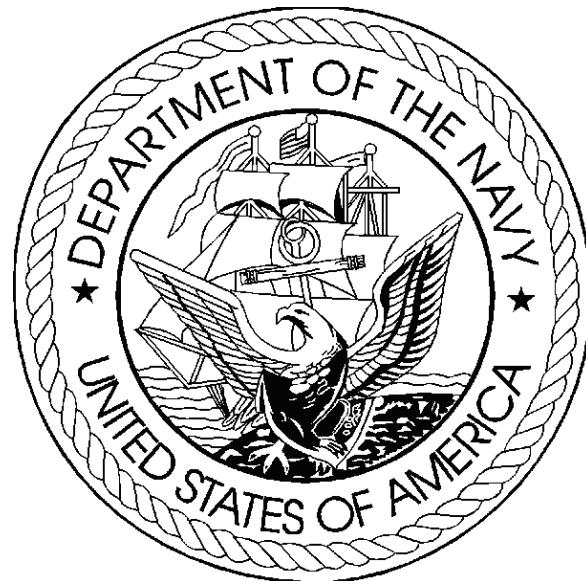


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**Department of Defense  
Fiscal Year (FY) 2017 President's Budget Submission**

February 2016



**Navy**

*Justification Book Volume 4 of 5*

***Research, Development, Test & Evaluation, Navy***  
**Budget Activity 6**

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The estimated cost for this report for the Department of the Navy (DON) is \$94,162.

The estimated total cost for supporting the DON budget justification material is approximately \$1,834,000 for the 2016 fiscal year. This includes \$75,200 in supplies and \$1,758,800 in labor.

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Navy • President's Budget Submission FY 2017 • RDT&E Program

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Navy • President's Budget Submission FY 2017 • RDT&E Program

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## **Department of Defense Appropriations Act, 2017**

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### **Research, Development, Test and Evaluation, Navy**

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, \$17,354,624,000, to remain available for obligation until September 30, 2017.

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Department of Defense  
 FY 2017 President's Budget  
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 Total Obligational Authority  
 (Dollars in Thousands)

14 Jan 2016

Appropriation	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Research, Development, Test & Eval, Navy	16,067,423	18,111,247	35,747	18,146,994	17,276,301	78,323	17,354,624
Total Research, Development, Test & Evaluation	16,067,423	18,111,247	35,747	18,146,994	17,276,301	78,323	17,354,624

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Department of Defense  
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 (Dollars in Thousands)

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Summary Recap of Budget Activities	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Basic Research	634,410	671,875		671,875	542,970		542,970
Applied Research	855,861	965,872		965,872	861,151		861,151
Advanced Technology Development	625,631	696,226		696,226	736,988		736,988
Advanced Component Development & Prototypes	4,357,168	5,022,272		5,022,272	4,662,867	41,897	4,704,764
System Development & Demonstration	5,119,875	6,274,796		6,274,796	6,025,655		6,025,655
Management Support	1,278,299	918,223		918,223	853,736		853,736
Operational Systems Development	3,196,179	3,561,983	35,747	3,597,730	3,592,934	36,426	3,629,360
Total Research, Development, Test & Evaluation	16,067,423	18,111,247	35,747	18,146,994	17,276,301	78,323	17,354,624
Summary Recap of FYDP Programs							
Strategic Forces	140,959	164,143		164,143	196,948		196,948
General Purpose Forces	1,292,908	1,326,178		1,326,178	1,447,043		1,447,043
Intelligence and Communications	754,576	719,253		719,253	713,042		713,042
Research and Development	12,620,194	14,380,627		14,380,627	13,638,282	41,897	13,680,179
Central Supply and Maintenance	60,896	28,506		28,506	52,526		52,526
Administration and Associated Activities	137	355		355			
Classified Programs	1,197,753	1,492,185	35,747	1,527,932	1,228,460	36,426	1,264,886
Total Research, Development, Test & Evaluation	16,067,423	18,111,247	35,747	18,146,994	17,276,301	78,323	17,354,624

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14 Jan 2016

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Management Support	1,278,299	918,223		918,223	853,736		853,736
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Total Research, Development, Test & Evaluation	16,067,423	18,111,247	35,747	18,146,994	17,276,301	78,323	17,354,624

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Department of the Navy  
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 Total Obligational Authority  
 (Dollars in Thousands)

14 Jan 2016

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

Program Line Element No	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total	FY 2017 Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	S e c
Number	---	---	-----	-----	-----	-----	-----	-----	-----	-----	-
1 0601103N	University Research Initiatives	01	129,331	146,196		146,196		101,714		101,714	U
2 0601152N	In-House Laboratory Independent Research	01	18,997	19,126		19,126		18,508		18,508	U
3 0601153N	Defense Research Sciences	01	486,082	506,553		506,553		422,748		422,748	U
	Basic Research		634,410	671,875		671,875		542,970		542,970	
4 0602114N	Power Projection Applied Research	02	94,944	87,223		87,223		41,371		41,371	U
5 0602123N	Force Protection Applied Research	02	159,556	178,616		178,616		158,745		158,745	U
6 0602131M	Marine Corps Landing Force Technology	02	44,629	51,643		51,643		51,590		51,590	U
7 0602235N	Common Picture Applied Research	02	44,874	42,538		42,538		41,185		41,185	U
8 0602236N	Warfighter Sustainment Applied Research	02	46,202	45,047		45,047		45,467		45,467	U
9 0602271N	Electromagnetic Systems Applied Research	02	102,750	114,644		114,644		118,941		118,941	U
10 0602435N	Ocean Warfighting Environment Applied Research	02	62,643	72,252		72,252		42,618		42,618	U
11 0602651M	Joint Non-Lethal Weapons Applied Research	02	5,728	6,114		6,114		6,327		6,327	U
12 0602747N	Undersea Warfare Applied Research	02	88,204	150,839		150,839		126,313		126,313	U
13 0602750N	Future Naval Capabilities Applied Research	02	171,992	179,538		179,538		165,103		165,103	U
14 0602782N	Mine and Expeditionary Warfare Applied Research	02	34,339	37,418		37,418		33,916		33,916	U
15 0602898N	Science and Technology Management - ONR Headquarters	02						29,575		29,575	U
	Applied Research		855,861	965,872		965,872		861,151		861,151	

