assist with DCIP policy development, facilitate stakeholder meetings, coordinate annual program reviews, and perform other inherently government functions as directed. Responsibilities include tasking and monitoring of progress by contractor personnel supporting the Mission Assurance Directorate on cyber, energy and other critical infrastructure projects. The liaison will manage tasking and deliverables of infrastructure analysis, geospatial products, vulnerability assessments, and technology development performed by MAD-Dahlgren in</p>	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015		
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
support of the OASD HD&ASA and Mission Assurance Directorate. The liaison may also be asked to represent Homeland Defense at meetings, working groups and conferences.					
FY 2016 OCO Plans: N/A					
Title: Mission Assurance Knowledge Management and Technical Information and Dissemination Support and Maintenance					
Articles:					
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: This support provides for the network backbone and information technology support required for day-to-day operations, and to respond to crises and exercise events in near real-time with accurate and actionable information. Typical tasks provide an early and deep look at an event informing senior leaders and allowing for follow on tailored research. The MAD will develop classified web-based geospatial visualization and data gathering and dissemination capabilities to promote data sharing of MA information. Research will entail enhancing knowledge management, community awareness, and the effectiveness of crisis response and other decision support activities. This task supports the delivery mechanism for the analysis provided by the MAD to multiple CCMDs, Services, Sector Leads, the Department of Homeland Security (DHS) / Department of Energy (DoE), and the platforms upon which several MA-supporting systems reside. This task also assists in providing a Common Operational Picture for MA and brokers / shares data to MA partners on behalf of the OASD HD&ASA. The MAD will provide development support working with in-house information technology (IT) personnel to update and administrate the portal / tool interfaces and ensure appropriate data exchange and data gathering is able to occur within DCIP systems.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals					
	-	-	5.800	-	5.800

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C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy N/A		
E. Performance Metrics Program cost, schedule, and performance are measured using a systematic approach with approved program management methods. The results are presented in a monthly financial execution status report. Reports are to be submitted to the Director, MA and the Policy Resource Management Office in OSD Policy and DUSN (P) by the 15th of each succeeding month. The reports will reflect the progress made on each of the project tasks by deliverable and a separate accumulated cost report. Actual versus planned costs will be reflected in the reports at the request of the sponsor.		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>				Project (Number/Name) 3039 / <i>CHENG</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3039: <i>CHENG</i>	-	18.186	13.241	10.827	-	10.827	16.002	15.724	14.904	15.215	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Develops and implements architecture-based systems engineering processes, methods and tools that assure integrated and interoperable systems are delivered to the fleet. This project provides the mission-oriented technical basis for implementing capability-based acquisition management within the Navy to engineer and field Navy and Marine Corps combat systems, weapon systems, and command, control, communications, computers and intelligence (C4I) programs that must operate as family-of-systems (FoS) or system-of-systems (SoS). The focus of this project is on identifying the functions, relationships, and connections between systems at both the force and unit level and across warfare mission areas, and encompasses three key elements: Systems Engineering to provide the framework for making engineering decisions by war fighting capability at the FoS/SoS level and supports consistent engineering and investment decision-making across Navy and Marine Corps programs within capability-based acquisition portfolios. Naval Collaborative Engineering Environment development and implementation as a DON enterprise resource for Naval integration and interoperability information to enable collaboration and decision support among Fleet organizations, Program Executive Offices, Program Managers, Systems Commands, prime contractors, Resource/Warfare Sponsors and Comptroller organizations. Standards, Policies and Guidelines engineering and technical staff to implement DoN, Office of the Secretary of Defense (OSD) and Joint integration and interoperability initiatives.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Standards, Policy, and Guidelines	4.537	3.984	2.484	-	2.484
Articles:	-	-	-	-	-
Description: Standards, Policy and Guidelines conducts and provides policy analysis, and studies, Policy issue identification and resolution. Additionally, management and execution of the Information Support Plan (ISP) process for the DON. Assists program offices with ISP planning & development guidance and assistance, conducts ISP reviews; provides comments/recommendations. Liaison with DoD, Joint Staff, and Other Service acquisition/Systems Engineering					
FY 2014 Accomplishments:					
-Continued policy analysis, studies and guidance to include issue identification and resolution					
-Continued Program Office ISP planning and development support					
-Continued ISP Reviews					
FY 2015 Plans:					
-Continuation of FY14 efforts and initiatives					
FY 2016 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015			
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 3039 / CHENG				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Continued policy analysis, studies and guidance to include issue identification and resolution -Continued Program Office ISP planning and development support FY 2016 OCO Plans: N/A						
Title: Naval System Engineering Resource Center (NSERC) Description: Development and implementation of the Navy Enterprise Architecture Repository (NEAR) as a DON enterprise resource for Naval integration and interoperability information to enable collaboration and decision support among Fleet organizations, Program Executive Offices, Program Managers, Systems Commands, prime contractors, Resource/Warfare Sponsors and Comptroller organizations. FY 2014 Accomplishments: - Completed Phased Delivery (Phase II) of NEAR FY 2015 Plans: - Continue Phased Delivery (Phase III) of NEAR FY 2016 Base Plans: - Continue Phased Delivery of NEAR FY 2016 OCO Plans: N/A		2.805 Articles: -	2.213 -	2.090 -	- -	2.090 -
Title: Systems Engineering Description: Provide the framework for making engineering decisions by war fighting capability at the Family of Systems/System of Systems level and supports consistent engineering and investment decision making across Navy and Marine Corps programs within-capability based acquisition portfolio FY 2014 Accomplishments: - Completed and Deliver the Systems Engineering Human Resource Competency Model - Continued Corrosion Prevention and Control initiatives - Continued Integration & Interoperability (I&I) initiatives		10.844 Articles: -	7.044 -	6.253 -	- -	6.253 -

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 3039 / <i>CHENG</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continued Program Office SEP review and support					
<i>FY 2015 Plans:</i> - Continue Corrosion Prevention and Control initiatives - Complete and transition I&I initiatives to OPNAV/Fleet components - Continue Program Office SEP review and support					
<i>FY 2016 Base Plans:</i> Continue Program Office SEP review and support Continue Corrosion Prevention and Control initiatives					
<i>FY 2016 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	18.186	13.241	10.827	-	10.827

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Standards, Policy, and Guidelines: - Alignment of SPGs across the Naval Enterprise and with OSD and Joint organizations will support standard acquisition implementation and improve compatibility and interoperability thereby lowering development and maintenance costs across programs

- Aggregating systems for the purpose of conducting certification and accreditation and consolidating mandatory documentation for aggregations versus individual systems will optimize (cost tradeoffs and focus on high priority issues) certifications, reduce paperwork and associated costs, and put attention on systems engineering, IA, and ISPs for systems in their aggregated operational state vice just the individual system development state. Document costs for major programs are \$1 to \$3.5 Million per system. An aggregation may include 15 or more systems with four or more being major systems. Aggregation presents a high potential for Return on Investment.

- NR-KPP processes will clarify requirements and capabilities (including their metrics) that acquisition programs need to develop systems. This clarification will eliminate guesses in terms of operational needs, thereby reducing the risk of program failure and reducing program and life-cycle costs.

Naval Collaborative Engineering Environment (NCEE): Number of customers/ users.
Percentage of time the tool is available.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 3039 / <i>CHENG</i>
<p>Number of tools integrated into the system.</p> <p>Systems Engineering:</p> <p>Reviews and comment on all ACAT I system engineering plans presented to ASN (RDA) within 30 days of receipt to provide system engineering and system of system engineering guidance to the Acquisition Program Manager.</p> <p>Review 80% of the MDAP Gate reviews held in FY10 to provide software acquisition process improvement guidance, system of systems engineering guidance and integration and interoperability management guidance to the Acquisition Program Managers.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 3330 / Naval Research Laboratory (NRL) Facilities Modernization			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3330: Naval Research Laboratory (NRL) Facilities Modernization	-	2.392	1.611	13.849	-	13.849	16.429	16.449	16.207	16.801	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program has been established to provide a systematic and planned approach to improve vital in-house science and technology (S&T) laboratory facilities which are reaching or have reached critical stages of deterioration. The program includes restoration and modernization (R&M) initiatives for about 350,000 net square feet, where the average age of the buildings is 67 years old.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NRL Facilities Modernization	2.392	1.611	13.849	-	13.849
Articles:	-	-	-	-	-
Description: Critical Science and Technology research cannot be sustained or succeed in deteriorated facilities. World class research can only be accomplished in facilities that are at a minimum "adequate", but preferably "state-of-the-art." Due to their advanced age and deterioration, funds are planned to restore/modernize various laboratory facilities at the Naval Research Laboratory.					
The FY 2016 funding increase will support the restoration/modernization the Naval Research Laboratory, the Navy's world class corporate research laboratory, to ensure they can meet future technological threats. Due to advanced age and deterioration of the facilities, the increase in funding is needed to update various laboratory facilities to further the critical science and technology research for the Navy.					
FY 2014 Accomplishments: - Continued the modernization efforts for the electronics science and technology laboratories, equipment, and specialized facilities.					
FY 2015 Plans: - Continue all efforts of FY14.					
FY 2016 Base Plans: - Starting in FY16 the Naval Research Laboratory, the Navy's only Corporate Research Laboratory, will be completing the first phase of its Corporate Facility Investment Plan (CFIP), a comprehensive plan through					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 3330 / <i>Naval Research Laboratory (NRL) Facilities Modernization</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>FY25, to modernize its laboratory to ensure they can meet future technological threats. The funds will be used for specific studies, evaluations, and the special handling of highly critical and sensitive laboratories that will be relocated into refurbished buildings. This includes planning, consolidating and relocating of over 100 laboratories into less than 80 laboratories; careful disassembly of one-of-a-kind facilities and equipment by in-house scientists and experts and contractor support with specialized skills to devise unique plans to disassemble, transport, and reassemble the facilities; and the recalibration and specialized reassembly of the highly specialized equipment (e.g., solid-state electronic devices, lasers, vacuum tubes, electrical connections, reactors, gas sensors and chambers, and chemical connectors and distribution systems).</p> <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	2.392	1.611	13.849	-	13.849

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

N/A

Remarks

D. Acquisition Strategy

None

E. Performance Metrics

Restoration and modernization of the laboratory facilities will begin in a phased approach until completion.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 3363 / PACOM Initiative
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3363: PACOM Initiative	-	7.664	7.945	13.336	-	13.336	15.711	15.432	15.144	15.461	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

This funding is for a classified effort.

A. Mission Description and Budget Item Justification

This funding is for a classified effort.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: PACOM Initiative	7.664	7.945	13.336	-	13.336
Articles:	-	-	-	-	-
FY 2014 Accomplishments: This is a classified initiative.					
FY 2015 Plans: This is a classified initiative.					
FY 2016 Base Plans: This is a classified initiative.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	7.664	7.945	13.336	-	13.336

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

N/A

Remarks

D. Acquisition Strategy

This funding is for a classified effort.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 3363 / <i>PACOM Initiative</i>

E. Performance Metrics

This funding is for a classified effort.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 3381 / JIE Initiative
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3381: JIE Initiative	-	-	8.900	-	-	-	-	-	-	-	-	8.900
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Information Environment (JIE) initiative provides the supporting IT capability framework comprised of shared information technology infrastructure, enterprise services, interoperability with coalition partners and a single security architecture that enables mission commanders to execute mission partnered operations. JIE provides the U.S. configuration controls necessary for enterprise capabilities. By utilizing a U.S enterprise-wide secure Identity and Access Management system, JIE ensures that authorized users at the right classification level gain access to only the data and services they are entitled. The continued development and refinement of a Joint Information Environment will provide for a significant improvement in data sharing within, and between, coalition maritime elements.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Strategies for Defense of Data	-	8.900	-	-	-
Articles:	-	-	-	-	-
Description: The Joint Information Environment (JIE) initiative provides the supporting IT capability framework comprised of shared information technology infrastructure, enterprise services, interoperability with coalition partners and a single security architecture that enables mission commanders to execute mission partnered operations. JIE provides the U.S. configuration controls necessary for enterprise capabilities. By utilizing a U.S enterprise-wide secure Identity and Access Management system, JIE ensures that authorized users at the right classification level gain access to only the data and services they are entitled. The continued development and refinement of a Joint Information Environment will provide for a significant improvement in data sharing within, and between, coalition maritime elements.					
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Develop and integrate analytic methodologies and supporting elements that address cyber capabilities, innovations, and strategic engagements in order to produce a strategy for a more defensible and secure cyber architecture specifically designed for U.S. Pacific Command, joint, and coalition mission partners.					
FY 2016 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 3381 / <i>JIE Initiative</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	-	8.900	-	-	-

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

Remarks

D. Acquisition Strategy

Utilize an existing Army contract to develop capabilities to identify and provide risk management for critical infrastructure system vulnerabilities as a result of cyber based attacks in the U.S. Pacific Command area of responsibility. This information is for presentation to the Office of the Under Secretary of Defense for Intelligence (OUSD(I)).

E. Performance Metrics

Develop scenario based, interactive exercise simulations to supplement existing table top, command post, and full scale incident response training and exercise programs. The completion date for the strategy and cyber architecture recommendations is September 2015.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / <i>Management, Technical & Intl Supt</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	-	7.000	15.000	-	-	-	-	-	-	-	-	22.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funds execution of DoD's Executive Agent (EA) for Printed Circuit Board (PrCB) Technologies as established by the 2009 National Defense Authorization Act (Section 256, PL 110-417). The primary deliverable from this effort will be a PrCB and Interconnect Technology Roadmap, or strategic plan, identifying domestic technology gaps, future research and development needs, and any policy changes required to ensure that the DoD has access to PrCB manufacturing capabilities and technical expertise necessary to meet future military requirements. As mandated, the EA will also address DoD PrCB supply chain issues, including diversity and vulnerabilities, and develop trustworthiness requirements for PrCBs used in defense systems.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015
Congressional Add: Printed Circuit Board Executive Agent	7.000	15.000
FY 2014 Accomplishments: - Complete domestic technology gap analysis & identification of future R&D needs - Complete assessment of vulnerabilities, trustworthiness, and diversity of the PrCB supply chain - Complete joint common strategic weapons systems study/research and development to demonstrate "trusted" PrCB principles and implement proven "trust" measures - Complete establishment of strategic electronic parts commonality framework and strategic parts library to reduce program risk and costs - Complete development of PRCB and interconnect technology roadmap/strategic plan		
FY 2015 Plans: - Complete domestic technology gap analysis & identification of future R&D needs - Complete assessment of vulnerabilities, trustworthiness, and diversity of the PrCB supply chain - Complete joint common strategic weapons systems study/research and development to demonstrate "trusted" PrCB principles and implement proven "trust" measures - Complete establishment of strategic electronic parts commonality framework and strategic parts library to reduce program risk and costs - Complete development of PRCB and interconnect technology roadmap/strategic plan		
Congressional Adds Subtotals	7.000	15.000

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 9999 / Congressional Adds

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

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

In 2005, the National Academies national research council (NRC) conducted a study and subsequently issued a report relating to manufacturing trends in printed circuit technology. Within that report, the NRC detailed four critical issue areas that needed to be addressed in the interest of national security. Those issue areas included; Trust, Supply Chain, Organic (DoD) Capability Sustainment, and Technology Development.

Intense global competition in the Printed Circuit Board (PrCB) industry has resulted in a significant reduction in the number of United States PrCB companies, leaving the domestic PrCB industrial base "fragile" and progressively declining in capability and health. Implementation of the strategies developed by the EA for PrCB Technologies will proactively ensure that the U.S. PrCB industry is capable of supporting future DoD electronics requirements. The strategic plan is expected to identify technology gaps and research and development needs, as well as identify and recommend policy changes.

In addition to benefiting DoD by ensuring access to leading edge PrCB technology, it is expected that the EA program will help the struggling domestic PrCB industry by indentifying future technology research and development needs and securing the domestic military market.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605856N / <i>Strategic Technical Support</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	3.085	2.590	3.258	-	3.258	3.345	3.408	3.479	3.552	Continuing	Continuing
0128: <i>Mgmt/Tech Supt Strategic</i>	0.000	1.106	1.168	1.181	-	1.181	1.215	1.239	1.264	1.290	Continuing	Continuing
1038: <i>Acoustic & Non-Acoustic Analysis Supt</i>	0.000	1.979	1.422	2.077	-	2.077	2.130	2.169	2.215	2.262	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element supports technical studies and analyses as directed by the Director for Submarine Warfare to support major policy and procurement decisions. This program is divided into two elements to support decision making in the areas of submarine and antisubmarine warfare and undersea surveillance.