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

Program Line Element No	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total	FY 2017 Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	S e c -
Number	-----	---	-----	-----	-----	-----	-----	-----	-----	-----	-
16 0603114N	Power Projection Advanced Technology	03	36,651	36,971		36,971		96,406		96,406	U
17 0603123N	Force Protection Advanced Technology	03	25,148	38,044		38,044		48,438		48,438	U
18 0603271N	Electromagnetic Systems Advanced Technology	03	62,860	34,856		34,856		26,421		26,421	U
19 0603640M	USMC Advanced Technology Demonstration (ATD)	03	125,696	131,490		131,490		140,416		140,416	U
20 0603651M	Joint Non-Lethal Weapons Technology Development	03	11,163	12,745		12,745		13,117		13,117	U
21 0603673N	Future Naval Capabilities Advanced Technology Development	03	257,806	265,562		265,562		249,092		249,092	U
22 0603680N	Manufacturing Technology Program	03		57,074		57,074		56,712		56,712	U
23 0603729N	Warfighter Protection Advanced Technology	03	39,374	36,299		36,299		4,789		4,789	U
24 0603747N	Undersea Warfare Advanced Technology	03	9,639	13,748		13,748		25,880		25,880	U
25 0603758N	Navy Warfighting Experiments and Demonstrations	03	55,363	65,946		65,946		60,550		60,550	U
26 0603782N	Mine and Expeditionary Warfare Advanced Technology	03	1,931	3,491		3,491		15,167		15,167	U
Advanced Technology Development			625,631	696,226		696,226		736,988		736,988	
27 0603207N	Air/Ocean Tactical Applications	04	39,669	37,832		37,832		48,536		48,536	U
28 0603216N	Aviation Survivability	04	4,280	10,904		10,904		5,239		5,239	U
29 0603237N	Deployable Joint Command and Control	04	2,991	3,086		3,086					U
30 0603251N	Aircraft Systems	04	14,270	26,643		26,643		1,519		1,519	U
31 0603254N	ASW Systems Development	04	7,602	5,551		5,551		7,041		7,041	U

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

Program Line Element No	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total	FY 2017 Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	S e c -
Number	---	---	-----	-----	-----	-----	-----	-----	-----	-----	-
32 0603261N	Tactical Airborne Reconnaissance	04	5,870	3,080		3,080		3,274		3,274	U
33 0603382N	Advanced Combat Systems Technology	04	1,582	1,631		1,631		57,034		57,034	U
34 0603502N	Surface and Shallow Water Mine Countermeasures	04	83,793	90,472		90,472		165,775		165,775	U
35 0603506N	Surface Ship Torpedo Defense	04	56,802	71,300		71,300		87,066		87,066	U
36 0603512N	Carrier Systems Development	04	5,954	8,348		8,348		7,605		7,605	U
37 0603525N	PILOT FISH	04	140,841	122,939		122,939		132,068		132,068	U
38 0603527N	RETRACT LARCH	04	29,725	28,803		28,803		14,546	3,907	18,453	U
39 0603536N	RETRACT JUNIPER	04	79,059	112,604		112,604		115,435		115,435	U
40 0603542N	Radiological Control	04	667	710		710		702		702	U
41 0603553N	Surface ASW	04	1,020	1,096		1,096		1,081		1,081	U
42 0603561N	Advanced Submarine System Development	04	65,913	85,834		85,834		100,565		100,565	U
43 0603562N	Submarine Tactical Warfare Systems	04	7,986	10,371		10,371		8,782		8,782	U
44 0603563N	Ship Concept Advanced Design	04	17,831	10,459		10,459		14,590		14,590	U
45 0603564N	Ship Preliminary Design & Feasibility Studies	04	8,007	3,332		3,332		15,805		15,805	U
46 0603570N	Advanced Nuclear Power Systems	04	499,961	482,040		482,040		453,313		453,313	U
47 0603573N	Advanced Surface Machinery Systems	04	20,357	24,143		24,143		36,655		36,655	U
48 0603576N	CHALK EAGLE	04	529,885	511,651		511,651		367,016		367,016	U
49 0603581N	Littoral Combat Ship (LCS)	04	80,199	91,416		91,416		51,630		51,630	U
50 0603582N	Combat System Integration	04	20,741	32,561		32,561		23,530		23,530	U
51 0603595N	Ohio Replacement	04	833,274	971,393		971,393		700,811		700,811	U

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

Program Line Element No	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total	FY 2017 Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	S e c
Number	---	---	-----	-----	-----	-----	-----	-----	-----	-----	-
52 0603596N	LCS Mission Modules	04	172,602	203,143		203,143		160,058		160,058	U
53 0603597N	Automated Test and Analysis	04	7,816	23,000		23,000					U
54 0603599N	Frigate Development	04		30,000		30,000		84,900		84,900	U
55 0603609N	Conventional Munitions	04	7,603	7,678		7,678		8,342		8,342	U
56 0603611M	Marine Corps Assault Vehicles	04	101,175	212,173		212,173		158,682		158,682	U
57 0603635M	Marine Corps Ground Combat/Support System	04	1,241	378		378		1,303		1,303	U
58 0603654N	Joint Service Explosive Ordnance Development	04	22,274	15,329		15,329		46,911		46,911	U
59 0603658N	Cooperative Engagement	04	41,158	73,786		73,786					U
60 0603713N	Ocean Engineering Technology Development	04	6,127	4,520		4,520		4,556		4,556	U
61 0603721N	Environmental Protection	04	13,200	19,289		19,289		20,343		20,343	U
62 0603724N	Navy Energy Program	04	62,412	56,391		56,391		52,479		52,479	U
63 0603725N	Facilities Improvement	04	2,588	3,726		3,726		5,458		5,458	U
64 0603734N	CHALK CORAL	04	162,900	174,771		174,771		245,860		245,860	U
65 0603739N	Navy Logistic Productivity	04	3,355	3,866		3,866		3,089		3,089	U
66 0603746N	RETRACT MAPLE	04	346,830	359,856		359,856		323,526		323,526	U
67 0603748N	LINK PLUMERIA	04	260,179	237,376		237,376		318,497		318,497	U
68 0603751N	RETRACT ELM	04	32,889	37,700		37,700		52,834		52,834	U
69 0603764N	LINK EVERGREEN	04	44,894	47,312		47,312		48,116		48,116	U
70 0603787N	Special Processes	04	24,336	17,392		17,392		13,619		13,619	U
71 0603790N	NATO Research and Development	04	8,659	8,320		8,320		9,867		9,867	U

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

Program Line Element No	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total	FY 2017 Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	S e c
Number	---	---	-----	-----	-----	-----	-----	-----	-----	-----	-
72 0603795N	Land Attack Technology	04	310	887		887		6,015		6,015	U
73 0603851M	Joint Non-Lethal Weapons Testing	04	32,955	29,444		29,444		27,904		27,904	U
74 0603860N	Joint Precision Approach and Landing Systems - Dem/Val	04	41,644	81,466		81,466		104,144		104,144	U
75 0603925N	Directed Energy and Electric Weapon Systems	04	54,154	41,730		41,730		32,700		32,700	U
76 0604112N	Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78 - 80)	04	46,308	98,105		98,105		70,528		70,528	U
77 0604122N	Remote Minehunting System (RMS)	04	20,534	17,589		17,589		3,001		3,001	U
78 0604272N	Tactical Air Directional Infrared Countermeasures (TADIRCM)	04	5,677	18,969		18,969		34,920	37,990	72,910	U
79 0604279N	ASE Self-Protection Optimization	04	5,121	7,874		7,874					U
80 0604292N	MH-XX	04	3,007	4,516		4,516		1,620		1,620	U
81 0604454N	LX (R)	04	32,522	75,486		75,486		6,354		6,354	U
82 0604536N	Advanced Undersea Prototyping	04						78,589		78,589	U
83 0604653N	Joint Counter Radio Controlled IED Electronic Warfare (JCREW)	04	14,987	3,790		3,790					U
84 0604659N	Precision Strike Weapons Development Program	04		9,595		9,595		9,910		9,910	U
85 0604707N	Space and Electronic Warfare (SEW) Architecture/Engineering Support	04	21,916	20,203		20,203		23,971		23,971	U
86 0604786N	Offensive Anti-Surface Warfare Weapon Development	04	181,719	285,849		285,849		252,409		252,409	U
87 0605812M	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	04	8,970	32,149		32,149		23,197		23,197	U

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

Program Line Element No	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	S e c -
Number	---	---	-----	-----	-----	-----	-----	-----	-----	-
88 0303354N	ASW Systems Development - MIP	04	6,495	9,835		9,835	9,110		9,110	U
89 0304270N	Electronic Warfare Development - MIP	04	332	580		580	437		437	U
	Advanced Component Development & Prototypes		4,357,168	5,022,272		5,022,272	4,662,867	41,897	4,704,764	
90 0603208N	Training System Aircraft	05	13,115	17,989		17,989	19,938		19,938	U
91 0604212N	Other Helo Development	05	34,436	11,101		11,101	6,268		6,268	U
92 0604214N	AV-8B Aircraft - Eng Dev	05	24,558	27,668		27,668	33,664		33,664	U
93 0604215N	Standards Development	05	52,842	53,049		53,049	1,300		1,300	U
94 0604216N	Multi-Mission Helicopter Upgrade Development	05	11,159	18,858		18,858	5,275		5,275	U
95 0604218N	Air/Ocean Equipment Engineering	05	2,126	4,515		4,515	3,875		3,875	U
96 0604221N	P-3 Modernization Program	05	698	1,514		1,514	1,909		1,909	U
97 0604230N	Warfare Support System	05	9,050	5,875		5,875	13,237		13,237	U
98 0604231N	Tactical Command System	05	52,287	73,533		73,533	36,323		36,323	U
99 0604234N	Advanced Hawkeye	05	171,189	217,645		217,645	363,792		363,792	U
100 0604245N	H-1 Upgrades	05	43,469	27,235		27,235	27,441		27,441	U
101 0604261N	Acoustic Search Sensors	05	24,395	31,235		31,235	34,525		34,525	U
102 0604262N	V-22A	05	50,188	76,483		76,483	174,423		174,423	U
103 0604264N	Air Crew Systems Development	05	14,503	12,665		12,665	13,577		13,577	U
104 0604269N	EA-18	05	18,653	46,921		46,921	116,761		116,761	U
105 0604270N	Electronic Warfare Development	05	27,250	20,113		20,113	48,766		48,766	U
106 0604273N	Executive Helo Development	05	356,567	507,093		507,093	338,357		338,357	U
107 0604274N	Next Generation Jammer (NGJ)	05	224,578	387,770		387,770	577,822		577,822	U