B. Program Change Summary (\$ in Millions)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	3.221	3.237	3.285	-	3.285
Current President's Budget	3.085	2.590	3.258	-	3.258
Total Adjustments	-0.136	-0.647	-0.027	-	-0.027
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.647			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.136	-			
• Rate/Misc Adjustments	-	-	-0.027	-	-0.027

Change Summary Explanation

Technical: N/A

Schedule: N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605856N / <i>Strategic Technical Support</i>			Project (Number/Name) 0128 / <i>Mgmt/Tech Supt Strategic</i>				
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0128: <i>Mgmt/Tech Supt Strategic</i>	-	1.106	1.168	1.181	-	1.181	1.215	1.239	1.264	1.290	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides analytical support to the Director, Submarine Warfare Division as a basis for major policy, planning and acquisition program decisions. It supports the development of the Submarine Force strategic vision to guide research and development investment strategy and future planning. Additionally, this line supports studies in the area of submarine and undersea surveillance missions, force structure, payloads and sensors and force employment.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MANAGEMENT AND TECHNICAL SUPPORT, STRATEGIC	1.106	1.168	1.181	-	1.181
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
- Continued to examine specific applications for submarine mine countermeasures and develop a strategy for ensuring submarine access to contested areas of the world.					
- Continued to assess the strategic deterrence (conventional and nuclear) force structure, security, and capability in the Navy.					
- Continued to perform an in-depth review of undersea warfare research and development requirements, past and present, and propose an investment strategy to maximize future capabilities.					
- Continued to assess implications of current and developing technologies on undersea warfare in both near and far term systems and develop strategic concepts to guide future acquisitions through partnership with the Naval Postgraduate School.					
- Continued to assess the submarine forces capabilities in view of emerging technologies and changes in joint and naval strategies. This will be used to develop capability based ideas and concepts to guide research and development and science and technology efforts.					
FY 2015 Plans:					
- Continue all efforts of FY14.					
FY 2016 Base Plans:					
- Continue all efforts of FY15.					
FY 2016 OCO Plans:					
N/A					
Accomplishments/Planned Programs Subtotals	1.106	1.168	1.181	-	1.181

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy Date: February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605856N / <i>Strategic Technical Support</i>	Project (Number/Name) 0128 / <i>Mgmt/Tech Supt Strategic</i>
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C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This project supports studies in the area of undersea surveillance missions, sensor system, payloads, force employment, communications, acoustic performance prediction systems, environmental and medical effects of acoustics systems including installations/removals, operational security and future threat analysis. Project success is measured through analytical results and constant interaction with the contractors that enable the Director for Submarine Warfare to make decisions effectively.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605856N / <i>Strategic Technical Support</i>				Project (Number/Name) 1038 / <i>Acoustic & Non-Acoustic Analysis Supt</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1038: <i>Acoustic & Non-Acoustic Analysis Supt</i>	-	1.979	1.422	2.077	-	2.077	2.130	2.169	2.215	2.262	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides analytical support to the Director, Intelligence, Surveillance, and Reconnaissance (ISR) Division, OPNAV N2N6F2 and the Integrated Undersea Surveillance System (IUSS) Branch as a basis for major policy, planning, and acquisition program decisions. It supports studies in the area of undersea surveillance missions, sensor system communications, and acoustic performance prediction systems, environmental and medical effects of acoustic systems, operational security, and future threat analysis. Supports synthetic mission lay down simulations for IUSS strategic planning and resource allocation. Supports continued development and documentation of architecture for future undersea surveillance capabilities and systems. Supports studies to determine long-term impact of IUSS active sensors on marine animals and development of Surveillance Towed Array Sensor system (SURTASS) Low Frequency Active (LFA), Compact LFA (CLFA) and the Supplemental Environmental Impact Statement (SEIS).

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: ACOUSTIC AND NON-ACOUSTIC ANALYSIS SUPPORT	1.979	1.422	2.077	-	2.077
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
- Continued environmental compliance requirements and actions pertinent to Compact Low Frequency Active (CLFA) at-sea testing, training and operations.					
- Continued the SURTASS Engineering Measurements Program (SURTASS EMP) to provide for post-mission engineering analysis of SURTASS acoustic data.					
- Continued environmental compliance support for issuance of annual Letters of Authorization (LOA) under the Marine Mammal Protection Act (MMPA) and required quarterly reporting for SURTASS LFA vessels.					
- Continued analyses to estimate the long-term effects of SURTASS LFA on marine mammals.					
- Continued Integrated Undersea Surveillance System (IUSS) Engineering analytic support to IUSS Capabilities Assessment follow on study.					
- Provided IUSS Engineering analytic support to OPNAV for hypothetical systems deployment performance assessments.					
- Continued monitoring of undersea technology for application for future undersea surveillance capabilities.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605856N / <i>Strategic Technical Support</i>	Project (Number/Name) 1038 / <i>Acoustic & Non-Acoustic Analysis Supt</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continued IUSS Engineering enabling capabilities support to Distributive Systems Group (DSG) to further Shallow Water Surveillance System (SWSS) activities FY 2015 Plans: - Continue all efforts of FY14. FY 2016 Base Plans: - Continue all efforts of FY15. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.979	1.422	2.077	-	2.077

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This project supports studies in the area of undersea surveillance missions, sensor systems, and acoustic performance prediction systems, environmental and medical effects of acoustic systems, and future threat analysis. In addition, it provides research and reports necessary to support SURTASS LFA and Compact Low Frequency Active (CLFA) sonar compliance with Federal, State and Local environmental laws required for continued SURTASS LFA and CLFA operations, analysis of undersea technology for application to future undersea surveillance capabilities, and assessment of current and future IUSS warfare areas and potential allied Navy contributions. To this end, research is conducted by prominent educational and research institutions recognized for their expertise in the area, and by marine mammal biologists with extensive background in specific areas of underwater acoustics. This approach is deemed the most cost effective and efficient course of action for the Navy.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605861N / <i>RDT&E Science & Tech Mgmt</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	71.998	73.033	76.948	-	76.948	77.793	77.849	79.347	81.069	Continuing	Continuing
0135: <i>ONR Science & Technology Mgmt</i>	0.000	65.037	65.008	69.489	-	69.489	70.115	70.016	71.327	72.862	Continuing	Continuing
2353: <i>DFAS Billings</i>	0.000	1.409	2.332	1.695	-	1.695	1.820	1.887	1.953	2.007	Continuing	Continuing
3234: <i>Office of Naval Research - N-ERP</i>	0.000	1.102	1.160	1.168	-	1.168	1.201	1.230	1.261	1.287	Continuing	Continuing
3364: <i>ONR Global Management</i>	0.000	4.450	4.533	4.596	-	4.596	4.657	4.716	4.806	4.913	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element (PE) covers Office of Naval Research (ONR) corporate expenses including salaries, Information Technology (IT), Financial Improvement Plan (FIP) efforts and some of the day-to-day logistical costs. The vast majority of these items represent fixed costs associated with Scientists and Engineers supporting the Navy's Science and Technology (S&T) Programs.

The Defense Finance and Accounting Service (DFAS) Billings project 2353 funds accounting services provided to ONR and Navy Research and Development (R&D) activities.

B. Program Change Summary (\$ in Millions)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	72.725	73.033	74.033	-	74.033
Current President's Budget	71.998	73.033	76.948	-	76.948
Total Adjustments	-0.727	-	2.915	-	2.915
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.727	-			
• Program Adjustments	-	-	1.475	-	1.475
• Rate/Misc Adjustments	-	-	1.440	-	1.440

Change Summary Explanation

Technical: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity
1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*

R-1 Program Element (Number/Name)
PE 0605861N / *RDT&E Science & Tech Mgmt*

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605861N / RDT&E Science & Tech Mgmt				Project (Number/Name) 0135 / ONR Science & Technology Mgmt			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0135: ONR Science & Technology Mgmt	-	65.037	65.008	69.489	-	69.489	70.115	70.016	71.327	72.862	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports ONR leadership, management and direction for the Naval S&T program. This project funds ONR HQ salaries, communications, and other fixed costs. In FY16 and out, the Mid-Range Financial Improvement Plan effort will be transferred into this project from PE 0605853N Project 3025 to support ONR's goal of attaining a clean and auditable financial statement. ONR sponsors scientific advances, which lead to Future Naval Capabilities (FNCs), supporting the Fleet's ability to operate from a position of technological superiority. Functions performed include (1) scientific and technical direction of the nationwide 6.1 basic research program with colleges, universities, non-profit organizations and Naval Laboratories and Warfare Centers; (2) scientific and technical direction of the 6.2 applied research program through the Naval R&D laboratories and Warfare Centers and industry; (3) scientific and technical direction of the Naval 6.3 advanced technology development program through the Navy's R&D laboratories, Warfare Centers and industry; (4) management, resource formulation, program assessment, and contract negotiation/administration of the Navy basic research, applied research and advanced technology development program; and (5) coordination of the Navy's Technology Base program within the context of total DoD/Government (e.g., National Science Foundation, National Academy of Sciences) R&D initiatives in order to maximize scientific advances. This project also supports ONR management and direction for the following Navy-wide programs: Small Business Innovation Research, Naval Research Advisory Committee, Navy Patent Program, Historically Black Colleges and Universities/Minority Institutions Program, Navy Manufacturing Technology Program and the Ballistic Missile Submarine Nuclear (SSBN) Security Technology Program.

Additionally, this project funds ONR field salaries, communications, and other fixed costs. Functions performed support ONR's Navy-wide responsibilities in the negotiation and establishment of indirect cost rates for DoD-assigned universities and performance of contract administration for all DoD contracts/grants at all colleges and universities.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: S&T MANAGEMENT SUPPORT	65.037	65.008	69.489	-	69.489
Articles:	-	-	-	-	-
Description: This project provides for basic costs of ONR Headquarters in support of the entire Navy S&T program. Most all the funds in this project are fixed costs, such as salaries and communications. Specifically, it pays the salaries of Scientific and Engineering and corporate business personnel who direct the execution of the Navy's basic research, applied research, and advanced technology development programs at the nation's universities/colleges, Navy laboratories, Warfare Centers, and private industry.					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605861N / RDT&E Science & Tech Mgmt	Project (Number/Name) 0135 / ONR Science & Technology Mgmt

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>This project also provides for basic costs of ONR's field activities to include fixed costs, such as salaries and communications.</p> <p>The increase from FY15 to FY16 reflects a transfer of the Mid-Range Financial Improvement Plan funding from PE 0605853N Management, Technical and International Support, an increase in the FERS Employer Contribution Rate, and management, communications, and other fixed costs required to support the Navy S&T program.</p> <p>FY 2014 Accomplishments: - This project provided for all basic costs of ONR Headquarters in support of the entire Navy S&T program. Most all of the funds in this project are fixed costs, such as salaries, and communications. Specifically, it pays the salaries of Scientific and Engineering and corporate business personnel who direct the execution of the Navy's basic research, applied research, and advanced technology development programs at the nation's universities/ colleges, Navy laboratories, Warfare Centers, and private industry. This project provided for all basic costs of ONR field activities in support of the entire Navy S&T program.</p> <p>FY 2015 Plans: - Continue all efforts of FY 2014</p> <p>FY 2016 Base Plans: - Continue all efforts of FY 2015</p> <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	65.037	65.008	69.489	-	69.489

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605861N / <i>RDT&E Science & Tech Mgmt</i>	Project (Number/Name) 0135 / <i>ONR Science & Technology Mgmt</i>

E. Performance Metrics

This PE funds operating costs for ONR's mission. Program performance is measured by attaining financial benchmarks for planned obligations vs. actual obligations and planned expenditures vs. actual expenditures.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605861N / RDT&E Science & Tech Mgmt	Project (Number/Name) 2353 / DFAS Billings
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2353: DFAS Billings	-	1.409	2.332	1.695	-	1.695	1.820	1.887	1.953	2.007	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides funding for accounting services provided to the Office of Naval Research and other Navy research and development activities by the Defense Finance and Accounting Service (DFAS).

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: TRANSACTIONS PROCESSED IN SUPPORT OF DON R&D	1.409	2.332	1.695	-	1.695
Articles:	-	-	-	-	-
Description: This project funds the DFAS bill for transactions processed in support of Department of the Navy R&D activities. Specific services include payroll, transportation, commercial invoices, travel, maintenance of trial balances, associated accounting and reporting.					
The decrease from FY2015 to FY2016 is to align with actuals.					
FY 2014 Accomplishments: - This project funded the DFAS bill for transactions processed in support of the Department of Navy R&D activities. Specific services include payroll, transportation, commercial invoices, travel and maintenance of trial balances, associated accounting and reporting.					
FY 2015 Plans: - Continue all efforts of FY 2014.					
FY 2016 Base Plans: - Continue all efforts of FY 2015					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.409	2.332	1.695	-	1.695

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605861N / RDT&E Science & Tech Mgmt	Project (Number/Name) 2353 / DFAS Billings

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

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

This PE funds operating costs for ONR's mission. Program performance is measured by attaining financial benchmarks for planned obligations vs. actual obligations and planned expenditures vs. actual expenditures.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605861N / RDT&E Science & Tech Mgmt	Project (Number/Name) 3234 / Office of Naval Research - N-ERP
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3234: Office of Naval Research - N-ERP	-	1.102	1.160	1.168	-	1.168	1.201	1.230	1.261	1.287	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides funding to support the site implementation costs for the Office of Naval Research transition to Navy's Enterprise Resource Planning (ERP) and to administratively track this continuing effort.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: OFFICE OF NAVAL RESEARCH NAVY ERP	1.102	1.160	1.168	-	1.168
Articles:	-	-	-	-	-
Description: This project funds N-ERP implementation and sustainment.					
FY 2014 Accomplishments: - Continue N-ERP sustainment efforts.					
FY 2015 Plans: - Continue N-ERP sustainment efforts.					
FY 2016 Base Plans: - Continue N-ERP sustainment efforts.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.102	1.160	1.168	-	1.168

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605861N / RDT&E Science & Tech Mgmt	Project (Number/Name) 3234 / Office of Naval Research - N-ERP

E. Performance Metrics

This PE funds operating costs for ONR's mission. Program performance is measured by attaining financial benchmarks for planned obligations vs. actual obligations and planned expenditures vs. actual expenditures.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605861N / RDT&E Science & Tech Mgmt	Project (Number/Name) 3364 / ONR Global Management
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3364: ONR Global Management	-	4.450	4.533	4.596	-	4.596	4.657	4.716	4.806	4.913	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds ONR field salaries, communications, and other fixed costs. Functions performed support ONR Navy-wide responsibilities in the negotiation and establishment of indirect cost rates for DoD-assigned universities and performance of contract administration for all DoD contracts/grants at all colleges and universities.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: ONR Global	4.450	4.533	4.596	-	4.596
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - This project provides for all basic costs of ONR field activities in support of the entire Navy S&T program.					
FY 2015 Plans: - Continue all efforts of 2014.					
FY 2016 Base Plans: - Continue all efforts of FY 2015					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	4.450	4.533	4.596	-	4.596

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605863N / <i>RDT&E Ship & Aircraft Support</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	140.064	138.304	132.122	-	132.122	109.742	97.961	97.551	100.417	Continuing	Continuing
0568: <i>RDT&E Acft Flt Hours</i>	0.000	33.762	33.723	33.187	-	33.187	33.930	33.963	34.605	35.750	Continuing	Continuing
0569: <i>RDT&E Acft Supt</i>	0.000	36.003	35.980	35.014	-	35.014	36.744	37.037	37.731	38.982	Continuing	Continuing
2924: <i>SDTS</i>	0.000	8.305	7.575	10.310	-	10.310	11.186	11.333	11.435	11.627	Continuing	Continuing
3206: <i>T&E Enterprise</i>	0.000	61.994	61.026	53.611	-	53.611	27.882	15.628	13.780	14.058	Continuing	Continuing

A. Mission Description and Budget Item Justification

This continuing program provides support for ships and aircraft required to accommodate Research, Development, Test and Evaluation (RDT&E) of new systems. The RDT&E ship and aircraft inventory is required to adequately test new and improved weapon systems, stay current with threats, and increase warfighting capability of the fleet. The program provides integrated logistics support for aircraft at selected field activities; provides depot-level rework of aircraft, engines, and components for the Navy inventory of RDT&E aircraft; and provides support for ships and aircraft bailed to contractors for Navy RDT&E projects. Costs covered under this element include aircrew training and proficiency, fuel, supplies, equipment, repair, Aviation Depot Level Repairables, overhaul of ships and aircraft, as well as organizational, intermediate, and depot maintenance of ships and aircraft in the Navy RDT&E inventory.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	141.778	138.304	94.259	-	94.259
Current President's Budget	140.064	138.304	132.122	-	132.122
Total Adjustments	-1.714	-	37.863	-	37.863
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.714	-			
• Program Adjustments	-	-	3.130	-	3.130
• Rate/Misc Adjustments	-	-	34.733	-	34.733

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605863N / <i>RDT&E Ship & Aircraft Support</i>	
<u>Change Summary Explanation</u> The FY 2016 funding request was reduced by -\$5.7 million to account for the availability of prior year execution balances. Technical: Multi Stage Super-sonic TECP-1 development efforts were added to PU 3206 in 2016-2019 Schedule: Not applicable.		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support	Project (Number/Name) 0568 / RDT&E Acft Flt Hours
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0568: RDT&E Acft Flt Hours	-	33.762	33.723	33.187	-	33.187	33.930	33.963	34.605	35.750	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Research, Development, Test and Evaluation (RDT&E) Aircraft Flight Hours. This non-acquisition project supports direct flight hour costs, including organizational and intermediate level maintenance, as well as associated consumables, including petroleum, oil, and lubricants. These flight hours are used for post-maintenance test flights, aircrew training, and the accomplishment of pilot proficiency requirements (approximately three hours per pilot per month), in support of Research and Development programs at four Naval Air Systems Command/Naval Surface Warfare Center/Office of Naval Research flight activities.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: RDT&E Acft Flt Hours	33.762	33.723	33.187	-	33.187
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continue to provide planned organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of RDT&E aircraft operations.					
FY 2015 Plans: Continue to provide planned organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of RDT&E aircraft operations.					
FY 2016 Base Plans: Continue to provide planned organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of RDT&E aircraft operations.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	33.762	33.723	33.187	-	33.187

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / <i>RDT&E Ship & Aircraft Support</i>	Project (Number/Name) 0568 / <i>RDT&E Acft Flt Hours</i>

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

Remarks

D. Acquisition Strategy

Not Applicable

E. Performance Metrics

This Research, Development, Test and Evaluation (RDT&E) Aircraft program supports approximately three hours per pilot per month of post-maintenance test flights, aircrew training and the accomplishment of pilot proficiency requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support	Project (Number/Name) 0569 / RDT&E Acft Supt
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0569: RDT&E Acft Supt	-	36.003	35.980	35.014	-	35.014	36.744	37.037	37.731	38.982	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Research, Development, Test and Evaluation (RDT&E) Aircraft Support. This continuing project funds costs associated with RDT&E fixed and rotary wing aircraft which accommodate test and evaluation of aircraft/weapon systems. Testing aboard these platforms reduces the number of fleet units required to support RDT&E efforts. Included in these costs are Aviation Depot-Level Repairables (AVDLR), which are spare and replacement aircraft parts and components to support overhead maintenance related flight operations, aircrew training, and proficiency flight hours. This project also funds airframe Standard Depot Level Maintenance (SDLM), the Integrated Maintenance Concept (IMC) and Phased Depot Maintenance (PDM), in-service repairs, emergency repairs, and engine repairs, as well as aircraft material condition and field inspections. Additionally, it funds Aircraft Structure Periodic Adjustments (ASPA), Individual Material Readiness List (IMRL) tools and support equipment, and other systems for application to and compatibility with RDT&E requirements.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Aircraft/Engine Maintenance and AVDLR/IMRL Support	34.333	34.377	33.523	-	33.523
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
Continue planned transition from ASPA/SDLM to the IMC/PDM program for depot maintenance requirements, while sustaining the following programs: AVDLR/IMRL, engine repairs, support of aircraft in the RDT&E inventory. Continue operation and implementation of maintenance and material management programs at Naval Air Warfare Center activities.					
FY 2015 Plans:					
Continue planned transition from ASPA/SDLM to the IMC/PDM program for depot maintenance requirements, while sustaining the following programs: AVDLR/IMRL, engine repairs, support of aircraft in the RDT&E inventory. Continue operation and implementation of maintenance and material management programs at Naval Air Warfare Center activities.					
FY 2016 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support	Project (Number/Name) 0569 / RDT&E Acft Supt
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue planned transition from ASPA/SDLM to the IMC/PDM program for depot maintenance requirements, while sustaining the following programs: AVDLR/IMRL, engine repairs, support of aircraft in the RDT&E inventory. Continue operation and implementation of maintenance and material management programs at Naval Air Warfare Center activities. FY 2016 OCO Plans: N/A					
Title: In-Service Repairs FY 2014 Accomplishments: Continue to provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects. FY 2015 Plans: Continue to provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects. FY 2016 Base Plans: Continue to provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects. FY 2016 OCO Plans: N/A	1.670	1.603	1.491	-	1.491
Articles:	-	-	-	-	-
Accomplishments/Planned Programs Subtotals	36.003	35.980	35.014	-	35.014

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

Remarks

D. Acquisition Strategy
N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / <i>RDT&E Ship & Aircraft Support</i>	Project (Number/Name) 0569 / <i>RDT&E Acft Supt</i>

E. Performance Metrics

The Research, Development, Test & Evaluation Aircraft Support program goal is to provide the required funds to meet NAVAIR Aircraft Controlling Custodian aircraft sustainment requirements. These sustainment costs include providing annual support for required Planned Depot Maintenance events, In-service Repairs (P&E, Repairs, Mods), Depot Engine Inductions, Individual Material Readiness List Repairs, along with the funding of management oversight of the aircraft and the Aviation Depot Level Repairable costs associated with pilot readiness requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support	Project (Number/Name) 2924 / SDTS
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2924: SDTS	-	8.305	7.575	10.310	-	10.310	11.186	11.333	11.435	11.627	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the Hull Mechanical and Electrical (HM&E) and remote control system maintenance aboard the Self-Defense Test Ship (SDTS) in support of the Navy Research, Development, Test and Evaluation (RDT&E) of ship self-defense systems. Testing aboard this ship provides the capability to safely test self-defense weapon systems within their minimum range and reduces the number of fleet units required to support RDT&E efforts.

Funds are used to purchase expendable supplies, routine equipment maintenance, and repairs and supporting services.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SDTS	8.305	7.575	10.310	-	10.310
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
NSWC PHD continued to conduct planning, scheduling and performing routine HM&E, combat systems and remote control systems maintenance on the SDTS to provide the Navy a safe operational test asset.					
FY 2015 Plans:					
NSWC PHD continues to conduct management, operation, maintenance and repair/upgrade of ship Hull, Mechanical and Electrical (HM&E) critical items to ensure ongoing safe operation, and performance of the SDTS. Maintain, operate, configure and upgrade the Test Ship Remote Control System (TSRCS) and associated infrastructure in support of T&E requirements onboard SDTS to support the AW SSD Enterprise T&E TEMP 1714 efforts. NSWC PHD will conduct a complex pier side availability to install and test the combat systems elements for the DDG 1000, LSD 50 and LCS 6.					
FY 2016 Base Plans:					
NSWC PHD continues to conduct management, operation, maintenance and repair/upgrade of ship Hull, Mechanical and Electrical (HM&E) critical items to ensure ongoing safe operation, and performance of the SDTS. Maintain, operate, configure and upgrade the Test Ship Remote Control System (TSRCS) and associated infrastructure in support of T&E requirements onboard SDTS to support the AW SSD Enterprise T&E TEMP 1714 efforts. NSWC PHD will conduct a complex pier side availability to install and test the combat systems elements for the CVN 78 and LCS 5.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support	Project (Number/Name) 2924 / SDTS

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
The \$2.7M increase in cost between FY15 and FY16 is due to the anticipated costs to conduct the pier side availability to install and test the combat systems elements onboard the SDTS for CVN78 and LCS5 in FY16 versus the costs to do the same for the DDG1000, LSD50 and LCS6 in FY15. The increase covers the Carrier testing requirements which are larger and more complex than the other ship classes. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	8.305	7.575	10.310	-	10.310

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

N/A

Remarks

D. Acquisition Strategy

This line of accounting is for recurring HM&E and ship maintenance.

E. Performance Metrics

1. Ability to successfully remain safe and operationally available to support testing and evaluation of systems while in an unmanned, remotely controlled mode.
2. Successful development of applicable operation and maintenance documentation and reporting of installations.
3. Successful and timely delivery of funding status, schedule and technical delays and other issues.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support	Project (Number/Name) 3206 / T&E Enterprise
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3206: T&E Enterprise	-	61.994	61.026	53.611	-	53.611	27.882	15.628	13.780	14.058	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The T&E Enterprise consolidates all Air Warfare (AW) Ship Self Defense (SSD) at-sea testing across multiple class ships, beginning with CVN-74, LHD-8, LPD-17, LSD-50, LHA-6, DDG-1000, CVN-78, and Littoral Combat Ship (LCS) versions 5 and 6. This consolidated AW SSD test and evaluation approach meets the Probability of Raid Annihilation (PRA) (PRA is defined as a required surface ship defense against Anti-Ship Cruise Missiles), Self Defense Test Ship (SDTS) testing requirements as outlined in Air Warfare Ship Self Defense Enterprise TEMP 1714, and lead/operational ship testing requirements for Extended Sea Sparrow Missile (ESSM) TEMP 1471, Rolling Airframe Missile (RAM) Blk 2 TEMP 286-1, DDG 1000 TEMP 1560, CVN 78 TEMP 1610, Cooperative Engagement Capability (CEC) TEMP 1415, SSDS TEMP 1400, LHA 6 TEMP 1697, AN/SPQ-9B TEMP 1463, Surface Electronic Warfare Improvement Program (SEWIP) TEMP 1658 (Block 1A), 0686, and LCS TEMP 1695.

Enterprise Cost elements:

- a) SDTS Acquisition includes the direct procurement costs of major Combat Systems (CS) elements which will be installed on the Self Defense Test Ship (SDTS).
- b) SDTS Summary includes installation, check-out and stage testing of the major combat systems elements on the SDTS.
- c) SDTS Test includes tracking and firing exercises versus single and dual, subsonic and supersonic Anti-Ship Cruise Missile (ASCM) threat surrogates for ship classes in the Enterprise TEMP from the SDTS including: LHA-6, LSD-50, DDG-1000, LCS-5, LCS-6 and CVN-78.
- d) Lead Ship Test includes tracking and firing exercises versus single and dual, subsonic and supersonic ASCM threat surrogates for ship classes in the Enterprise TEMP from the Lead Ship including: LHA-6, LSD-50, LCS-5, LCS-6 and CVN-78.
- e) Testbed includes all modeling and simulation (M&S) costs required to create OT-quality digital representations of shipboard combat system performance including infrastructure, distributed secure network, common environmental services for Developmental Test (DT) and Operational Test (OT).
- f) Enterprise Testing and Planning includes the contractor and government costs to administer the Enterprise, collect and distribute data from live events, maintain Information Assurance (IA) certifications, and financial management.
- g) Maintenance of CS includes the costs for the routine preventive maintenance and repairs of the Combat Systems elements on the SDTS.

The T&E Enterprise merges common ship, element, and system requirements into the least number of test events while leveraging planned Combat System Ship Qualification Trials (CSSQTs) to accomplish Developmental Testing (DT) and Operational Testing (OT) requirements. All tests on the SDTS require the sharing of

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support	Project (Number/Name) 3206 / T&E Enterprise
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infrastructure, missile range allocations, execution time and underway time to eliminate duplicative testing. T&E Enterprise preserves end-to-end mission Operational Testing in a realistic operational environment, capitalizing on Probability of Raid Annihilation Modeling and Simulation (M&S) data validated with results of that Operational Testing, and ensuring a consistent approach across ship classes. Applicability of all test events is beneficial across multiple ship classes with the same variation under test.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Title: T&E Enterprise</p> <p align="right">Articles:</p> <p>FY 2014 Accomplishments: The FY14 costs included the acquisition of major combat systems elements for installation on the SDTS: 1) SPS-75, the air search RADAR used on LCS 5; 2) The COMBATTS-21 Combat Management System used on LCS 5; 3) CEC software patch used on the CVN 78; 4) Open Architecture (OA) version of the Mk 2 SSDS, the combat direction system used on CVN-78; and 5) SEWIP Block 2, the electronic warfare system used on CVN-78.</p> <p>Conducted LHA 6 based Ship Self Defense System (SSDS), Rolling Airframe Missile (RAM) BLK 2, and Evolved Sea Sparrow Missile (ESSM) at-sea stressing Anti-Ship Cruise Missile (ASCM) Self-Defense testing on the Self Defense Test Ship (SDTS)</p> <p>Conducted Probability of Raid Annihilation (PRA) Testbed Developmental Tests (DT) that achieved significant advancements in capability to assess end-to-end, closed-loop integrated hardkill/softkill layered defense engagements of the LHA 6, LSD 50, and LCS 6 configurations.</p> <p>Beginning in FY14 the Enterprise assumed responsibility for the maintenance of all combat systems elements on the SDTS. Beginning in FY14 the Enterprise assumed responsibility for 20% of the maintenance of the Remote Control System used with the SDTS. Conducted Information Assurance/Cybersecurity efforts on the SDTS in support of ET&E.</p> <p>Begin research and development efforts and initial systems engineering artifacts, support and planning for the production of digital models for the Multi Stage Separating Target (MSST) Threat Engineering Characterization Package (TECP-1) project.</p> <p>FY 2015 Plans: The Enterprise will finish testing of the LHA 6 based SSDS, RAM BLK 2, and ESSM at-sea stressing ASCM Self-Defense live fire testing on the SDTS to support the PRA Testbed model.</p>	61.994	61.026	53.611	-	53.611
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support	Project (Number/Name) 3206 / T&E Enterprise
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>The Enterprise intends to complete two developmental tests in PRA Testbed during FY15. The first test will include three Enterprise Ship Class configurations: LHA 6, LCS 6, and LSD. The second test will include incremental improvements to each of those three Ship Class configurations. The second test will also be the last major delivery of functionality preceding the LHA 6 PRA Assessment in FY 16.</p> <p>FY15 activities include a 9 month pier side industrial availability beginning in spring CY15 during which time the DDG-1000 Multi-Function Radar (MFR) and Total Ships Computing Environment (TSCE) will begin to be installed on the ship. Structural and electronic modifications will be made to MK 41 VLS to function as a MK 57 VLS. During this same availability, the LSD-50 SSDS Mk 2 Mod 5C equipment will begin its installation. Installation of the LCS 6 Combat System configuration (to include SeaRAM). Upon completion of the availability the ship will undergo testing to ensure the combat systems elements are properly installed and safe to operate.</p> <p>Continue research and development efforts and initial systems engineering artifacts, support and planning for the production of digital models for the MSST TECP-1 project.</p> <p>The Enterprise will continue routine maintenance, IA/Cybersecurity Certification and Accreditation on combat systems elements and the remote control system on the SDTS.</p> <p>FY 2016 Base Plans: The Enterprise will conclude a 9 month pier side industrial availability during which time the DDG-1000 Multi-Function Radar (MFR) and Total Ships Computing Environment (TSCE) will have been installed on the ship. Structural and electronic modifications will have been made to MK 41 VLS to function as a MK 57 VLS. During this same availability, the LSD-50 SSDS Mk 2 Mod 5C equipment will have been installed as well. Installation of the LCS 6 Combat System configuration (to include SeaRAM) will be completed. Upon completion of the availability the ship will undergo testing to ensure the combat systems elements are properly installed and safe to operate.</p> <p>Conduct LCS 6, LSD 50, and DDG 1000 at-sea stressing Anti-Ship Cruise Missile (ASCM) Self-Defense live fire testing on the Self Defense Test Ship (SDTS) and Lead test events on LCS 6, DDG 1000, and LSD 50.</p> <p>Conduct LHA 6 PRA Assessment</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support	Project (Number/Name) 3206 / T&E Enterprise
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Plan and begin an SDTS pier side industrial availability to install the LCS 5 and CVN 78 Configuration					
The Enterprise will continue routine maintenance, IA/Cybersecurity Certification and Accreditation on combat systems elements and the remote control system on the SDTS.					
Continue to develop systems engineering artifacts and digital models for MSST TECP-1 development and application.					
Stand up a strategic working group for long range ET&E planning (e.g. LX-R, Rail Gun)					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	61.994	61.026	53.611	-	53.611

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

N/A

Remarks

D. Acquisition Strategy

Acquire CS elements for Enterprise Ship Classes.
 Acquire LCS CS elements in FY14 and FY15 and CVN-78 CS elements in FY15.
 Acquisition of systems is tailored to each ship class with benefits across multiple classes with similar CS elements.

E. Performance Metrics

Successfully complete required documentation and reporting for Enterprise installations and required check out and testing of installations. Successfully complete all Enterprise Operational Test Readiness Reviews (OTRR). Successfully complete required Enterprise developmental testing/operational testing DT/OT testing and combat system ship qualification trials (CSSQT) related tests with 0 casualty delays. Successfully collect related test result data and distribute accordingly.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	303.176	336.286	351.912	-	351.912	344.029	348.977	350.229	361.775	Continuing	Continuing
0541: <i>AUTEC</i>	0.000	45.609	49.419	51.537	-	51.537	51.292	52.230	53.172	54.927	Continuing	Continuing
0566: <i>NAVAIR Environmental Compliance</i>	0.000	5.902	4.229	4.257	-	4.257	4.305	4.382	4.462	4.609	Continuing	Continuing
0653: <i>NAWC Weapons Division</i>	0.000	126.757	135.860	141.872	-	141.872	141.110	142.445	144.988	149.757	Continuing	Continuing
0654: <i>NAWC Acft Division</i>	0.000	85.906	94.168	97.652	-	97.652	97.738	99.529	101.329	104.674	Continuing	Continuing
2921: <i>Pacific Missile Range Facility</i>	0.000	4.826	5.275	5.316	-	5.316	5.398	5.497	5.598	5.782	Continuing	Continuing
2922: <i>MRTFB Maint & Repair</i>	0.000	23.547	35.744	39.583	-	39.583	32.382	32.873	28.439	29.380	Continuing	Continuing
3154: <i>Nanoose and Dabob Bay Ranges</i>	0.000	10.629	11.591	11.695	-	11.695	11.804	12.021	12.241	12.646	Continuing	Continuing

A. Mission Description and Budget Item Justification

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

This program provides institutional maintenance and operations support for: the Naval Undersea Warfare Center Detachment Atlantic Undersea Test and Evaluation Center (AUTEC), Andros Island, Bahamas; the Environmental Compliance Program; Naval Air Warfare Center Weapons Division (NAWCWD), Point Mugu and China Lake, CA; Naval Air Warfare Center Aircraft Division (NAWCAD), Patuxent River, MD; Test and Evaluation (T&E) related capabilities at the Pacific Missile Range Facility, Barking Sands, HI; Maintenance and Repair at NAWCWD, NAWCAD, and AUTEC; and the Naval Undersea Warfare Center Keyport Nanoose and Dabob Bay Ranges. The T&E activities make up the Navy portion of the Department of Defense's Major Range and Test Facility Base. These activities are chartered to perform T&E for the development and acquisition of technology advanced weapons systems. Core T&E capabilities and capacity are operated to obtain weapons system performance documentation for acquisition program milestone decisions to provide operational forces with effective weapons systems. This program provides Navy Acquisition Program Managers required test capabilities; lowers cost of T&E; removes cost and scheduling impact of providing their own T&E resources; and retains the physical airspace, land space and sea space needed to conduct testing.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>
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B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	301.219	336.286	345.263	-	345.263
Current President's Budget	303.176	336.286	351.912	-	351.912
Total Adjustments	1.957	-	6.649	-	6.649
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.034	-			
• SBIR/STTR Transfer	-0.076	-			
• Program Adjustments	-	-	5.399	-	5.399
• Rate/Misc Adjustments	-0.001	-	1.250	-	1.250

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>				Project (Number/Name) 0541 / <i>AUTEC</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0541: <i>AUTEC</i>	-	45.609	49.419	51.537	-	51.537	51.292	52.230	53.172	54.927	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

As a detachment of Naval Undersea Warfare Center, Division Newport, the mission of the Atlantic Undersea Test and Evaluation Center (AUTEC) is to provide the US Navy an underwater range facility for full-spectrum test and evaluation of Undersea Warfare systems and for Fleet training and readiness assessment. The AUTEC Program Office is headquartered at Newport, RI. AUTEC's administrative offices are located at West Palm Beach, Florida. Test facilities are located at Andros Island, Sites 1 through 4, and the Berry Islands in the Bahamas. AUTEC aircraft make scheduled daily flights between West Palm Beach and Andros Town Airport.