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Number	---	---	-----	-----	-----	-----	-----	-----	-----	-----	-
108 0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	6,725	24,985		24,985		2,365		2,365	U
109 0604282N	Next Generation Jammer (NGJ) Increment II	05		13,000		13,000		52,065		52,065	U
110 0604307N	Surface Combatant Combat System Engineering	05	178,430	386,576		386,576	282,764			282,764	U
111 0604311N	LPD-17 Class Systems Integration	05	363	747		747	580			580	U
112 0604329N	Small Diameter Bomb (SDB)	05	53,950	57,144		57,144	97,622			97,622	U
113 0604366N	Standard Missile Improvements	05	50,241	115,644		115,644	120,561			120,561	U
114 0604373N	Airborne MCM	05	37,831	9,647		9,647	45,622			45,622	U
115 0604376M	Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) for Aviation	05	9,219	2,778		2,778					U
116 0604378N	Naval Integrated Fire Control - Counter Air Systems Engineering	05	14,903	23,695		23,695	25,750			25,750	U
117 0604404N	Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System	05	382,542	434,699		434,699					U
118 0604501N	Advanced Above Water Sensors	05	19,320	43,914		43,914	85,868			85,868	U
119 0604503N	SSN-688 and Trident Modernization	05	70,053	109,893		109,893	117,476			117,476	U
120 0604504N	Air Control	05	28,669	57,928		57,928	47,404			47,404	U
121 0604512N	Shipboard Aviation Systems	05	120,062	120,217		120,217	112,158			112,158	U
122 0604518N	Combat Information Center Conversion	05					6,283			6,283	U
123 0604522N	Air and Missile Defense Radar (AMDR) System	05	126,525	232,677		232,677	144,395			144,395	U
124 0604558N	New Design SSN	05	85,787	157,056		157,056	113,013			113,013	U

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125 0604562N	Submarine Tactical Warfare System	05	37,768	52,713		52,713		43,160		43,160	U
126 0604567N	Ship Contract Design/ Live Fire T&E	05	39,459	38,925		38,925		65,002		65,002	U
127 0604574N	Navy Tactical Computer Resources	05	3,884	4,096		4,096		3,098		3,098	U
128 0604580N	Virginia Payload Module (VPM)	05	106,223	167,719		167,719		97,920		97,920	U
129 0604601N	Mine Development	05	10,962	15,122		15,122		10,490		10,490	U
130 0604610N	Lightweight Torpedo Development	05	39,664	43,738		43,738		20,178		20,178	U
131 0604654N	Joint Service Explosive Ordnance Development	05	8,978	8,123		8,123		7,369		7,369	U
132 0604703N	Personnel, Training, Simulation, and Human Factors	05	5,925	7,686		7,686		4,995		4,995	U
133 0604727N	Joint Standoff Weapon Systems	05	4,389	405		405		412		412	U
134 0604755N	Ship Self Defense (Detect & Control)	05	64,704	145,336		145,336		134,619		134,619	U
135 0604756N	Ship Self Defense (Engage: Hard Kill)	05	94,534	86,811		86,811		114,475		114,475	U
136 0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	107,319	105,416		105,416		114,211		114,211	U
137 0604761N	Intelligence Engineering	05	200	2,053		2,053		11,029		11,029	U
138 0604771N	Medical Development	05	26,589	25,291		25,291		9,220		9,220	U
139 0604777N	Navigation/ID System	05	28,952	32,456		32,456		42,723		42,723	U
140 0604800M	Joint Strike Fighter (JSF) - EMD	05	487,940	537,901		537,901		531,426		531,426	U
141 0604800N	Joint Strike Fighter (JSF) - EMD	05	486,978	504,736		504,736		528,716		528,716	U
142 0604810M	Joint Strike Fighter Follow On Development - Marine Corps	05	10,086	20,798		20,798		74,227		74,227	U

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143 0604810N	Joint Strike Fighter Follow On Development - Navy	05	10,302	21,200		21,200		63,387		63,387	U
144 0605013M	Information Technology Development	05	2,670	4,824		4,824		4,856		4,856	U
145 0605013N	Information Technology Development	05	55,106	85,816		85,816		97,066		97,066	U
146 0605024N	Anti-Tamper Technology Support	05						2,500		2,500	U
147 0605212N	CH-53K RDTE	05	538,192	592,317		592,317		404,810		404,810	U
148 0605215N	Mission Planning	05						33,570		33,570	U
149 0605217N	Common Avionics	05						51,599		51,599	U
150 0605220N	Ship to Shore Connector (SSC)	05	41,616	7,778		7,778		11,088		11,088	U
151 0605327N	T-AO (X)	05						1,095		1,095	U
152 0605414N	Carrier Based Aerial Refueling System (CBARS)	05						89,000		89,000	U
153 0605450N	Joint Air-to-Ground Missile (JAGM)	05	6,104	25,898		25,898		17,880		17,880	U
154 0605500N	Multi-mission Maritime Aircraft (MMA)	05	297,380	156,293		156,293		59,126		59,126	U
155 0605504N	Multi-Mission Maritime (MMA) Increment III	05		91,616		91,616		182,220		182,220	U
156 0204202N	DDG-1000	05	196,987	103,179		103,179		45,642		45,642	U
157 0303167N	Pre-Auction Spectrum Relocation Fund	05	1,569								U
158 0303267N	Auctioned Spectrum Relocation Fund	05	4,569								U
159 0304231N	Tactical Command System - MIP	05	1,011	998		998		676		676	U
160 0304785N	Tactical Cryptologic Systems	05	10,157	17,785		17,785		36,747		36,747	U
161 0305124N	Special Applications Program	05	73,975	35,905		35,905		35,002		35,002	U