AUTEC manages and, under service contract, maintains and operates a 500 square nautical miles deep-water and a 100 square nautical miles shallow-water acoustic tracking range; air-target tracking capabilities; sonobuoy simulation systems; electronic warfare threat simulation systems; rotary wing aircraft; aircraft ground support facilities; acoustic targets; torpedo retrieval and flushing capabilities; open-ocean range craft; marine support facilities; and data processing and analysis capabilities.

Major test facilities on Andros Island are located at Site 1. The Command Control Building houses the range tracking displays and replay centers, the computer center, operations support functions, communications center, and the central timing system. The Range Support Facility houses a torpedo post-run workshop, Mark 46 /Mark 50 lightweight torpedo Intermediate Maintenance Activity (IMA), a Mark 30 undersea target IMA, a Mark 48 heavyweight torpedo Research and Development Turnaround facility and related technical facilities. The complex includes electrical and physical calibration labs, a complete electronics maintenance shop, a dive locker, a precision machine shop, and logistics support areas.

AUTEC has a 285-foot concrete pier with a controlling depth of 17 feet (5.2 meters) at mean low tide. An adjacent wharf is approximately 240 feet in length (72 meters) with a controlling depth of 15 feet at mean low tide. Power is available at both locations. Facilities at the pier/marine area include fully equipped machine /fabrication and marine overhaul shops. Also at Site 1, six Range User Buildings are maintained for assembling test equipment and equipment check-out during test mobilization or dockside periods. These staging areas are equipped with a variety of power sources, gantry cranes, compressed air and security features. A fully equipped range user hanger for ground maintenance and storage of helicopters is located at the AUTEC helicopter airstrip. Sites 2, 3, and 4 are small instrumented areas located south of Site 1 used to extend tracking of sonobuoys, communications, and air target track.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Atlantic Undersea Test and Eval Ctr Facility	34.338	38.148	40.266	-	40.266
Articles:	-	-	-	-	-
Description: AUTEC is a Test and Evaluation facility for collecting selected underwater, surface and air tracking data on test participants. This project funds the overhead/institutional costs required to sustain the Major Range and Test Facility capabilities at AUTEC in accordance with Department of Defense Directive 3200.11.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0541 / <i>AUTEC</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p><i>FY 2014 Accomplishments:</i> Continue to maintain and operate mission essential/core test support resources, instrumentation systems and marine craft required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range Test and Facility Base (MRTFB) operations. Reimburse the Command for General and Administrative support services. Atlantic Undersea Test and Evaluation Center (AUTEC) facility maintenance and repair funding (\$4M) was realigned to the Maintenance and Repair (2922) Project.</p> <p><i>FY 2015 Plans:</i> Continue to maintain and operate mission essential/core test support resources, instrumentation systems and marine craft required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. Reimburse the Command for General and Administrative support services. AUTEC facility maintenance and repair funding (\$4M) was realigned to the Maintenance and Repair (2922) Project.</p> <p><i>FY 2016 Base Plans:</i> Continue to maintain and operate mission essential/core test support resources, instrumentation systems and marine craft required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. Reimburse the Command for General and Administrative support services.</p> <p><i>FY 2016 OCO Plans:</i> N/A</p>					
<p><i>Title:</i> Bahamian Lease</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Rental payments to the Bahamian government for use of land and ocean in the Bahamas.</p> <p><i>FY 2014 Accomplishments:</i> Continue to provide rental payments to the Bahamian government for use of land and ocean in the Bahamas.</p> <p><i>FY 2015 Plans:</i></p>	11.271	11.271	11.271	-	11.271
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0541 / <i>AUTEC</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue to provide rental payments to the Bahamian government for use of land and ocean in the Bahamas. FY 2016 Base Plans: Continue to provide rental payments to the Bahamian government for use of land and ocean in the Bahamas. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	45.609	49.419	51.537	-	51.537

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain Major Range and Test Facility Base infrastructure in a ready state to provide between 2,500-2,900 range hours in support of multiple Navy and Department of Defense acquisition programs and fleet training.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>				Project (Number/Name) 0566 / <i>NAVAIR Environmental Compliance</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0566: <i>NAVAIR Environmental Compliance</i>	-	5.902	4.229	4.257	-	4.257	4.305	4.382	4.462	4.609	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This continuing project supports environmental compliance, conservation and pollution prevention related efforts at the Navy Major Range and Test Facility Base (MRTFB) located at Patuxent River, MD, China Lake, CA, Point Mugu, CA, and Atlantic Undersea Test and Evaluation Center, Bahamas. The Navy MRTFB environmental projects include ongoing efforts to comply with Federal, State, and local environmental requirements.

The MRTFB are test and evaluation facilities that provide for Department of Defense test and evaluation support missions. These missions include: Weapons system testing, military operational squadron training on new weapon systems, and validation of performance or operational characteristics.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Environmental Compliance	5.902	4.229	4.257	-	4.257
Articles:	-	-	-	-	-
Description: Projects supporting level 1 compliance requirements at Naval Air Systems Command Ranges inclusive of hazardous waste disposal, Resource Conservation & Recovery Act (RCRA), Subtitle C - 40 CFR 260 through 279, and Emergency Planning and Community Right-to-Know Act (EPCRA), Sections 311-312; solid waste disposal, RCRA, Subtitle D - 40 CFR Parts 239 through 259; natural & cultural resources programs, National Environmental Policy Act (NEPA), Environmental Protection Act, Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA), Archeological and Historic Preservation Act (AHPA), maintaining of environmental permits, Clean Air Act (CAA), Clean Water Act (CWA), and environmental monitoring. RCRA, 42 U.S.C. Section 6901 et sequens 1976; EPCRA, 42 U.S.C. Section 11001-11050 et sequens 1986; NEPA, 42 U.S.C. Section 4331 et sequens 1969; MMPA, 16 U.S.C. Section 1361 et sequens 1972; CWA, 33 U.S.C. Section 1251-1387 1972; ESA, 7 U.S.C. Section 136, 16 U.S.C. Section 1531 et sequens 1973; AHPA, 16 USC Section 469-469c-2 1960; and CAA, Title V, 33 U.S.C. Section 1251 et sequens 1972.					
FY 2014 Accomplishments: Continue mandated monitoring of range operations environmental impacts. Continue monitoring of endangered species and marine mammals which is required in order to comply with applicable laws and regulations.					
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0566 / <i>NAVAIR Environmental Compliance</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue identification and funding of level 1 requirements that support compliance projects at Naval Air Systems Command (NAVAIR) Ranges and ensure applicable laws and regulations are met and Range mission/operations proceed unencumbered. <i>FY 2016 Base Plans:</i> Continue the identification and funding of level 1 requirements that support compliance projects at NAVAIR Ranges to ensure applicable laws and regulations are met and Range mission/operations proceed unencumbered. Global Information Systems Encroachment Data Supporting Testing & Training, 0.2 Cultural Surveys Supporting Testing & Training, 0.1 <i>FY 2016 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	5.902	4.229	4.257	-	4.257

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Funding and execution of 37 level 1 compliance projects with quarterly project reviews, and monthly monitoring of expenditures vs. execution of project deliverables/objectives. Primary metric gauging performance of these projects is the maintaining of compliance with pertinent laws and regulations as noted in section B.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>				Project (Number/Name) 0653 / <i>NAWC Weapons Division</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0653: <i>NAWC Weapons Division</i>	-	126.757	135.860	141.872	-	141.872	141.110	142.445	144.988	149.757	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project provides continuing maintenance and operational support for the Naval Air Warfare Center Weapons Division Test and Evaluation (T&E) capabilities. These capabilities include the Pacific Ranges and Facilities, consisting of China Lake Ranges and the Point Mugu Sea Range, aerial and surface targets, test instrumentation, and T&E aircraft. The Pacific Ranges use China Lake's 1.1 million acres of land and 17,000 square miles of military restricted (R-2508) airspace together with Point Mugu's 125,000 square miles of instrumented sea range and 36,000 square miles of controlled overlying airspace, and airfield and test instrumentation at San Nicolas Island to perform its T&E mission. Included in the China Lake ranges is the Electronic Combat Range (ECR), which provides outdoor free space development and operational testing of airborne electronic warfare systems and tactics against shipboard and land based air defense systems. These ranges perform metric radar, multilateration and optical tracking of test objects; command, control, and destruct for range safety purposes; communications; frequency interference control and analysis; collection processing and display of telemetered data; real-time data processing and display; and the operation of a sub scale aerial target launch capability. Other test capabilities include sled tracks, measurement facility; propulsion, warhead, environmental, rocket motor, and other missile component test facilities; and gun ranges. This project funds costs that are not chargeable to customers.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Pacific Ranges	48.914	54.495	57.153	-	57.153
Articles:	-	-	-	-	-
Description: In accordance with Department of Defense Directive 3200.11., this project funds the overhead/institutional costs required to sustain the Major Range and Test Facility Base (MRTFB) capabilities at the Pacific Ranges and Facilities located at China Lake and Point Mugu, CA. These facilities provide safe, instrumented, controlled open air testing utilizing the Land Range, Sea Range, ECR, Air Vehicle Modification and Instrumentation, and San Nicholas Island.					
FY 2014 Accomplishments: Continue to maintain and operate mission/core test support resources. These resources include test article instrumentation and systems required to safely conduct flight and ground test missions as well as schedule and control air, land, sea and associated range operating areas required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased services contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations.					
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0653 / <i>NAWC Weapons Division</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Continue to maintain and operate mission/core test support resources. These resources include test article instrumentation and systems required to safely conduct flight and ground test missions as well as schedule and control air, land, sea and associated range operating areas required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased services contracts, annual utilities and any costs necessary to manage and sustain the Major Range and Test Facility Base (MRTFB) operations.</p> <p>FY 2016 Base Plans: Continue to maintain and operate mission/core test support resources. These resources include test article instrumentation and systems required to safely conduct flight and ground test missions as well as schedule and control air, land, sea and associated range operating areas required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased services contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Navy Test Wing Pacific</p> <p align="right">Articles:</p> <p>Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Naval Test Wing Pacific located at China Lake and Point Mugu, CA. These facilities provide the Navy's principal Pacific test activity for Naval Aviation Systems Team aircraft, engaged in or supporting Test & Evaluation of aircraft, weapons and weapons systems.</p> <p>FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources associated with 11 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources associated with 11 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel,</p>	19.451	22.090	22.162	-	22.162
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0653 / <i>NAWC Weapons Division</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. FY 2016 Base Plans: Continue to maintain and operate mission essential/core test support resources associated with 11 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations. FY 2016 OCO Plans: N/A					
Title: Threat/Target Systems <div style="text-align: right;">Articles:</div> Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Threat/Target Systems facilities. These facilities provide the airborne and seaborne threats for test and evaluation. FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations. FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations. FY 2016 Base Plans: Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment,	9.782	10.984	11.339	-	11.339
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0653 / <i>NAWC Weapons Division</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations.					
FY 2016 OCO Plans: N/A					
Title: Test and Evaluation Ordnance					
Articles:					
Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Test and Evaluation Ordnance facilities. These facilities provide test and evaluation of All-Up live ordnance and components.					
FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources associated propulsion, warhead, environmental, rocket motor, and other missile component test facilities required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations.					
FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources associated propulsion, warhead, environmental, rocket motor, and other missile component test facilities required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.					
FY 2016 Base Plans: Continue to maintain and operate mission essential/core test support resources associated propulsion, warhead, environmental, rocket motor, and other missile component test facilities required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.					
FY 2016 OCO Plans: N/A					
Title: Naval Air Warfare Center Weapons Division (NAWCWD) Command					
	2.538	2.998	3.012	-	3.012
	-	-	-	-	-
	46.072	45.293	48.206	-	48.206

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0653 / <i>NAWC Weapons Division</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<i>Articles:</i>	-	-	-	-	-
<p>Description: This project funds the overhead/institutional costs required to sustain the NAWCWD MRTFB Test and Evaluation capabilities.</p> <p>FY 2014 Accomplishments: Continue to reimburse the Command for General and Administration Support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities, Navy Marine Corps Intranet, and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2015 Plans: Continue to reimburse the Command for General and Administration Support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities, Navy Marine Corps Intranet, and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations.</p> <p>FY 2016 Base Plans: Continue to reimburse the Command for General and Administration Support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities, Navy Marine Corps Intranet, and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2016 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	126.757	135.860	141.872	-	141.872

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0653 / <i>NAWC Weapons Division</i>
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E. Performance Metrics

Maintain MRTFB infrastructure in a ready state to provide between 4,300-4,800 range hours, 125-150 aerial target presentations, 400-450 surface target presentations, 11,000-11,500 ordnance test hours, and over 6,000 flight hours in support of multiple Navy and Department of Defense acquisition programs and fleet training.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>				Project (Number/Name) 0654 / <i>NAWC Acft Division</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0654: <i>NAWC Acft Division</i>	-	85.906	94.168	97.652	-	97.652	97.738	99.529	101.329	104.674	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides funds for the maintenance and operations of the Naval Air Warfare Center Aircraft Division's (NAWCAD's) Major Range and Test Facility Base (MRTFB) capabilities used to conduct test and evaluation for air platforms. NAWCAD has extensive airfield, flight test ranges, aircraft systems test facilities and simulation laboratories to support aircraft Research Development Test and Evaluation. This includes 50,000 square miles of airspace, 39,375 square miles of sea space, and 7,950 acres of land space. Product areas include aircraft systems flight test and evaluation, carrier suitability certification, test article preparation, installed system test and evaluation, and modeling and simulation support of the acquisition process. The Test and Evaluation Group, Patuxent River, performs development and operational test and evaluation of manned and unmanned air vehicle systems, including mission systems, equipment, subsystems, components, and support systems. This project also provides test and evaluation facilities for air-breathing propulsion systems and extensive facilities for conducting both installed and uninstalled aircraft engine development and test and evaluation. This project funds costs that are not chargeable to customers.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Atlantic Ranges	20.650	22.538	23.742	-	23.742
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities associated with the Atlantic Ranges and Facilities and Air Vehicle Modification and Instrumentation. These facilities provide safe, instrumented, controlled flight testing and training in air, sea, and land arenas.					
FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources. These resources include test article instrumentation and/or modification for Flight Test Aircraft and Weapons Undersea Test as well as ground and flight test instrumentation systems, range instrumentation systems and data processing and communication systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.					
FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources. These resources include test article instrumentation and/or modification for Flight Test Aircraft and Weapons Undersea Test as well as ground and flight test instrumentation systems, range instrumentation systems and data processing and communication systems required to meet customer test workload. Fund civilian labor, travel, transportation,					

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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0654 / <i>NAWC Acft Division</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations. FY 2016 Base Plans: Continue to maintain and operate mission essential/core test support resources. These resources include test article instrumentation and/or modification for Flight Test Aircraft and Weapons Undersea Test as well as ground and flight test instrumentation systems, range instrumentation systems and data processing and communication systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. FY 2016 OCO Plans: N/A					
Title: Electromagnetic Environmental Effects (E-Cubed) and Air Combat Environment Test and Evaluation Facility (ACETEF) Articles: Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities associated with E-Cubed and ACETEF. These facilities provide Test & Evaluation support with integrated, interactive, and repeatable synthetic environments and reduce the risk and cost for programs with the use of installed systems tests to include simulation and stimulation tools, techniques and technologies. FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. FY 2016 Base Plans:	17.386	19.149	19.879	-	19.879
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0654 / <i>NAWC Acft Division</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range Test Facility Base (MRTFB) operations.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Propulsion Systems Test Facility (PSEF)</p> <p align="right">Articles:</p> <p>Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the PSEF. These facilities perform Test & Evaluation (T&E) of propulsion systems in the laboratories, engine test chambers and component test rigs of the PSEF and the Aircraft Test & Evaluation Facility. Propulsion Systems consists of engines, engine components and accessories.</p> <p>FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2016 Base Plans: Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2016 OCO Plans: N/A</p>	4.038	4.360	4.389	-	4.389
	-	-	-	-	-
<p>Title: Threat/Target Systems</p>	1.426	1.610	1.621	-	1.621

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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0654 / <i>NAWC Acft Division</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
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<p align="right">Articles:</p> <p>Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Threat/Target Systems facilities. These facilities provide the airborne and seaborne threats for T&E.</p> <p>FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations.</p> <p>FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2016 Base Plans: Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2016 OCO Plans: N/A</p>	-	-	-	-	-
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<p>Title: Naval Test Wing Atlantic</p> <p align="right">Articles:</p> <p>Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Naval Test Wing Atlantic. These facilities provide support for Naval Aviation Systems Team aircraft, engaged in or supporting Test & Evaluation aircraft systems.</p> <p>FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources associated with 12 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel,</p>	19.761	22.025	22.474	-	22.474
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0654 / <i>NAWC Acft Division</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources associated with 12 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations.</p> <p>FY 2016 Base Plans: Continue to maintain and operate mission essential/core test support resources associated with 12 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Naval Air Warfare Center Aircraft Division Command (NAWCAD)</p> <p align="right">Articles:</p> <p>Description: This project funds the overhead/institutional costs required to sustain the NAWCAD MRTFB Test & Evaluation capabilities.</p> <p>FY 2014 Accomplishments: Continue to reimburse the Command for General and Administrative support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2015 Plans: Continue to reimburse the Command for General and Administrative support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.</p> <p>FY 2016 Base Plans:</p>	22.645	24.486	25.547	-	25.547
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 0654 / <i>NAWC Acft Division</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue to reimburse the Command for General and Administrative support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. <i>FY 2016 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	85.906	94.168	97.652	-	97.652

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain Major Range Test Facility Base infrastructure in a ready state to provide between 8,700-9,200 range hours, 4,900-5,300 chamber hours, 9,500-10,000 Electromagnetic Environmental Effects test hours, and over 10,000 flight hours in support of multiple Navy and Department of Defense acquisition programs and fleet training.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>				Project (Number/Name) 2921 / <i>Pacific Missile Range Facility</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2921: <i>Pacific Missile Range Facility</i>	-	4.826	5.275	5.316	-	5.316	5.398	5.497	5.598	5.782	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program provides continuing maintenance and operations support for Test & Evaluation (T&E) related capabilities at the Pacific Missile Range Facility (PMRF) located at Barking Sands on Kauai, HI. PMRF's T&E capabilities include precision radar and telemetry assets, the Mobile Aerial Target Support System (MATSS), and Stabilized High-accuracy Optical Tracking System (SHOTS). These assets support Navy, Department of Defense, and Army Missile Defense Test & Evaluation. This project funds costs not chargeable to customers.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: PMRF	4.826	5.275	5.316	-	5.316
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the recognized Major Range and Test Facility Base (MRTFB) capabilities at PMRF in accordance with Department of Defense Directive 3200.11.					
FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources including the precision radar and telemetry assets, the MATSS, the SHOTS, and the Telemetry Systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. Reimburse the Command for General and Administrative support services.					
FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources including the precision radar and telemetry assets, the MATSS, the SHOTS, and the Telemetry Systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. Reimburse the Command for General and Administrative support services.					
FY 2016 Base Plans: Continue to maintain and operate mission essential/core test support resources including the precision radar and telemetry assets, the MATSS, the SHOTS, and the Telemetry Systems required to meet customer test workload.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 2921 / <i>Pacific Missile Range Facility</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range Test Facility Base (MRTFB) operations. Reimburse the Command for General and Administrative support services. FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	4.826	5.275	5.316	-	5.316

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain MRTFB infrastructure in a ready state to provide between 600-1,000 range hours in support of multiple Navy and Department of Defense acquisition programs and fleet training.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>				Project (Number/Name) 2922 / <i>MRTFB Maint & Repair</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2922: <i>MRTFB Maint & Repair</i>	-	23.547	35.744	39.583	-	39.583	32.382	32.873	28.439	29.380	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides funding for the maintenance and repair of the Major Range and Test Facility Base (MRTFB) Real Property Maintenance Activities (RPMA) at the Naval Air Warfare Center Weapons Division (NAWCWD), the Naval Air Warfare Center Aircraft Division (NAWCAD), and the Atlantic Undersea Test and Evaluation Center (AUTEC). Funds mission critical emergency services, recurring maintenance and repair, and major repair projects. In addition it addresses priority items on the Backlog of Maintenance and Repair list.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Facility Maintenance and Repair	23.547	35.744	39.583	-	39.583
Articles:	-	-	-	-	-
Description: Maintenance and repair of the MRTFB RPMA at NAWCWD, NAWCAD, and AUTEC.					
FY 2014 Accomplishments: Continue to support mission critical emergency services, recurring maintenance and repair, and minor and major repair efforts at NAWCWD, NAWCAD, and AUTEC. FY14 budget funds MRTFB facility to 80% of Department of Defense sustainment model and 23% of the Restoration and Modernization Model. AUTEC facility maintenance and repair funding (\$4M) was realigned to the Maintenance and Repair (2922) Project.					
FY 2015 Plans: Continue to support mission critical emergency services, recurring maintenance and repair, and minor and major repair efforts at NAWCWD, NAWCAD, and AUTEC. FY15 budget funds MRTFB facility to 80% of Department of Defense sustainment model and 23% of the Restoration and Modernization Model. AUTEC facility maintenance and repair funding (\$4M) was realigned to the Maintenance and Repair (2922) Project.					
FY 2016 Base Plans: Continue to support mission critical emergency services, recurring maintenance and repair, and minor and major repair efforts at NAWCWD, NAWCAD, and AUTEC. FY16 budget funds MRTFB facility to 80% of Department of Defense sustainment model and 23% of the Restoration and Modernization Model. Additional funding included to complete AUTEC Pier Repairs (\$5.9M) and continue NAWCAD Hangar Life Extension (\$6.2M).					
FY 2016 OCO Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 2922 / <i>MRTFB Maint & Repair</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	23.547	35.744	39.583	-	39.583

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain the 141, 357, and 784 building/structures at Naval Undersea Warfare Center Detachment (NUWC) Atlantic Undersea Test and Evaluation Center (AUTEC), Naval Air Warfare Center Aircraft Division (NAWCAD), and Naval Air Warfare Center Weapons Division (NAWCWD) respectively. Execute 15-20 major repair projects per year to address mission critical services.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>				Project (Number/Name) 3154 / <i>Nanoose and Dabob Bay Ranges</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3154: <i>Nanoose and Dabob Bay Ranges</i>	-	10.629	11.591	11.695	-	11.695	11.804	12.021	12.241	12.646	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides maintenance and operations support for the Nanoose and Dabob Bay Ranges along with associated support systems to provide Test and Evaluation (T&E) and readiness assessment services for acquisition programs and the Fleet. Operates ocean-based environment, measurement and support systems. Maintains and repairs systems that measure warfare system performance. Oversees test, training, and measurement facilities, equipment, operations and maintenance processes. Satisfies customer exercise and measurement requirements through the operation of ocean based test and measurement systems. Assures the readiness of systems through the implementation of calibration, maintenance, repair and life cycle processes. Performs exercise planning, exercise interpretation and development of surrogate environments, measurement and support systems. Assists in the design, fabrication and testing of systems for Undersea Warfare warfare environment simulation and performance measurement. Oversees the manning and maintenance of Naval Undersea Warfare Center Division Keyport range craft and range craft systems.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Undersea Ranges	10.629	11.591	11.695	-	11.695
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the Major Range Test Facility Base (MRTFB) capabilities at the Nanoose and Dabob Bay undersea tracking ranges.					
FY 2014 Accomplishments: Continue to maintain and operate mission essential/core test support resources associated with the unique test environments for T&E of undersea weapons, sensors, submarines and other undersea systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. Reimburse the Command for General and Administrative support services.					
FY 2015 Plans: Continue to maintain and operate mission essential/core test support resources associated with the unique test environments for T&E of undersea weapons, sensors, submarines and other undersea systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication,					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / <i>Test & Evaluation Support</i>	Project (Number/Name) 3154 / <i>Nanoose and Dabob Bay Ranges</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. Reimburse the Command for General and Administrative support services. <i>FY 2016 Base Plans:</i> Continue to maintain and operate mission essential/core test support resources associated with the unique test environments for Test and Evaluation of undersea weapons, sensors, submarines and other undersea systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations. Reimburse the Command for General and Administrative support services. <i>FY 2016 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	10.629	11.591	11.695	-	11.695

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain MRTFB infrastructure in a ready state to provide between 1,600-2,000 range hours in support of multiple Navy and Department of Defense acquisition programs and fleet training.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605865N / <i>Operational Test & Eval Capability</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	16.304	16.650	17.985	-	17.985	18.327	18.478	18.812	19.419	Continuing	Continuing
0831: <i>OPTEVFOR Support</i>	0.000	16.304	16.650	17.985	-	17.985	18.327	18.478	18.812	19.419	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element (PE) provides Commander, Operational Test and Evaluation Force (COMOPTEVFOR) general support funding for headquarters annual operating costs and ensures COMOPTEVFOR compliance with Secretary of Defense (SECDEF) and Secretary of the Navy (SECNAV) directives to conduct independent operational testing and evaluation. Funding supports planning, conducting, and reporting on the operational effectiveness and suitability of new and improved systems and recommending fleet usage to the Chief of Naval Operations (CNO). Funding also supports ongoing development and implementation of new requirements relative to integrated testing. The CNO, as well as acquisition executives and managers at all levels, have a continuing need for expeditious and efficient conduct of Operational Test and Evaluation (OT&E) by COMOPTEVFOR in support of training and equipping fleet forces. To this end, this funding supports COMOPTEVFOR's continued pursuit of a variety of senior management initiatives aimed at increasing efficiencies in T&E; these senior management initiatives include IT database and decision making technology upgrades, implementation of Integrated Testing and Mission Based Test Design across all programs, and improved staffing and expertise in the areas of DON acquisition processes, Modeling and Simulation, Statistical Studies, Cost Analysis, Information Assurance, and similar disciplines. All of these senior management initiatives are aimed at improving the quality of testing and evaluation, thus ensuring delivery to fleet units of fully tested and capable combat systems. OT&E issues have direct long term Navy-wide implications on the Fleet's readiness and war fighting capability. Rapid advances in technology, changes in fleet tactics, and increased complexity of weapons systems and platforms, combined with reductions in manpower, force structure, and budgets have created an increased need for technical and operational analyses that are sophisticated and timely in order to ensure an optimal return on investment of Navy resources. Funding is also provided for Navy support of the Office of the Secretary of Defense (OSD) sponsored Joint Test and Evaluation (JT&E) program.

B. Program Change Summary (\$ in Millions)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	16.565	16.658	16.883	-	16.883
Current President's Budget	16.304	16.650	17.985	-	17.985
Total Adjustments	-0.261	-0.008	1.102	-	1.102
• Congressional General Reductions	-	-0.008			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.261	-			
• Program Adjustments	-	-	-0.025	-	-0.025
• Rate/Misc Adjustments	-	-	1.127	-	1.127

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605865N / <i>Operational Test & Eval Capability</i>	
<u>Change Summary Explanation</u> Technical: N/A Schedule: N/A		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605865N / <i>Operational Test & Eval Capability</i>				Project (Number/Name) 0831 / <i>OPTEVFOR Support</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0831: <i>OPTEVFOR Support</i>	-	16.304	16.650	17.985	-	17.985	18.327	18.478	18.812	19.419	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element (PE) provides Commander, Operational Test and Evaluation Force (COMOPTEVFOR) general support funding for headquarters annual operating costs and ensures COMOPTEVFOR compliance with Secretary of Defense (SECDEF) and Secretary of the Navy (SECNAV) directives to conduct independent operational testing and evaluation. This funding supports planning, testing, and reporting on the operational effectiveness and suitability of new and improved systems and recommending fleet usage to the Chief of Naval Operations (CNO). Funding also supports recently instituted initiatives (including the manpower to execute) that improve COMOPTEVFOR's ability to develop "minimum, adequate" test strategies maximizing efficiencies and minimizing assets required to conduct planned operational testing, thereby driving down overall test and evaluation costs for the Navy. The CNO, as well as acquisition executives and managers at all levels, have a continuing need for expeditious and efficient conduct of Operational Test and Evaluation (OT&E) by COMOPTEVFOR in support of training and equipping fleet forces. To this end, this funding supports COMOPTEVFOR's continued pursuit of a variety of senior management initiatives aimed at increasing efficiencies in T&E; these senior management initiatives include IT database and decision making technology upgrades, implementation of Integrated Testing and Mission Based Test Design across all programs, and improved staffing and expertise in the areas of DON acquisition processes, Modeling and Simulation, Statistical Studies, Information Assurance, and similar disciplines. All of these initiatives are aimed at improving the quality of testing and evaluation, thus ensuring delivery to fleet units of fully tested and capable combat systems. OT&E issues have direct long term Navy-wide implications on the Fleet's readiness and warfighting capability. Rapid advances in technology, changes in fleet tactics, and increased complexity of weapons systems and platforms, combined with reductions in manpower, force structure, and budgets have created an increased need for technical and operational analyses that are sophisticated and timely in order to ensure an optimal return on investment of Navy resources.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: OPTEVFOR SUPPORT	16.304	16.650	17.985	-	17.985
Articles:	-	-	-	-	-
Description: Funding in this project supports several senior management initiatives aimed at increasing efficiencies in T&E. These initiatives include IT database and decision making technology upgrades; implementation of Integrated Testing and Mission Based Test Design across all programs; and improved staffing and expertise in the areas of DON acquisition processes, Modeling and Simulation, Statistical Studies, Information Assurance, and similar disciplines. All of these initiatives are aimed at improving the quality of testing and evaluation, thus ensuring delivery to fleet units of fully tested and capable combat systems.					
FY 2014 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605865N / <i>Operational Test & Eval Capability</i>	Project (Number/Name) 0831 / <i>OPTEVFOR Support</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>- Continue to operationally test and evaluate CNO projects commensurate with authorized funding level.</p> <p>- Continue evaluation and improvement of management initiatives previously introduced above (IT database and decision making technology upgrades, implementation of Mission Based Test Design across all programs, improved civilian staffing expertise in areas previously indicated).</p> <p>- Continue to maintain level of effort associated with the DoD 5000-acquisition guidance, which requires increased COMOPTEVFOR involvement in early operational assessments, developmental testing, advanced concept technology demonstrations, and advanced technology demonstrations.</p> <p>FY 2015 Plans:</p> <p>- Continue all efforts of FY14.</p> <p>FY 2016 Base Plans:</p> <p>- Continue all efforts of FY15. The increasing complexity of new programs of record (e.g., LCS, CVN-78, P-8, ORP, AMDR, DDG 1000) requires COMOPTEVFOR to have immediate and ongoing access to analytical skill sets not currently resident on the HQ staff and are more commonly found at SYSCOMS, Navy labs, CNA and similar activities. Operational testing requirements levied by DoD have increased in scope and complexity; testing requirements are more robust than ever, requiring Commander Operational Test and Evaluation Force (COTF) to obtain and maintain resident skill sets and develop an intellectual capital base that cannot be met with constantly rotating military personnel. The funding increase will support additional analytic expertise from various sources (SYSCOM, NWCF, CNA) with the requisite skill sets.</p> <p>FY 2016 OCO Plans:</p> <p>N/A</p>					
Accomplishments/Planned Programs Subtotals	16.304	16.650	17.985	-	17.985

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605865N / <i>Operational Test & Eval Capability</i>	Project (Number/Name) 0831 / <i>OPTEVFOR Support</i>

E. Performance Metrics

As indicated in section A above, funding provides for core headquarters operations and support (O&S) costs related to required operational testing and evaluation (T&E) conducted in support of Navy acquisition programs. The preponderance of funding provides for the annual O&S costs for day to day operations of the staff/headquarters of COMOPTEVFOR, located in Norfolk, Virginia. (Pursuant to DoD Financial Management Regulations and Navy financial policy guidance, as a T&E activity, COMOPTEVFOR's annual support costs are funded via RD TEN vice OMN; hence, and unlike most RD TEN programs, these funds provide for O&S costs typical of military field commands/activities). Within this project, over 1/2 of the funding supports salaries of assigned civilian personnel. The remaining funds provide for other routine support costs such as travel, IT support, supplies, and other overhead/administrative support costs. The primary metric used within the project involves support for scheduled Navy acquisition program testing and subsequent analysis and reporting of results of testing to appropriate senior Navy acquisition officials and to the Navy chain of command directly to the CNO and various OPNAV/SECNAV staff offices. The performance goal is met when all assigned/scheduled testing and reporting is supported each year. Specific test program success is measured through analytic results of testing conducted throughout the year and constant interaction with program offices, acquisition decision makers, OPNAV staff resource sponsor offices, OSD and other service T&E offices/activities, and miscellaneous other customers/stakeholders. This project also supports testing and evaluation of various Joint/multi-service programs in which the Navy shares responsibilities in support of the acquisition community. The following metrics relate directly to the funding provided and are applicable to current operations.

Number of Tests Conducted - FY14 = 100; FY15 = 105; FY16 = 103
 Number of Programs Supported - FY14 = 423; FY15 = 425; FY16 = 422

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>					R-1 Program Element (Number/Name) PE 0605866N / <i>Navy Space & Electr Warfare Supt</i>							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	3.885	2.503	5.316	-	5.316	10.160	11.730	11.070	10.928	Continuing	Continuing
0706: <i>EMC & RF Mgmt</i>	0.000	3.547	2.503	5.316	-	5.316	10.160	11.730	11.070	10.928	Continuing	Continuing
0739: <i>Navy C2 Top Level</i>	0.000	0.338	-	-	-	-	-	-	-	-	-	0.338

A. Mission Description and Budget Item Justification

Project 0706, Electromagnetic Compatibility (EMC) and Radio Frequency (RF) Management Program: Develops advanced technology to identify and eliminate Electromagnetic Interference (EMI) sources from Navy systems. Supports research and development technology efforts, develops top-level plans, and supports systems in the Space and Electronic Warfare (SEW) mission area. This program is resourced by OPNAV N2N6.

Project 0739, Navy Command, Control, Communications, Computers, and Intelligence (C4I) Top Level Requirements - This project provides analysis of both Fleet requirements and research and development technology to develop top-level plans and space systems in the Space and Electronic Warfare (SEW) mission area. The Space and Electronic Warfare Studies and Analysis Program (SEWSAP) supports analyses of fleet requirements and research and development technology to develop top-level plans for operating Navy Command, Control, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR) and space systems in the SEW mission area.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	3.264	2.505	2.712	-	2.712
Current President's Budget	3.885	2.503	5.316	-	5.316
Total Adjustments	0.621	-0.002	2.604	-	2.604
• Congressional General Reductions	-	-0.002			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.647	-			
• SBIR/STTR Transfer	-0.026	-			
• Program Adjustments	-	-	16.358	-	16.358
• Rate/Misc Adjustments	-	-	-13.754	-	-13.754

Change Summary Explanation

The FY 2016 funding request was reduced by \$0.3 million to account for the availability of prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605866N / Navy Space & Electr Warfare Supt	Project (Number/Name) 0706 / EMC & RF Mgmt
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0706: EMC & RF Mgmt	-	3.547	2.503	5.316	-	5.316	10.160	11.730	11.070	10.928	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Electromagnetic Compatibility (EMC) and Radio Frequency (RF) Management Program. This project develops tools, processes, and algorithms to identify and mitigate EMI sources for Navy systems and platforms.

(a) It will support the Afloat Electromagnetic Spectrum Operations Program (AESOP), an automated spectrum Fleet operational capability. The application will be enhanced to comply with fleet operational requirements and streamline Strike Force frequency management processes. It will provide automated Spectrum Management (SM) tools for development of operational task communication and radar/weapon plans to support fleet deployments, exercises, and contingency operations. It will provide identification and mitigation of EMI in Navy, North Atlantic Treaty Organization (NATO), Allied, Ashore and Joint Combat Operations. It will provide analysis related to spectrum reallocation proposals to assess impacts on Navy operations and systems.