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Number	---	---	-----	-----	-----	-----	-----	-----	-----	-
162 0306250M	Cyber Operations Technology Development	05					4,942		4,942	U
	System Development & Demonstration		5,119,875	6,274,796		6,274,796	6,025,655		6,025,655	
163 0604256N	Threat Simulator Development	06	40,178	30,769		30,769	16,633		16,633	U
164 0604258N	Target Systems Development	06	66,251	71,152		71,152	36,662		36,662	U
165 0604759N	Major T&E Investment	06	121,108	61,234		61,234	42,109		42,109	U
166 0605126N	Joint Theater Air and Missile Defense Organization	06	4,800	6,995		6,995	2,998		2,998	U
167 0605152N	Studies and Analysis Support - Navy	06	3,412	4,011		4,011	3,931		3,931	U
168 0605154N	Center for Naval Analyses	06	43,054	47,071		47,071	46,634		46,634	U
169 0605285N	Next Generation Fighter	06	4,794	5,000		5,000	1,200		1,200	U
170 0605502N	Small Business Innovative Research	06	325,429							U
171 0605804N	Technical Information Services	06	1,290	925		925	903		903	U
172 0605853N	Management, Technical & International Support	06	83,789	83,024		83,024	87,077		87,077	U
173 0605856N	Strategic Technical Support	06	2,500	3,258		3,258	3,597		3,597	U
174 0605861N	RDT&E Science and Technology Management	06	72,943	76,948		76,948	62,811		62,811	U
175 0605863N	RDT&E Ship and Aircraft Support	06	127,634	132,122		132,122	106,093		106,093	U
176 0605864N	Test and Evaluation Support	06	335,791	351,912		351,912	349,146		349,146	U
177 0605865N	Operational Test and Evaluation Capability	06	16,423	17,985		17,985	18,160		18,160	U
178 0605866N	Navy Space and Electronic Warfare (SEW) Support	06	2,992	5,316		5,316	9,658		9,658	U

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179 0605867N	SEW Surveillance/Reconnaissance Support	06	8,325	6,519		6,519		6,500		6,500	U
180 0605873M	Marine Corps Program Wide Support	06	17,449	13,627		13,627		22,247		22,247	U
181 0605898N	Management HQ - R&D	06						16,254		16,254	U
182 0606355N	Warfare Innovation Management	06						21,123		21,123	U
183 0909980N	Judgment Fund Reimbursement	06		353		353					U
184 0909999N	Financing for Cancelled Account Adjustments	06	137	2		2					U
Management Support			1,278,299	918,223		918,223		853,736		853,736	
186 0604402N	Unmanned Combat Air Vehicle (UCAV) Advanced Component and Prototype Development	07	35,309								U
187 0605525N	Carrier Onboard Delivery (COD) Follow On	07	8,873								U
188 0607658N	Cooperative Engagement Capability (CEC)	07						84,501		84,501	U
189 0607700N	Deployable Joint Command and Control	07						2,970		2,970	U
190 0101221N	Strategic Sub & Weapons System Support	07	93,912	96,404		96,404		136,556		136,556	U
191 0101224N	SSBN Security Technology Program	07	29,146	46,481		46,481		33,845		33,845	U
192 0101226N	Submarine Acoustic Warfare Development	07	4,366	4,700		4,700		9,329		9,329	U
193 0101402N	Navy Strategic Communications	07	13,535	16,558		16,558		17,218		17,218	U
194 0203761N	Rapid Technology Transition (RTT)	07	8,323	8,632		8,632					U
195 0204136N	F/A-18 Squadrons	07	84,976	135,755		135,755		189,125		189,125	U

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196 0204163N	Fleet Telecommunications (Tactical)	07	26,333	41,538		41,538		48,225		48,225	U
197 0204228N	Surface Support	07	3,000	36,045		36,045		21,156		21,156	U
198 0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	25,543	25,227		25,227		71,355		71,355	U
199 0204311N	Integrated Surveillance System	07	72,315	49,587		49,587		58,542		58,542	U
200 0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	5,522	11,335		11,335		13,929		13,929	U
201 0204460M	Ground/Air Task Oriented Radar (G/ATOR)	07	90,577	65,598		65,598		83,538		83,538	U
202 0204571N	Consolidated Training Systems Development	07	38,359	34,325		34,325		38,593		38,593	U
203 0204574N	Cryptologic Direct Support	07	1,627	1,915		1,915		1,122		1,122	U
204 0204575N	Electronic Warfare (EW) Readiness Support	07	15,993	46,403		46,403		99,998		99,998	U
205 0205601N	HARM Improvement	07	17,377	23,708		23,708		48,635		48,635	U
206 0205604N	Tactical Data Links	07	135,582	142,361		142,361		124,785		124,785	U
207 0205620N	Surface ASW Combat System Integration	07	25,567	24,435		24,435		24,583		24,583	U
208 0205632N	MK-48 ADCAP	07	25,920	47,703		47,703		39,134		39,134	U
209 0205633N	Aviation Improvements	07	83,083	106,255		106,255		120,861		120,861	U
210 0205675N	Operational Nuclear Power Systems	07	104,023	101,323		101,323		101,786		101,786	U
211 0206313M	Marine Corps Communications Systems	07	82,576	77,909		77,909		82,159		82,159	U
212 0206335M	Common Aviation Command and Control System (CAC2S)	07	31,568	13,431		13,431		11,850		11,850	U

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213 0206623M	Marine Corps Ground Combat/ Supporting Arms Systems	07	49,173	48,590		48,590		47,877		47,877	U
214 0206624M	Marine Corps Combat Services Support	07	18,185	19,955		19,955		13,194		13,194	U
215 0206625M	USMC Intelligence/Electronic Warfare Systems (MIP)	07	16,178	12,671		12,671		17,171		17,171	U
216 0206629M	Amphibious Assault Vehicle	07	87,940	45,110		45,110		38,020		38,020	U
217 0207161N	Tactical AIM Missiles	07	36,361	71,016		71,016		56,285		56,285	U
218 0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	9,820	32,172		32,172		40,350		40,350	U
219 0219902M	Global Combat Support System - Marine Corps (GCSS-MC)	07						9,128		9,128	U
223 0303109N	Satellite Communications (SPACE)	07	34,716	47,312		47,312		37,372		37,372	U
224 0303138N	Consolidated Afloat Network Enterprise Services (CANES)	07	24,137	21,667		21,667		23,541		23,541	U
225 0303140N	Information Systems Security Program	07	22,655	28,081		28,081		38,510		38,510	U
227 0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	356	599		599					U
228 0305192N	Military Intelligence Program (MIP) Activities	07	6,166	6,207		6,207		6,019		6,019	U
229 0305204N	Tactical Unmanned Aerial Vehicles	07	8,505	8,550		8,550		8,436		8,436	U
230 0305205N	UAS Integration and Interoperability	07		41,831		41,831		36,509		36,509	U
231 0305208M	Distributed Common Ground/Surface Systems	07	10,916	1,105		1,105		2,100		2,100	U
232 0305208N	Distributed Common Ground/Surface Systems	07	18,146	23,149		23,149		44,571		44,571	U
233 0305220N	MQ-4C Triton	07	419,242	227,118		227,118		111,729		111,729	U

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234 0305231N	MQ-8 UAV	07	43,294	52,770		52,770		26,518		26,518	U
235 0305232M	RQ-11 UAV	07	682	635		635		418		418	U
236 0305233N	RQ-7 UAV	07	851	688		688		716		716	U
237 0305234N	Small (Level 0) Tactical UAS (STUASL0)	07	4,813	4,647		4,647		5,071		5,071	U
238 0305239M	RQ-21A	07	7,782	6,251		6,251		9,497		9,497	U
239 0305241N	Multi-Intelligence Sensor Development	07	17,751	39,645		39,645		77,965		77,965	U
240 0305242M	Unmanned Aerial Systems (UAS) Payloads (MIP)	07	1,900	9,246		9,246		11,181		11,181	U
241 0305421N	RQ-4 Modernization	07	30,000	129,892		129,892		181,266		181,266	U
242 0308601N	Modeling and Simulation Support	07	4,556	4,757		4,757		4,709		4,709	U
243 0702207N	Depot Maintenance (Non-IF)	07	20,678	24,185		24,185		49,322		49,322	U
244 0708011N	Industrial Preparedness	07	36,031								U
245 0708730N	Maritime Technology (MARITECH)	07	4,187	4,321		4,321		3,204		3,204	U
9999 9999999999	Classified Programs		1,197,753	1,492,185	35,747	1,527,932		1,228,460	36,426	1,264,886	U
	Operational Systems Development		3,196,179	3,561,983		3,597,730		3,592,934		3,629,360	
Total Research, Development, Test & Eval, Navy			16,067,423	18,111,247		18,146,994		17,276,301	78,323	17,354,624	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0604256N / Threat Simulator Development							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	40.178	30.769	16.633	-	16.633	28.494	27.893	22.402	22.875	Continuing	Continuing
0602: Electronics W/F Env Simulation (ECHO)	0.000	25.563	21.386	3.462	-	3.462	13.743	12.756	7.299	7.452	Continuing	Continuing
0672: Effect Nav E/W (ENEWS)	0.000	14.615	9.383	13.171	-	13.171	14.751	15.137	15.103	15.423	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, 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	40.793	30.769	25.642	-	25.642
Current President's Budget	40.178	30.769	16.633	-	16.633
Total Adjustments	-0.615	0.000	-9.009	-	-9.009
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.615	0.000			
• Rate/Misc Adjustments	0.000	0.000	-9.009	-	-9.009

**Change Summary Explanation**

The FY 2016 funding request was reduced by -\$5.9 million to account for the availability of prior year execution balances.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604256N / <i>Threat Simulator Development</i>
The FY 2017 funding request was reduced by -\$11.1 million to account for the availability of prior year execution balances and by -\$0.895 million as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.	
Technical: Not applicable.	
Schedule: Not applicable.	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6				R-1 Program Element (Number/Name) PE 0604256N / Threat Simulator Development					Project (Number/Name) 0602 / Electronics W/F Env Simulation (ECHO)			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0602: Electronics W/F Env Simulation (ECHO)	0.000	25.563	21.386	3.462	-	3.462	13.743	12.756	7.299	7.452	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, 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p><b>Title:</b> ACQUISITION AND MEASUREMENT CAPABILITIES</p> <p><b>Description:</b> 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 decrease from FY15 to FY16 because the majority of material purchases for radio frequency beam measurement capability are complete.</p>	5.778	5.109	0.250	0.000	0.250