(b) It will support the Shipboard Electromagnetic Compatibility Improvement Program (SEMCIP) to identify, engineer, and evaluate effectiveness of potential EMI corrections. The program also characterizes and quantifies the operational impact of EMI problems on system's mission performance.

(c) It will support the Nuclear Electromagnetic Pulse (EMP) Survivability Program. The program assesses the EMP survivability of all mission critical systems and funds development of a hardness assurance and maintenance program. It will develop improved modeling capability to reduce hardness validation costs at delivery and over the lifetime of the system/platform. The program develops new and updated design criteria, test methodology, test limits, and survivability validation procedures for all Navy systems, ships, submarines and shore facilities.

(d) It will support the Real-Time Spectrum Operations Program. The program investigates Electromagnetic (EM) Environmental effects between shipboard transmitters/receivers and develops EM and spectrum techniques with Commercial off the shelf (COTS) technologies to provide the ability to monitor EM spectrum usage and system EM degradation on all ships in a given strike group. The program will investigate technologies to build an EM Spectrum Common Operational Picture (COP) to detect and assess operational capabilities in real-time. Additional investigations will be performed to develop processes and procedures to predict the EM environment for planning purposes. In the out-years, these capabilities will be used to build the next generation combat system with inherent spectrum agility and self-awareness capability, further enhancing the Navy's ability to perform Command and Control (C2) of the EM Spectrum warfighting domain.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Afloat Electromagnetic Spectrum Operations Program (AESOP)	0.648	0.447	0.420	-	0.420
Articles:	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605866N / Navy Space & Electr Warfare Supt	Project (Number/Name) 0706 / EMC & RF Mgmt

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p><i>FY 2014 Accomplishments:</i> Supported requirements as specified in the CNO's Navigation Plan for FY13-FY17, Net-centric warfare requirements, and the Joint Vision 2020. Researched, evaluated and updated Afloat Electromagnetic Spectrum Operations Program (AESOP) software in accordance with fleet operations, spectrum engineering advances, open architecture, extensible mark-up language (XML) standards, and Navy and Joint standards / interfaces. Designed, developed, and fielded an interface between Navy automated spectrum planning software and DoD-level Spectrum XXI, using the Military Communications Electronic Board (MCEB) Publication #8 XML format. Planned and conducted analyses/tests of new and modified Navy equipment (i.e., new communications waveforms) and calculated the electromagnetic compatibility criteria; documented new/updated criteria and parameters in Naval Sea (NAVSEA) Publication S9407-AA-GYD-010/(S) OP-3840 "Electromagnetic Compatibility (EMC) Criteria for Navy Systems" and test reports. Completed testing, evaluation, and Certification and Accreditation of AESOP version 3.1 and fielded software to all Fleet units (both ashore and afloat).</p> <p><i>FY 2015 Plans:</i> Investigate evolving fleet operations procedures and protocols, identify new military equipment spectrum usage (e.g., multi-function, dual-band radars and communications, unmanned systems), spectrum engineering advances, automated data exchange standards, and Navy and Joint standards / interfaces for incorporation into AESOP's baseline architecture. Investigate and evaluate International, National, DoD and Navy spectrum processes. Provide engineering and analysis in support for DoD/DoN response to President's National Broadband Plan and Spectrum Inventory Act, and their associated impacts on Navy systems. Perform power density analyses and make recommendations for spectrum sharing, interference susceptibilities, required stand-off distances for compatibility, and impact assessments from any military concessions on spectrum use. Conduct technical and regulatory analyses for "comparable spectrum" targeted for potential migration by Navy systems that are displaced through spectrum reallocation. Research host nations' spectrum use in Navy deployment areas and develop recommendations for littoral radiation restrictions which honor host nation spectrum regulations while simultaneously maximizing US Navy capabilities.</p> <p><i>FY 2016 Base Plans:</i> Identify new military equipment and review their spectrum usage. Perform analysis of these new systems against existing Fleet equipment, and develop potential scenarios for further testing and evaluation. Maintain awareness of International, National, DoD and Navy spectrum processes that could impact Naval operations.</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015				
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605866N / Navy Space & Electr Warfare Supt	Project (Number/Name) 0706 / EMC & RF Mgmt					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Assess potential changes and develop tests to evaluate potential updates to the AESOP fleet operational application. Support the National Broadband Plan and Commercial Spectrum Inventory Act. FY 2016 OCO Plans: N/A							
Title: EMC Systems Engineering (SEMCIP)			1.144	0.643	1.033	-	1.033
Articles:			-	-	-	-	-
FY 2014 Accomplishments: Identified and characterized EMI which can debilitate the combat capability of strike force capability and operational readiness. During FY2014, engineering teams focused their efforts on the development of EMI solutions that supports the Enhanced Forward Error Correction for Television Direct to Sailor, SPY-3 Radar, Navy Multiband Terminal, Commercial Broadband Satellite Program, Ku-Band Common Data Link and Close-in Weapon System programs. Evaluated the effectiveness of proposed EMI solutions and coordinated with system program managers for proper integration of the final EMI solution.							
FY 2015 Plans: As new problems are identified, perform EMI Problem Characterization and Quantification to identify level of problem severity. EMI problems with a high severity level can debilitate the combat capability of strike force capability and operational readiness will be added to the priority list for evaluating potential EMI solutions. In FY2015 the major focus area will be on the Navy's Next Generation Radar(s), new Electronic Warfare systems and Satellite Communication programs. Evaluate the effectiveness of proposed EMI solutions and coordinate with system program managers for proper integration of the final EMI solution.							
FY 2016 Base Plans: As new problems are identified, perform EMI Problem Characterization and Quantification to identify level of problem severity. EMI problems with a high severity level can debilitate the combat capability of strike force capability and operational readiness will be added to the priority list for evaluating potential EMI solutions. In FY2016 it is anticipated that the major focus area will be on the Navy's Next Generation: Radars (i.e., Multi-Band and Dual Band Radars), Electronic Warfare Systems (i.e., Ships Signal Exploitation Equipment Increment F), Satellite Communication (i.e., the Navy Multi-Band Terminal and the Commercial Broadband Satellite Program), and Common Data Link Programs. Evaluate the effectiveness of proposed EMI solutions and coordinate with system program managers for proper integration of the final EMI solution.							
FY 2016 OCO Plans:							

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605866N / Navy Space & Electr Warfare Supt	Project (Number/Name) 0706 / EMC & RF Mgmt

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

Title: Electromagnetic Pulse (EMP) Survivability	0.931	0.713	0.924	-	0.924
Articles:	-	-	-	-	-

FY 2014 Accomplishments:
 Completed EMP coupling experiments on the ex-USCGC MONHEGAN (an RDT&E test bed) to develop testing protocols including mobile EMP testing capability. The Final test report was issued on 30 May 2014. Received patent (US Patent No. 8562361 B2) for a new Cable Shield Ground Adapter (CSGA), completed a series of qualification testing and developed installation procedures for use on Navy Ships. Initiated a Transient Protection Device (TPD) project to research the life span and performance associated with EMP TPDs used in all Shipboard High Frequency (HF) systems. These are the only High-Altitude Electromagnetic Pulse (HEMP) protection method/device used to protect HF systems. The Navy does not have life cycle performance data on TPD's. Progress in the CSGA and TPD's support the requirement to develop Navy Hardness Maintenance and Hardness Surveillance techniques. These techniques supported the development of the new Maritime Standard for EMP (MIL-STD- 4023).

FY 2015 Plans:
 Conduct follow-on EMP coupling experiments and modeling on the ex-USCGC MONHEGAN to develop a ship centric EMP threat relatable illumination method. Investigate and develop new testing techniques for ashore and afloat pulse current injection testing that will support the new Maritime EMP Standard (MIL-STD-4023). Develop streamlined testing capability to support grounding effectiveness testing, that will increase repeatability, verification of test results, while reducing total cost of ownership. Develop new testing capabilities/ revised software capabilities at the Naval NSWCDD Naval Ordinance Transient Electromagnetic Simulator (NOTES) EMP Facility (ashore test bed) to meet MIL-STD-2169C threat levels. Conduct analysis and test & evaluation on a statistically valid sample of Transient Protection Device (TPD) to establish performance/degradation criteria. Develop in-situ methods for determining TPD performance that can result in development of new Maintenance Requirement Cards (MRCs) to be implemented by the Fleet. Current MRC's do not specify when TPD's should be replaced.

FY 2016 Base Plans:
 Develop methods and tools for instrumenting and collecting data during EMP full threat simulator testing conducted on Navy ships. Investigate and develop new testing techniques for ashore and afloat pulse current injection testing. Evaluate and develop shore based EMP test protocols for use with planned installation of

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605866N / Navy Space & Electr Warfare Supt	Project (Number/Name) 0706 / EMC & RF Mgmt

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
antenna systems. Conduct test and evaluation of new materials and methods and develop approaches for EMP shielding of ship windows. FY 2016 OCO Plans: N/A					
Title: Real-Time Spectrum Operations Articles:	0.824	0.700	2.939	-	2.939
FY 2014 Accomplishments: Supported operational concepts from the CNO's Electromagnetic Maneuver Warfare (EMMW) Roadmap. During FY2014, completed two (2) Lab demonstrations of the Real-Time Spectrum Operations (RTSO) Electromagnetic Interference (EMI) Detection and the Mission Planner capability (modules). The Lab demonstrations were provided to senior OPNAV N2N6 leadership, other Navy stakeholders, technical and programmatic personnel. Developed RTSO applications to provide the ability to monitor EM spectrum usage on ships in a strike group for a planned demonstration in FY2015/2016. Enhanced the EM Spectrum Common Operational Picture (COP) with initial prototype-like Graphical User Interface (GUI) displays to provide layers of spectrum terrain data for varying levels of command. Published version 2.0 of the US Navy's Information Dominance Roadmap for Electromagnetic Spectrum Usage, detailing accomplishments to date, and refined the action plan to identify top level Navy investments that will enable a leap-forward to provide Real-Time Spectrum Operations.	-	-	-	-	-
FY 2015 Plans: Enhance the EM Spectrum COP to provide predictive layers of data displays for varying levels of command. Investigate the acquisition processes, procedures, and architecture protocols to support spectrum agility within new systems and equipment. Investigate technology to enhance system and equipment future operations, allowing full EM spectrum control (i.e., emissions control (EMCON), de-confliction to preclude EMI, advanced agility capabilities). Develop, test, and evaluate RTSO Applications and system connections to monitor spectrum usage.					
FY 2016 Base Plans: The CNO has requested funding for direct support and development of EMMW during POM-16. OPNAV N2N6 selected the Navy's RTSO program as a key tenet and enabler of Navy's EMMW concept. RTSO provides Electromagnetic Spectrum Awareness, EM Agility, Signature Control, and EM Engagement opportunities. It will enhance combat effects through effective coordination and control of the electromagnetic spectrum. POM-16 ALPHA and BRAVO aligned RTSO funding to enable fielding of initial Fleet capabilities in FY16.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605866N / Navy Space & Electr Warfare Supt	Project (Number/Name) 0706 / EMC & RF Mgmt

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
The increase in funding is due to development of an Engineering Design Model (EDM). The RTSO EDM will interface with a number of shipboard systems and provide the Fleet a visual display of the spectrum terrain and Electromagnetic Interference (EMI), both friendly and hostile. RTSO will offer recommended actions to Fleet operators to mitigate these EMI problems, issues, and threats. <i>FY 2016 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	3.547	2.503	5.316	-	5.316

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

N/A

Remarks

D. Acquisition Strategy

An acquisition strategy is not required.

E. Performance Metrics

Performance metrics will consist of quarterly program reviews.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605866N / Navy Space & Electr Warfare Supt	Project (Number/Name) 0739 / Navy C2 Top Level
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0739: Navy C2 Top Level	-	0.338	-	-	-	-	-	-	-	-	-	0.338
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides analysis of both Fleet requirements and research and development technology, to develop top-level plans and space systems in the Space and Electronic Warfare (SEW) mission area. The Space and Electronic Warfare Studies and Analysis Program (SEWSAP) supports analyses of fleet requirements and research and development technology to develop top-level plans for operating Navy Command, Control, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR) and space systems in the SEW mission area. Supports Navy Information Dominance.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Navy C2 Top Level	0.338	-	-	-	-
Articles:	-	-	-	-	-
<i>FY 2014 Accomplishments:</i>					
- Completed studies supporting resource and requirement decisions in the PPBE System. Conducted FORCEnet/Information Dominance Fleet experiments; FORCEnet/Information Dominance Architecture selection; evaluation of TTP and Research, Development, Test, and Evaluation (RDT&E) efforts with FORCEnet/Information Dominance requirements.					
- Completed evaluation of M&S tools and scenarios.					
<i>FY 2015 Plans:</i>					
N/A					
<i>FY 2016 Base Plans:</i>					
N/A					
<i>FY 2016 OCO Plans:</i>					
N/A					
Accomplishments/Planned Programs Subtotals	0.338	-	-	-	-

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

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605866N / Navy Space & Electr Warfare Supt	Project (Number/Name) 0739 / Navy C2 Top Level

D. Acquisition Strategy

An acquisition strategy is not required.

E. Performance Metrics

Conduct studies and report plans and analysis of Fleet requirements for operating Navy C4ISR and space systems in the space, electronic warfare, and information dominance mission areas.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605867N / <i>Space & Elec War Surv/Recon</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	7.134	8.325	6.519	-	6.519	8.761	8.639	8.211	8.384	Continuing	Continuing
1034: <i>TAC SAT Recon Office</i>	0.000	7.134	8.325	6.519	-	6.519	8.761	8.639	8.211	8.384	Continuing	Continuing

A. Mission Description and Budget Item Justification

(U) Link Crimson (Navy Tactical Exploitation of National Capabilities (TENCAP)) is a congressionally directed program to conduct space-related R&D in order to field integrated national-to-tactical system capabilities in response to emergent fleet requirements tied to OPLANs with emphasis on PACOM and CENTCOM. TENCAP's mission is to enable delivery of timely and relevant National Systems data to naval and maritime tactical users. TENCAP responds to the fleet's top, strategically important capability gaps within National systems and is the Navy's primary interface with the National Reconnaissance Office (NRO) and other national agencies for the rapid fielding (12-18 months) of capabilities. These include advanced sensors, onboard and ground processing, and integrated national-to-tactical information fusion capabilities. Link Crimson supports operational missions in Anti-Submarine Warfare (ASW), Integrated Air and Missile Defense, Mine Warfare (MIW), Precision Strike, Maritime Domain Awareness (MDA), and Intelligence, Surveillance, and Reconnaissance (ISR) management / Battlespace Awareness (BA) via multi-source fusion and advanced data analytics.

(U) This program is funded under Budget Activity 6 because it supports the operations and installations required for general research and development. Program baseline will also address research and development on Strategic Signals Collection and Exploitation; Undersea Warfare; Counter Unmanned Air Systems; Processing, Exploitation, and Dissemination; Commercial Navigation Radar Detect and Exploit; Open Ocean Surveillance; Threat Geo-location; and Foreign Command & Control Exploitation. Link Crimson fields operational prototypes in order to test new capabilities in a real world environment in direct coordination with the operational user. Link Crimson holistically develops warfighting capabilities by synchronizing insertion of technologies with existing Navy, joint, and national agency programs. Additional detailed information is available at a higher level of classification.

(U) Project 1034: Established to exploit all National and Service sensor systems to improve tactical support to Fleet operational commanders. Project also supports equipment upgrades, training and Fleet exercises which provide the venue for testing modifications to existing programs.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605867N / <i>Space & Elec War Surv/Recon</i>
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B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	7.134	8.325	8.179	-	8.179
Current President's Budget	7.134	8.325	6.519	-	6.519
Total Adjustments	-	-	-1.660	-	-1.660
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-1.660	-	-1.660

Change Summary Explanation

The FY 2016 funding request was reduced by \$1.6 million to account for the availability of prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605867N / <i>Space & Elec War Surv/ Recon</i>				Project (Number/Name) 1034 / <i>TAC SAT Recon Office</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1034: <i>TAC SAT Recon Office</i>	-	7.134	8.325	6.519	-	6.519	8.761	8.639	8.211	8.384	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

(U) Link Crimson (Navy Tactical Exploitation of National Capabilities (TENCAP)) is congressionally directed program to conduct space-related R&D in order to field integrated national-to-tactical system capabilities in response to emergent fleet requirements tied to OPLANs with emphasis on PACOM and CENTCOM. TENCAP's mission is to enable delivery of timely and relevant National Systems data to naval and maritime tactical users. TENCAP responds to the fleet's top, strategically important capability gaps within National systems and is the Navy's primary interface with the National Reconnaissance Office (NRO) and other national agencies for the rapid fielding (12-18 months) of capabilities. These include advanced sensor improvements to onboard and ground processing, and integrated national-to-tactical collection and fusion capabilities. Link Crimson supports operational missions for Anti-Submarine Warfare (ASW), Integrated Air and Missile Defense, Mine Warfare (MIW), Precision Strike, Maritime Domain Awareness (MDA), enhanced Battlespace Awareness (BA) and integrated fires via multi-source data fusion architectures and advanced analytics.

(U) This program is funded under Budget Activity 6 because it supports the operations and installations required for general research and development. Program baseline will also address R&D on foreign command and control (C2) Strategic Signals Collection and Exploitation; Undersea Warfare; Counter Unmanned Air Systems (passive and active measures); Processing, Exploitation, and Dissemination; low power Commercial Navigation Radar Detect and Exploit; Open Ocean and wide-area Surveillance; and Threat Geo-location. Link Crimson fields operational prototypes in order to test new capabilities in a real world environment in direct coordination with the operational user. Link Crimson holistically develops warfighting capabilities by synchronizing insertion of technologies with existing Navy, Joint, and national agency program, as well as related operational CONOPS and operator training. Additional detailed information is available at a higher level of classification.

(U) Project 1034: Established to exploit all National and Service sensor systems to improve tactical support to Fleet operational commanders. Project also supports equipment upgrades, training and Fleet exercises which provide the venue for testing modifications to existing programs.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Anti-Submarine Warfare (ASW)	0.500	0.520	0.500	-	0.500
Articles:	-	-	-	-	-
Description: Develop a holistic ASW capability, integrating all ASW sensors (tactical, theater, national) via one integrated architecture and CONOPS for Tasking, Collection, Processing, Exploitation and Dissemination (TCPED). Field automated TCPED systems to enable rapid dissemination of ASW/MIW data to fleet units and MOCs.					
FY 2014 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605867N / <i>Space & Elec War Surv/ Recon</i>	Project (Number/Name) 1034 / <i>TAC SAT Recon Office</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2015 Plans: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2016 Base Plans: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Multi-Int. Data Integration and Advanced Analytics</p> <p align="right">Articles:</p> <p>Description: Field a Naval Tactical Cloud architecture scaled to all afloat CRUDES, SUBFOR, Large Deck Carriers, and selected airborne ISR platforms -- leveraging existing COTS/GOTS technologies. Objective is to integrate and be able to fuse data and analytic services working across all ISR sensors, C2 decision-making systems, and Combat Systems.</p> <p>FY 2014 Accomplishments: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2015 Plans: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2016 Base Plans: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2016 OCO Plans: N/A</p>	1.000	1.400	1.000	-	1.000
	-	-	-	-	-
<p>Title: Open Ocean Surveillance (OOS)</p> <p align="right">Articles:</p> <p>Description: Develop and field maritime specific ISR capabilities that leverage global coverage of GEOINT / ELINT systems. Focus on automatic identification and geolocation of Vessels of Interest and other targets of interest.</p> <p>FY 2014 Accomplishments:</p>	2.134	2.500	2.019	-	2.019
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605867N / <i>Space & Elec War Surv/ Recon</i>	Project (Number/Name) 1034 / <i>TAC SAT Recon Office</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2015 Plans: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2016 Base Plans: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: Strategic Signals and Unmanned Systems</p> <p align="right">Articles:</p> <p>Description: Exploit strategically important foreign Command and Control systems to support top fleet OPLAN's for PACOM and CENTCOM. 2. Support improved Indications & Warning of adversary Unmanned Aircraft System (UAS). Support the development and improvement of Navy's Counter-UAS capabilities across the Joint integrated kill chain (surveillance, identification, and negation).</p> <p>FY 2014 Accomplishments: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2015 Plans: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2016 Base Plans: Additional details with respect to this line item are held at a higher classification.</p> <p>FY 2016 OCO Plans: N/A</p>	2.400	2.805	2.000	-	2.000
	-	-	-	-	-
<p>Title: National-to-Tactical Payload Integration</p> <p align="right">Articles:</p> <p>Description: Develop capability integrating sensor payload processing, communications, and cryptographic security within a reconfigurable mission package for all unmanned, manned, and unattended ISR platforms (air, surface, subsurface). SRP SWAP offers several orders of magnitude less Space, Weight and Power (SWaP).</p> <p>FY 2014 Accomplishments:</p>	0.600	0.600	0.500	-	0.500
	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605867N / <i>Space & Elec War Surv/ Recon</i>	Project (Number/Name) 1034 / <i>TAC SAT Recon Office</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Additional details with respect to this line item are held at a higher classification. FY 2015 Plans: Additional details with respect to this line item are held at a higher classification. FY 2016 Base Plans: Additional details with respect to this line item are held at a higher classification. FY 2016 OCO Plans: N/A					
Title: Precision Fires & Geolocation Description: Support and improve the interoperation of national and tactical sensor systems to perform precision geolocation of SIGINT related emitters. Improve the timely and efficient use of tactical imagery to support precision strike targeting and imagery analysis. Improve precision strike targeting through the use of Advanced NTM Imagery. FY 2014 Accomplishments: Additional details with respect to this line item are held at a higher classification. FY 2015 Plans: Additional details with respect to this line item are held at a higher classification. FY 2016 Base Plans: Additional details with respect to this line item are held at a higher classification. FY 2016 OCO Plans: N/A	0.500 -	0.500 -	0.500 -	- -	0.500 -
Articles:					
Accomplishments/Planned Programs Subtotals	7.134	8.325	6.519	-	6.519

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

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605867N / <i>Space & Elec War Surv/ Recon</i>	Project (Number/Name) 1034 / <i>TAC SAT Recon Office</i>

D. Acquisition Strategy

Not Applicable

E. Performance Metrics

Not Applicable

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605873M / <i>Marine Corps Program Wide Supt</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	26.832	17.849	13.649	-	13.649	22.536	17.959	20.971	21.408	Continuing	Continuing
0030: <i>Studies & Analysis/MC</i>	0.000	8.431	4.734	1.269	-	1.269	8.077	3.401	5.055	5.161	Continuing	Continuing
0033: <i>OT&E Support</i>	0.000	10.852	11.866	12.035	-	12.035	12.308	12.576	14.306	14.615	Continuing	Continuing
2330: <i>Chem Bio Consequence Mgmt</i>	0.000	4.126	1.249	0.345	-	0.345	2.151	1.982	1.610	1.632	Continuing	Continuing
2930: <i>Phase 0 Activities</i>	0.000	3.423	-	-	-	-	-	-	-	-	-	3.423

Note

Project 2930 Phase 0 Activities (Phase A) has been terminated and does not have funding beyond FY2014.

A. Mission Description and Budget Item Justification

This program element (PE) provides the analytical foundation for the Marine Corps Studies System (MCSS), including mandated Mission Area Analyses and Cost and Operational Effectiveness Analyses. The MCSS is the front end of the Marine Corps' acquisition system. This PE also supports the material acquisition process as follows: managing the Marine Corps Operational Test and Evaluations (OT&E); providing Chem Bio Consequence Management of capabilities for Weapons of Mass Destruction (WMD) incident response forces; and conducting Phase A activities to investigate potential material solutions that validate needs, program costs, business decisions, and prevent undue delays in pursuing priority requirements.

B. Program Change Summary (\$ in Millions)

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	24.054	17.866	18.768	-	18.768
Current President's Budget	26.832	17.849	13.649	-	13.649
Total Adjustments	2.778	-0.017	-5.119	-	-5.119
• Congressional General Reductions	-	-0.017			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.401	-			
• SBIR/STTR Transfer	-0.624	-			
• Rate/Misc Adjustments	0.001	-	-5.119	-	-5.119

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605873M / <i>Marine Corps Program Wide Supt</i>	
<u>Change Summary Explanation</u> The FY 2016 funding request was reduced by \$4.967M to account for the availability of prior year execution balances. The funding decrease from FY15 to FY16 reflects re-phasing of development funds to better align with revised program development schedules.		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt				Project (Number/Name) 0030 / Studies & Analysis/MC			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0030: <i>Studies & Analysis/MC</i>	-	8.431	4.734	1.269	-	1.269	8.077	3.401	5.055	5.161	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Operations Analysis Division (OAD) is the Marine Corps delegated authority for operations research, analytic support, and studies management. It provides critical support to the operating forces and the Combat Development System by blending a comprehensive understanding of military operations with advanced analytic and decision-making tools. Analyses include operations research methodologies such as statistical analysis, multi-objective decision methods, optimization, cost analysis, and a wide range of computer-based models and combat simulations. OAD analysts often develop novel tools and solution methodologies to accomplish the mission. Recent innovations in analysis of amphibious operations, Irregular Warfare (IW), and Counter-Improvised Explosive Device (C-IED) serve as examples of OAD expanding the state-of-the-art in operations research methods. These tools are employed to assist the Commanding General (CG), Marine Corps Combat Development Command (MCCDC) in his mission of creating and maintaining combat-ready Marine Air Ground Task Force (MAGTFs). OAD is also the Marine Corps authority on previous analytical work done throughout the Joint Analytical Community, and leverages emerging methods and findings to solve problems facing the Corps. The division's primary mission is to support decisions pertaining to weapon systems, strategic personnel and training management decisions, equipment acquisition, and resource allocation.

Operations Analysis Division(OAD), Current Operations Analysis and Support Team (COAST) is responsible for providing deployed on site professional operations analysis support to Regional Command Southwest C-5 Assessments and the Combined Joint Task Force Horn of Africa CJ-3/5/7 Assessments teams in Afghanistan and Djibouti, respectively. MCSS is currently examining the Pacific theater for analytical holes that could and should be filled by the professional research analysts. The decrease from FY15 to FY16 reflects re-phasing of research efforts to better align with revised program schedules.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Studies & Analysis/MC	8.431	4.734	1.269	-	1.269
Articles:	-	-	-	-	-
Description: As established and directed under Marine Corps Order 3902.1D, the Marine Corps Studies System (MCSS), assigned solely to Operations Analysis Division (OAD), Marine Corps Combat Development Command, provides research and analyses to ensure a greater understanding of issues and alternatives concerning organizations, tactics, doctrine, policies, force plans, strategies, procedures, intelligence, weapon selection, systems' programs and resource allocation. In the MCSS, these topics are treated in both the Service and Joint contexts. Using the MCSS, the Marine Corps nominates, approves, commences, manages and distributes the resultant analytical products. MCSS study and analysis nominations are evaluated and selected on a quarterly basis. Research conducted produces comprehensive and integrated analyses aligned to Senior Leadership's					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605873M / <i>Marine Corps Program Wide Supt</i>	Project (Number/Name) 0030 / <i>Studies & Analysis/MC</i>

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>requirements and decision timelines. A "call" for studies occurs quarterly and is targeted to a particular audience that understands USMC current and future mission requirements and the need for the comprehensive analyses that meet the Commandant's Strategic Goals, saves lives, and utilizes funds efficiently.</p> <p>Operations Analysis Division(OAD) , Current Operations Analysis and Support Team (COAST) is responsible for providing deployed on site professional operations analysis support to Regional Command Southwest C-5 Assessments and the Combined Joint Task Force Horn of Africa CJ-3/5/7 Assessments teams in Afghanistan and Djibouti, respectively. MCSS is currently examining the Pacific theater for analytical holes that could and should be filled by the professional research analysts.</p> <p><i>FY 2014 Accomplishments:</i></p> <ul style="list-style-type: none"> -Continued Additional Phases of all efforts initiated in FY13. -Continued: Force Mobility Analysis Support Toolkit (FMAST) Phase IV: Follow-on generates notional Marine Air Ground Task Forces (MAGTFs) that are sufficiently detailed (in terms of grade, rank, and MOS) to inform Table of Organization and Equipment Change Requests (TOECRs) to the Marine Corps' Total Force Structure; explicitly maps the elements of notional MAGTFs based on the 2017 MEB to the Total Force Structure; objectively and accurately evaluates the Marine Corps' capacity to project force in terms of the supply and demand for military personnel and equipment; and allows the Marine Corps to measure, with unprecedented accuracy, the degree to which its Total Force Structure is in harmony with its national security obligations. -Continued: Aligning Readiness Reporting and Force Sourcing Methodologies: The goal of this study is to review existing service readiness reporting policy in order to ensure alignment with other force management functions and influence resource allocation within the operating force. -Continued: Amphibious Lift Support to the USMC: Determine whether future amphibious lift will be able to support Marine Corps requirements. -Continued: Amphibious Shipping Availability Risk Assessment Follow On: The goal of this follow on study is to extend the evaluation of operational risk in view of the anticipated ALT POM 15 reductions. 					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Continued: An Analytical Study of USN's Amphibious Ship Capacity compared to USMC's Operational/Training Demand: To provide an analytical overview of USN's capacity to consistently provide amphibious shipping in support of Marine Corps training/operational demand.					
-Continued: Analysis of Alternative Operational Lift in Support of Marine Expeditionary Brigade (MEB) Missions: The study will examine the feasibility and define the concept of operations (CONOPS) of employing alternative operational lift assets in support of 1st Marine Expeditionary Brigade (MEB) operations across the range of military operations (ROMO).					
-Continued: Cost Comparison of Full versus Partial Reset of Ground Equipment Returning from OEF: The goal of the research is to examine long-run cost benefit of performing expensive reset maintenance ("zero miles/zero hours" program) on United States Marine Corps (USMC) ground equipment returning from Operation Enduring Freedom (OEF).					
-Continued: Effects of Increased Equipment Footprint: Determine whether the Marine Corps' expeditionary capability is being degraded, and if so, the extent of that degradation, due to the increased equipment footprint of the Operating Forces.					
-Continued: Integrating Women into the Infantry: Assess and analyze the full scope of the impacts of integrating women into the Infantry.					
-Continued: Marine Corps Chemical, Biological Radiological and Nuclear (CBRN) Defense Consumable Equipment and Medicants Requirement Study: This study should build upon the late 2012 study by evaluating biological weapons effects, using same scenario to determine CBRN equipment consumption rates for expendable CBRND equipment.					
-Continued: Preparing for the next natural disaster in Okinawa: The purpose of this study is to examine USMC coordination with the other U.S. forces on Okinawa, the Japan Self Defense Force (JSDF), Japan Coast Guard, and representatives from local communities on Okinawa in the aftermath of a natural disaster.					
-Continued: Right Sizing Ground Simulation based Training Capabilities: Assess the Marine Corps' ground simulation based training capabilities in order to influence policy regarding the mix of live and simulation based training that effectively trains to standard while optimizing costs.					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Initiated: Modeling Simulation and Analysis Toolkit (MSAT): Multi-functional area task supports Marine Corps Expeditionary Energy Office - continued refinement, alignment and application of MAGTF Power and Energy Model (MPEM) efforts associated with MCO-3900.19, Expeditionary Force 21. Marine Corps Force Integration Program (MCFIP) providing analytic support capabilities, seamless integration of all areas of study by assessing methodologies, capabilities, core competencies, providing research and database storage for the collaboration required for the study of integrating women into previously closed opportunities within the Marine Corps. "Red Team" analytical support team study methodology and procedures to ensure all aspects of the Marine Corps Force Integration Plan are suitable for review at the highest levels of government. The team should consist of high level personnel experienced in policy development and strategic analysis. Analytical and statistical support to the working with the Marine Corps Combat Development Command/Operations Analysis Division (MCCDC/OAD) in the conduct of an experiment to determine the effectiveness of combat units that are partially populated with female Marines.</p> <p>-Initiated: Evaluate Marine Corps Forces Special Operations Command's (MARSOC's) Quality Traits (Integrity, Effective Intelligence, Adaptability, Initiative, Determination, Dependability, Teamwork, Interpersonal Skills, Stress Tolerance and Physical Ability) currently used for selection against performance in the field by Multi-dimensional Operators (MDOs) to determine if these traits, as currently evaluated and measured, are tied to success in the field.</p> <p>-Initiated: Understanding "Assured Access" Implications in Three Marine Expeditionary Forces (III MEF). RAND. Provide III MEF with a systematic approach that can aid in determining Phase 0 (peacetime) force allocations for theater security engagement activities in response to requests for USMC forces by Marine Forces Pacific (MARFORPAC) and United States Pacific Command (USPACOM). Study places less emphasis on Europe and greater concentration on the Asia-Pacific region.</p> <p>-Initiated: As directed by MROC 3902.1D all approved second and third quarter FY14 studies and Ad hoc studies as directed by the Marine Corps Commandant, Assistant Commandant and Unit Commanders as well as Office of the Secretary of Defense and Joint Chiefs of Staff.</p> <p>-Initiated: Marine Corps Study System Program Assessment Follow-On : Improve study repository process inconsistencies, process gaps, and process duplications to include: data storage, data manipulation, data</p>					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>access, data searching, data security, data reporting, nomination handling, manpower utilization, and Standard Operating Procedure (SOP) effectiveness.</p> <p>-Initiated: Marine Corps Force Integration Plan (MCFIP): MCFIP consists of four lines of effort (1) Exception to Policy, (2) Expanded Entry Level Training. (3) Military Operational Speciality Opening and (4) Establishment of a Ground Combat Element (GCE) Experimental Task Force in accordance with OSD direction to fully implement a Women in Infantry Program by 2016.</p> <p>FY 2015 Plans:</p> <p>-Initiate efforts to refocus, redefine and conduct increased operational and strategic study and analyses efforts in FY15 as a result of emerging unrest and terrorist activities in the Pacific (MARFOR PAC), Horn of Africa (HOA), African Command (AFRICOM), and the Middle East (MARFOR CENT). Analysis provided is crucial to Commands managing operational and manpower resources under future budget constraints.</p> <p>-Continue: Modeling Simulation and Analysis Toolkit (MSAT): Multi-functional area task supports Marine Corps Expeditionary Energy Office - continued refinement, alignment and application of MAGTF Power and Energy Model (MPEM) efforts associated with MCO-3900.19, Expeditionary Force 21. Marine Corps Force Integration Program (MCFIP) providing analytic support capabilities, seamless integration of all areas of study by assessing methodologies, capabilities, core competencies, providing research and database storage for the collaboration required for the study of integrating women into previously closed opportunities within the Marine Corps. "Red Team" analytical support team study methodology and procedures to ensure all aspects of the Marine Corps Force Integration Plan are suitable for review at the highest levels of government. The team should consist of high level personnel experienced in policy development and strategic analysis. Analytical and statistical support to the working with the Marine Corps Combat Development Command/Operations Analysis Division (MCCDC/OAD) in the conduct of an experiment to determine the effectiveness of combat units that are partially populated with female Marines.</p> <p>-Continue: Marine Corps Force Integration Plan (MCFIP): MCFIP consists of four lines of effort (1) Exception to Policy, (2) Expanded Entry Level Training. (3) Military Operational Speciality Opening and (4) Establishment of a Ground Combat Element (GCE) Experimental Task Force in accordance with OSD direction to fully implement a Women in Infantry Program by 2016.</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>-Initiate: Operational Energy Capabilities Improvement Fund (OECIF):Institutionalized Analytical Process for Providing a Campaign-level Perspective on Operational Energy. In concert with the Navy and in alignment with its Cooperative Strategy for 21st Century Seapower, the Deputy Commandant for Combat Development and Integration (DC, CD&I) is pursuing Expeditionary Force 21 through a plan and a process that seeks to enhance and refine the ability of the Navy-Marine Corps team as a whole to conduct amphibious operations in anti-access/area denial (A2D2) environments and perform littoral maneuver to effectively apply expeditionary combat power ashore. These capabilities are critical elements of U.S. military power, particularly in the Pacific Theater.</p> <p>- Initiate: Integrating Space Systems Operations at the Operational Level. The USMC has only 13 billets for NPS-Objectives if this effort: (1) Identify how to integrate space systems operations at the MEF level both in garrison and while forward-deployed.(2) Provide insight into how space considerations impact across the range of operations that the Marine Corps.(3) Provide a framework for incorporating space considerations into MEF-level operations trained Space Systems Operations Officers, creating a small nucleus of space operations expertise across the Corps.</p> <p>- Initiate: Force Mobility Analysis Support Tool Geospatial Problem Synthesis (FMAST GPS): To enhance the geospatial dimensions of FMAST to better capture time and space barriers that the Marine Corps must overcome through force laydown, positioning of assets, and the employment of inter- and intra-theater lift capabilities.</p> <p>-Initiate: Studies in formulation: Kinetic Activity and other events over time and space; Retrograde and redeployment modeling and simulation; Host nation activity; Counter-narcotics event tracking; Personnel status tracking and analysis and military force cap; Equipment effectiveness, such as IED Detector Dogs, Holley Stick, Ground Based Operational Surveillance, Mine Rollers; Unit effectiveness, specifically pre-deployment trainingMEDEVAC placement and casualty analysis; Explosive Ordinance Disposal Team usage; Queuing at entry control points. Removal of artificial barriers to the service of women in the Armed Forces. Support efforts of AfriCom and MARFOC Pacific as required.</p> <p>-Initiate: Historical Amphibious Ship maintenance duration, and upgrade to ExWar Ship Employment Model: Characterize and quantify the effect unplanned/unscheduled L-Class maintenance availability duration extensions have on the ability to form and source ARG/MEUs and independent deployers in response to Combatant Commander Demand. A companion objective of this study is to modify the ExWar-SEM to</p>					