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0604256N / Threat Simulator Development		<b>Project (Number/Name)</b> 0602 / Eletronics W/F Env Simulation (ECHO)		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total		
Funding decrease from FY16 to FY17 due to the completion of the laboratory simulators of foreign radars upgrades and the remaining material purchases for radio frequency beam measurement capability are complete and system integration and test is under way.						
<b>FY 2015 Accomplishments:</b> - Completed the update to existing laboratory simulators of foreign radars. - Continued the upgrade of open-loop threat simulators at Electronic Combat Range (ECR). - Continued the development of an open air radio frequency beam measurement capability. - Continued the upgrade of open air radio frequency signal density enhancement systems.						
<b>FY 2016 Plans:</b> - Continue the development of an open air radio frequency beam measurement capability. - Complete the upgrade of open-loop threat simulators at ECR. - Complete the upgrade of open air radio frequency signal density enhancement systems.						
<b>FY 2017 Base Plans:</b> - Complete the development of an open air radio frequency beam measurement capability.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> REQUIREMENTS AND VALIDATION  <b>Description:</b> 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.						
<b>Articles:</b>						
0.964      -      -      -      -      -						
<b>FY 2015 Accomplishments:</b> - Continued to provide program management, systems engineering, and requirements identification for the development of simulators and foreign material acquisition. - Continued to validate simulators and stimulators at the Navy tri-lab centers.						
<b>FY 2016 Plans:</b> - 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 2017 Navy					Date: February 2016	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / Threat Simulator Development	Project (Number/Name) 0602 / Electronics W/F Env Simulation (ECHO)				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Continue to validate simulators and stimulators at the Navy tri-lab centers.						
<b>FY 2017 Base Plans:</b> - Continue to provide program management, systems engineering, and requirements identification for the development of simulators and foreign material acquisition. - Continue to validate simulators and stimulators at the Navy tri-lab centers.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> ENGAGEMENT CAPABILITIES	<b>Articles:</b>	18.821	15.399	2.585	0.000	2.585
<b>Description:</b> 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.		-	-	-	-	-
Funding decreases from FY15 to FY16 because the majority of the long lead item material purchases were completed for the development of a closed-loop threat surface to air missile system simulator.						
Funding decreased from FY16 to FY17 because the purchase of the remaining materials for the development of a closed-loop threat surface to air missile system simulator is complete.						
<b>FY 2015 Accomplishments:</b> - Continued the upgrade and integration of missile simulation models. - Continued the development of a closed-loop threat surface to air missile system simulator. - Continued the conversion of a threat system. - Continued the minor upgrades to open air and laboratory threat systems. - Completed the development of the Long Range Threat System simulator at Electronic Combat Range (ECR).						
<b>FY 2016 Plans:</b> - 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.						
<b>FY 2017 Base Plans:</b>						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0604256N / Threat Simulator Development	<b>Project (Number/Name)</b> 0602 / Electronics W/F Env Simulation (ECHO)		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>
- 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. - Initiate the integration of a threat engagement system at ECR.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>		25.563	21.386	3.462
		0.000		3.462
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> Not Applicable.				
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0604256N / Threat Simulator Development				Project (Number/Name) 0672 / Effect Nav E/W (ENEWS)			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0672: Effect Nav E/W (ENEWS)	0.000	14.615	9.383	13.171	-	13.171	14.751	15.137	15.103	15.423	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> CLASSIFIED PROGRAM	7.438	3.161	8.100	0.000	8.100
<b>Description:</b> Details about this program are classified.	<i>Articles:</i> -	-	-	-	-
Details about this program and any changes are classified.					
<b>FY 2015 Accomplishments:</b>					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016				
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / Threat Simulator Development	Project (Number/Name) 0672 / Effect Nav E/W (ENEWS)					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Details are of a higher classification.							
<b>FY 2016 Plans:</b>							
- Details are of a higher classification.							
FY16 funds were realigned to support the Electronic Attack (EA) Test and Evaluation (T&E) for Surface Electronic Warfare Improvement Program (SEWIP) Block 3 POR.							
<b>FY 2017 Base Plans:</b>							
- Details are of a higher classification.							
<b>FY 2017 OCO Plans:</b>	N/A						
<b>Title:</b> HARDWARE SIMULATION SYSTEMS	<b>Articles:</b>	1.771	3.336	2.201	0.000	2.201	
<b>Description:</b> 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.							
The decrease between FY 2016 and FY 2017 is due to the completion of a simulator capability upgrade.							
<b>FY 2015 Accomplishments:</b>							
- Continued annual maintenance of ENEWS simulators to support flight/shore based tests.							
- Continued hardware upgrades to the SUMMIT Simulator.							
- Continued software upgrades to the VICTOR Standard Instrumentation Pod (SIP).							
- Initiated hardware upgrades to the FOXTROT 3 TOWSIM(IOTA).							
<b>FY 2016 Plans:</b>							

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy			Date: February 2016				
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / Threat Simulator Development	Project (Number/Name) 0672 / Effect Nav E/W (ENEWS)					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Continue all efforts of FY 2015. - Initiate hardware and software upgrades for the ASCM signal processor in the loop (ASPL) - Initiate software upgrades for the MEIR 3, MIKE 3, TOWSIM Electro-Optical (EO) and (NU) VICTOR 1 SIP simulators							
<b>FY 2017 Base Plans:</b> Continue all efforts of FY 2016. - Complete software upgrades for ASPL - Complete software upgrades for the MEIR 3, MIKE 3, NU and VICTOR 1 Standard Instrumentation Pod (SIP) simulators - Complete IOTA hardware upgrades - Initiate hardware upgrades for VICTOR 1 SIP and Anti-Ship Imaging Missile (AIMS) simulators - Initiate software upgrade for FOXTROT 1 Sim 1 simulator - Maintain and upgrade 20 simulators and the Antenna Test Rig to support the Surface Electronic Warfare Improvement Program (SEWIP) Block 3 and Advanced Offboard Electronic Warfare (AOEW) effectiveness evaluations.							
<b>FY 2017 OCO Plans:</b> N/A							
<b>Title:</b> SIMULATION CHARACTERIZATION, VERIFICATION AND REQUIREMENTS  <b>Description:</b> Provides for the documentation of ASCM threat simulators. Develops reports that contain detailed descriptions and parametric data of the Anti-Ship Capable Missile (ASCM) threat simulators 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 ASCM simulators and upgrades to meet DT/ OT testing requirements, development of detailed test resource requirements and provides an interface between OPNAV N2/N6, Office of Naval Research, and ENEWS oversight activities.  The decrease between FY 2015 and FY 2016 is due to the termination of the simulator validation effort. Beginning in FY 2015 the simulator validation effort was terminated and no more validation reports will be published. ENEWS will continue to develop simulator documentation reports that will include a simulator description with a comparison to the threat it represents.	<b>Articles:</b> 0.644	 - 0.521	 - 0.596	 - 0.000	 - 0.596		