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>incorporate these effects and run in a stochastic mode thus increasing the fidelity of force generation projections and the range of output information available to decision makers.</p> <p>-Initiate: TPS-80 (G/ATOR) Theater Ballistic Missile Detection Capability Study: Model the RCS of selected threat missiles as a function of trajectory to determine the effect on radar detection capabilities. Determine the maximum potential range and altitude at which the TPS-80 could detect/track TBMs without modifying the current frequency operating band or physical characteristics of the antenna aperture and compare and contrast capabilities of TPS-80 (programmed), TPS-80 (with upgrades), and TPS-59.</p> <p>-Initiate: Planned Study Areas Include: Combined Joint Task Forces, Horn of Africa (CJTF-HOA) Theater Security Cooperation (TSC) mission data collection and assessment support; East Africa Campaign Plan (EACP) assessments support; AFRICOM Theater Campaign Plan assessments support; Effectiveness analysis of the Improvised Explosive Device (IED) database; HOA Auxiliary Force Commander; Coordination with Marine Forces Africa liaison element at CJTF-HOA; Assessments Section lead for the CJTF-HOA Internal Organizational Inspection Program; Support of the Somalia Operational Planning Team; Realignment of Marine Corps Forces in Asia-Pacific Region; Analyses of the mental, behavioral and physiological challenges facing members of special ops suicide and psychological risks.</p> <p>-Continue efforts initiated in FY14 and initiate new efforts as approved by the Marine Corps Call For Studies. Continue all efforts in support of the Women in Infantry initiative.</p> <p>FY 2016 Base Plans:</p> <p>-Continue: All initiated FY 2015 efforts. Evaluate, quantify, and report the operational effectiveness, suitability, and survivability of planned operations and acquisitions to meet warfighter capabilities while operating within a fiscally constrained environment, efforts will be focused on studies and analyses that keep military personnel, equipment, and technology superior to the emerging threat. Three goals: mitigate new and emerging threat capabilities, affordably enable new or extended capabilities in existing and new platforms, and develop technology that exceeds the enemy's capabilities.</p> <p>-Initiate: As directed by MROC 3902.1D all approved second and third quarter FY15 studies and Ad hoc studies as directed by the Marine Corps Commandant, Assistant Commandant and Unit Commanders as well as Office of the Secretary of Defense and Joint Chiefs of Staff.</p> <p>FY 2016 OCO Plans:</p>					

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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605873M / <i>Marine Corps Program Wide Supt</i>	Project (Number/Name) 0030 / <i>Studies & Analysis/MC</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	8.431	4.734	1.269	-	1.269

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Provide analytical documentation and support to decision makers for resolution of current and future operational and logistical issues identified by operating forces. Utilize OAD Subject Matter Experts (SME), Marine Corps University, and Naval Post Graduate School to conduct studies and analysis projects in basic and applied research and advanced technology development. Develop and maintain a current operations analysis reachback network with other government and Coalition agencies such as Center for Army Analysis, JIEDDO J9, Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC) program, The Technical Cooperation Program (TTCP), NATO Systems Analysis & Studies (SAS), etc.

Analysis results are employed to assist the Commandant, Assistant Commandants, Unit Commanders and the Commanding General (CG), Combat Integration Division, Marine Corps Combat Development Command (CD&I, MCCDC) with the mission; a continuous program of mission area analyses, formal studies, rapid response analytic efforts, and the supervision of research projects fulfill this mission. OAD provides combat analyst assessment teams for national emergencies and contingencies; is responsible for initiating, conducting or supervising all official Marine Corps studies; maintaining official Marine Corps scenarios; and participating in and reviewing the efforts of external activities such as the Office of Secretary of Defense and the Joint Staff. Baseline analysis supports Mission Capability Packages (MCPs), Investment Strategy, Joint Capability Areas (JCAs), and the Naval Strategic Plan providing the DoN assessments for future force development. Operations data and analysis support provided to USMC organizations -- MCCDC, Marine Corps Intelligence Activity (MCIA), Marine Corps Warfighting Lab (MCWL), Marine Corps Central Command (MARCENT), Systems Command, Training and Education Command (TECOM). The Modeling and Simulation Analytical Toolkit (MSAT) work is to support analysis involving irregular warfare missions executed in a future Defense Planning Guidance scenario. These missions include information operations, offensive tactical and operational CYBER operations, foreign internal defense, special direct action arising from intelligence gathered from HUMINT and technical (SIGINT, CYBER) means.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt	Project (Number/Name) 0033 / OT&E Support
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0033: OT&E Support	-	10.852	11.866	12.035	-	12.035	12.308	12.576	14.306	14.615	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Marine Corps Operational Test and Evaluation Activity (MCOTEA) supports the material acquisition process by managing the Marine Corps Operational Test (OT) programs for Acquisition Categories (ACAT) I through ACAT IV (less OT of manned aircraft) and performs other functions that may be directed by the Commandant of the Marine Corps. The primary purpose of Operational Test and Evaluation (OT&E) is to provide information to the Milestone Decision Authority (MDA) regarding the Operational Effectiveness (OE) and Operational Suitability (OS) of the system addressed at a decision point. MCOTEA must ensure that the Marines in the Operating Forces receive the very best possible equipment and support. MCOTEA must also ensure each system proposed for acquisition is tested adequately, evaluated objectively and reported independently.

Marine Corps Operational Test and Evaluation Activity (MCOTEA) is the only unit that provides the Marine Corps with required operational test and evaluation (OT&E) capability, ensuring the Marine Corps is compliant with laws and regulations, and ensuring that training and equipment are operationally effective, relevant, and suitable. Additionally, MCOTEA's early involvement, coordination, and oversight in developmental testing and evaluation of new combat and combat support systems ensures that our Marines are the best trained, and have the best equipment, with the lowest test costs for taxpayers. Finally, MCOTEA's support of rapid acquisitions ensures that Marines in the fight are supported with the newest and most advanced equipment and that the Marine Corps is compliant with regulations.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MCOTEA	8.555	11.866	12.035	-	12.035
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
Continued support of major programs by this account to include the Enhanced Combat Helmet (ECH), Shoulder-Launched Multipurpose Assault Weapon Mod 02, (SMAW M2), Light Assault Vehicle-Anti-Tank Modernization (LAV-ATM), Joint High Speed Vessel (JHSV), Joint Light Tactical Vehicle (JLTV), and Ground/Air Task Oriented Radar (G/ATOR). MCOTEA funding increased in the proposed budget for FY 2014 to support the transition to an inherently governmental workforce with planned growth of 22 FTEs in technical and analytical skill sets.					
FY 2015 Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Continue evaluating, quantifying, and reporting the operational effectiveness, suitability, and survivability of planned acquisitions to meet warfighter capabilities and providing Milestone Decision Authority (MDAs) with a comprehensive understanding of operational risk associated with ACAT programs.</p> <p>FY 2016 Base Plans: Continue with evaluating, quantifying and reporting on 15 Programs for the operational effectiveness, suitability and survivability of planned acquisitions to meet warfighting capabilities and will be providing Milestone Decision Authority (MDAs) to programs that are inherently governmental and a comprehensive understanding of operational risk associated with ACAT programs.</p> <p>FY 2016 OCO Plans: N/A</p>					
<p>Title: MCOTEA ENHANCEMENT</p> <p align="right">Articles:</p> <p>FY 2014 Accomplishments: Enhancement reflected compliance with Office of Federal Procurement (OFPP) Policy Letter 11-01 by preserving inherently governmental and critical Operational Test & Evaluation (OT&E) capability. This enhancement also captured a significant portion of direct OT&E costs which were previously reflected in program exhibits. As a result, program offices will avoid a significant portion of these direct OT&E costs through the FYDP.</p> <p>FY 2015 Plans: N/A</p> <p>FY 2016 Base Plans: N/A</p> <p>FY 2016 OCO Plans: N/A</p>	2.297	-	-	-	-
Accomplishments/Planned Programs Subtotals	10.852	11.866	12.035	-	12.035

C. Other Program Funding Summary (\$ in Millions) N/A
Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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D. Acquisition Strategy N/A		
E. Performance Metrics N/A		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt				Project (Number/Name) 2330 / Chem Bio Consequence Mgmt			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2330: Chem Bio Consequence Mgmt	-	4.126	1.249	0.345	-	0.345	2.151	1.982	1.610	1.632	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Family of Incident Response Systems (FIRS) consists of equipment, systems, and services designed to provide Weapons of Mass Destruction (WMD) incident response forces the capabilities needed to effectively respond to a terrorist attack using Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE). FIRS meets the mission requirements for the detection; mass casualty decontamination; force protection; responder inter-agency interoperability; Command, Control, Communications, Computers & Intelligence (C4I); urban search and rescue; medical and general support requirements needed by these forces to mitigate the effects of a CBRNE terrorist attack. FIRS relies primarily on Commercial Off-The-Shelf/Non-Developmental Items (COTS/NDI) equipment and systems that meet the particular mission requirements of Consequence Management (CM). Nuclear, Biological, and Chemical (NBC) systems are adopted if they meet the CM mission requirements. FIRS Research & Development effort allows the program to keep abreast of emerging technologies in the commercial sector and address operational capability gaps that cannot be met by commercial items.

The decrease in funding from FY15 to FY16 reflects the re-phasing of development funds to better align with the revised program development schedule.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: FIRS: Reconnaissance Mission Area.	2.795	0.382	0.145	-	0.145
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
Efforts included plans to test next generation area detection, to include:					
-Completed verification testing of the person portable Gas Chromatograph Mass Spectrometer					
-Completed verification comparison testing of Rae Systems Arearae and Mine Safety Appliance Safesite					
-Initiated verification testing for personal protective, detection, identification, and decontamination material solutions					
FY 2015 Plans:					
-Initiate limited verification testing for the Mobile Lab Upgrade					
-Initiate Cascade System refresh					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt	Project (Number/Name) 2330 / Chem Bio Consequence Mgmt

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Continue verification testing for personal protective, detection, identification, and decontamination material solutions FY 2016 Base Plans: -Continue verification testing for personal protective, detection, identification, and decontamination material solutions FY 2016 OCO Plans: N/A					
Title: C4I Mission Area Articles: - FY 2014 Accomplishments: Completed Landing Craft Air Cushion (LCAC) testing for the Unified Command Suite Variant 2 Upgrade. FY 2015 Plans: N/A FY 2016 Base Plans: N/A FY 2016 OCO Plans: N/A	0.050	-	-	-	-
Title: FIRS: Force Protection Mission Area Articles: - FY 2014 Accomplishments: -Initiated verification testing of the new positive/negative pressure adaptable mask (XM55) -Initiated the verification and interface testing of commercially available Self-Contained Breathing Apparatus (SCBA) -Initiated interface testing of new National Fire Protection Association (NFPA) Class 1 ensemble -Completed prototype development testing of new chemical, biological glove -Continued canister gas life testing on newly released Chem-Bio Filter FY 2015 Plans: -Continue verification testing of the new positive/negative pressure adaptable mask (XM55) -Complete interface testing of commercially available Self-Contained Breathing Apparatus (SCBA)	1.281	0.867	0.200	-	0.200

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Complete interface testing of new NFPA Class 1 ensemble -Complete canister gas life testing on newly released Chem-Bio Filter -Initiate verification and interface testing of new chemical, biological sock -Initiate Live Agent Purchase testing FY 2016 Base Plans: -Continue Live Agent Purchase testing -Complete verification testing of the new positive/negative pressure adaptable mask (XM55) FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	4.126	1.249	0.345	-	0.345

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt	Project (Number/Name) 2930 / Phase 0 Activities
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2930: Phase 0 Activities	-	3.423	-	-	-	-	-	-	-	-	-	3.423
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Project 2930 Phase 0 Activities (Phase A) has been terminated. FY2014 is the last year of funding provided for this program.

A. Mission Description and Budget Item Justification

Phase A (previously known as Phase 0) Activities consist of a series of interrelated activities of the acquisition process designed to investigate potential material solutions to validate needs, estimate program costs, support sound business decisions, correct inherent disconnects between the Programming, Planning, Budgeting and Execution (PPBE) cycle, the Combat Development and Acquisition Management Systems, and prevent undue delays in pursuing priority requirements. The process supports Commanding General (CG), MCCDC and Commander, Marine Corps Systems Command (COMMARCORSSYSCOM) by providing funding to priority programs, thus allowing for the examination of concepts and alternatives to support an orderly transition from requirements to initiatives and initiatives to funded programs. This will permit the POM process to focus on activities of evaluating, prioritizing and integrating rather than defining and resolving raw, immature requirements.

Phase A activities "jump start" high priority programs of the acquisition process. Furthermore, since 70% of a program's life cycle cost is determined during Phase A, this initiative puts resources to work where the return on investment is the greatest. Typical studies conducted on Phase A activities include, but are not limited to Market Surveys, Business Case Analysis (BCA), Cost as an Independent Variable (CAIV) analysis, Life Cycle Cost Estimates, Cost Comparison Analysis, Acquisition Strategies, and Trade-off Analysis in lieu of an Analysis of Alternatives.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: *Phase A Activities	3.423	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
-Initiated, assisted and completed Phase A activities of high priority programs during their concept refinement and in some cases their technology development phase in the areas of Business Case Analysis, Trade Studies, Economic Analysis, Life Cycle Cost Estimates and Market Research Studies in support of, but not limited to, the following efforts: Remote Video Viewing; Ground Force Robotics; Electronics Maintenance Support; Alternative Armor for Joint Weight Tactical Vehicle and Medium Fleet Transport; and Joint Battle Command and Control.					
FY 2015 Plans:					
N/A					
FY 2016 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605873M / <i>Marine Corps Program</i> <i>Wide Supt</i>	Project (Number/Name) 2930 / <i>Phase 0 Activities</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
FY 2016 OCO Plans:					
N/A					
Accomplishments/Planned Programs Subtotals	3.423	-	-	-	-

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

Remarks

D. Acquisition Strategy
N/A

E. Performance Metrics
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0909999N / <i>Cancelled Account Adjustments</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	1.209	-	-	-	-	-	-	-	-	-	1.209
0000: <i>UNDIST</i>	0.000	1.193	-	-	-	-	-	-	-	-	-	1.193
9000: <i>Cancelled Account Adjustment</i>	0.000	0.016	-	-	-	-	-	-	-	-	-	0.016

A. Mission Description and Budget Item Justification

Funding is to reimburse the Department of Treasury for cancelled account liabilities.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	-	-	-	-	-
Current President's Budget	1.209	-	-	-	-
Total Adjustments	1.209	-	-	-	-
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	1.209	-	-	-	-
• SBIR/STTR Transfer	-	-	-	-	-

Change Summary Explanation

Technical: Not applicable.
 Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0909999N / <i>Cancelled Account Adjustments</i>	Project (Number/Name) 0000 / <i>UNDIST</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0000: <i>UNDIST</i>	-	1.193	-	-	-	-	-	-	-	-	-	1.193
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding is to reimburse the Department of Treasury for a cancelled account liability.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: New Accomplishment/Planned Program Entry	1.193	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Funding is to reimburse Department of the Treasury for cancelled account liabilities.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.193	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy **Date:** February 2015

Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0909999N / <i>Cancelled Account Adjustments</i>	Project (Number/Name) 9000 / <i>Cancelled Account Adjustment</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9000: <i>Cancelled Account Adjustment</i>	-	0.016	-	-	-	-	-	-	-	-	-	0.016
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding is to reimburse the Department of Treasury for a cancelled account liability.

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

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: New Accomplishment/Planned Program Entry	0.016	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Funding is to reimburse the Department of Treasury for cancelled account liabilities.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.016	-	-	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Not applicable.

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