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0604256N / Threat Simulator Development	<b>Project (Number/Name)</b> 0672 / Effect Nav E/W (ENEWS)				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
Formerly known as "SIMULATION VALIDATION AND REQUIREMENTS" is now titled "SIMULATION CHARACTERIZATION, VERIFICATION AND REQUIREMENTS" effective FY 2017.						
<p><b>FY 2015 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Completed SIGMA, OMEGA 2 and ZETA simulator hardware validation reports.</li> <li>- Initiated and completed update of the FY 2015 Program Management Plan.</li> <li>- Initiated and completed FY 2015 monthly reports, performance based management and analysis, financial execution reporting and assessment.</li> <li>- Initiated LAMBDA simulator hardware validation report.</li> </ul>						
<p><b>FY 2016 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue all efforts of FY 2015 less those noted completed above.</li> <li>- Initiate and complete update of the FY 2016 ENEWS Program Management Plan.</li> <li>- Initiate and complete FY 2016 monthly reports, performance based management and analysis, financial execution reporting and assessment.</li> <li>- Initiate and complete all FY 2016 Planning, Programming and Budgeting Systems submissions.</li> <li>- Initiate BETA hardware simulator documentation report.</li> <li>- Initiate and complete the LAMBDA simulator characterization assessment.</li> </ul>						
<p><b>FY 2017 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue all efforts of FY 2016 less those noted completed above.</li> <li>- Initiate and complete the FY 2017 ENEWS Program Management Plan.</li> <li>- Initiate and complete the FY 2017 monthly reports, performance based management and analysis, financial execution reporting and assessment.</li> <li>- Initiate and complete all FY 2017 Planning, Programming and Budgeting Systems submissions.</li> <li>- Initiate and complete the BETA simulator characterization assessment.</li> <li>- Complete the BETA hardware simulator documentation report.</li> </ul>						
<p><b>FY 2017 OCO Plans:</b></p> <p>N/A</p>						
<b>Title:</b> SUPPORT AND COMPUTERS SIMULATION SYSTEMS <b>Articles:</b>		4.762	2.365	2.274	0.000	2.274
<b>Description:</b> 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.		-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)				
1319 / 6	PE 0604256N / Threat Simulator Development	0672 / Effect Nav E/W (ENEWS)				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
Development of T&E scenarios and environmental modeling to support electronic support (ES) and electronic attack (EA) testing; modify ASCM threat simulators based on the latest intelligence data obtained from threat databases.		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
The decrease between FY 2015 and FY 2016 is due to completion of a simulator capability upgrade in FY 2015.						
<b>FY 2015 Accomplishments:</b> - 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 - Continued development of LIMA III and LIMA IV digital models - Initiated digital model upgrades to support Surface Electronic Warfare Improvement Program (SEWIP) Block 3 test and evaluation. - Initiate and continue simulator upgrades to support Surface Electronic Warfare Improvement Program (SEWIP) Block 3 test and evaluation.						
<b>FY 2016 Plans:</b> - Continue all efforts of FY 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 Environmental Model used to support open and closed loop simulations.						
<b>FY 2017 Base Plans:</b> - Continue all efforts of FY 2016 less those noted as completed above. - Complete update to the Scenario and Environment Model used to support open and closed loop simulations.						
<b>FY 2017 OCO Plans:</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0604256N / Threat Simulator Development		<b>Project (Number/Name)</b> 0672 / Effect Nav E/W (ENEWS)	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>
N/A					<b>FY 2017 OCO</b>
<b>Accomplishments/Planned Programs Subtotals</b>			14.615	9.383	13.171
			0.000		13.171
<b>C. Other Program Funding Summary (\$ in Millions)</b>					
N/A					
<b>Remarks</b>					
<b>D. Acquisition Strategy</b>					
Not applicable.					
<b>E. Performance Metrics</b>					
Performance metrics are discussed within each project (R2a).					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0604258N / Target Systems Development							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	66.251	71.152	36.662	-	36.662	1.296	1.326	1.356	1.389	Continuing	Continuing
0609: Aerial Target System Dev	0.000	60.039	38.098	11.310	-	11.310	0.000	0.000	0.000	0.000	0.000	109.447
0610: Wpn Sys T&E Trng Dev/ Proc	0.000	0.000	31.818	24.094	-	24.094	0.000	0.000	0.000	0.000	0.000	55.912
0612: Surface Targets Development	0.000	1.262	1.236	1.258	-	1.258	1.296	1.326	1.356	1.389	Continuing	Continuing
2159: ASW TARGET	0.000	4.950	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.950

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

This program element funds the development and procurement of Aerial Target Systems, Sea/Sub Surface Target Systems, Target Control systems, and associated Target Threat Simulation Program and Target Augmentation and Auxiliary Systems required to replicate real world threats. These capabilities are required to execute developmental/operational test and evaluation of naval combat weapon systems and to satisfy advanced fleet training 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. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	66.718	112.606	102.984	-	102.984
Current President's Budget	66.251	71.152	36.662	-	36.662
Total Adjustments	-0.467	-41.454	-66.322	-	-66.322
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-41.454			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.862	0.000			
• SBIR/STTR Transfer	-1.329	0.000			
• Program Adjustments	0.000	0.000	-64.406	-	-64.406
• Rate/Misc Adjustments	0.000	0.000	-1.916	-	-1.916

**Change Summary Explanation**

Decrease in Target Systems Development by \$1.500M as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604258N / <i>Target Systems Development</i>
FY15 was increased by a \$0.862 million to GQM-173A Multi-Stage Supersonic Target (MSST) as additional funds were required to support the GQM-173A RDTE range extension activities for integration of a new booster intended to significantly reduce technical and schedule risk in Development Testing efforts.	
In FY16, Aerial Target System Development was decreased by \$37.4M for termination of the MSST program and ASW Target was reduced by \$4.054M for Parrotfish program termination. All associated MSST investment funding has been removed from Aerial Target System Development in FY 2017 (\$56.025M) and future years for the program termination by the Department of the Navy.	
In FY17 Wpn Sys T&E Trng Dev/Proc (Full-Scale Aerial Target (FSAT) QF-16 and FSAT/QF-4 programs) was reduced by \$6.4 million for underexecution & ASW Target was reduced by \$1.505 million to cancel the program.	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)			
1319 / 6					PE 0604258N / Target Systems Development				0609 / Aerial Target System Dev			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0609: Aerial Target System Dev	0.000	60.039	38.098	11.310	-	11.310	0.000	0.000	0.000	0.000	0.000	109.447
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

The mission of the Aerial Target Systems Development program is the design and development of threat representative subsonic and supersonic aerial targets that simulate threat weapon systems. In addition to representative air vehicles, this includes development of Target Control (TC) systems, and associated Target Augmentation and Auxiliary Systems (TA/AS) which are used to replicate specific threats. Targets are developed to support test and evaluation of combat systems required to defend fleet surface and air units in a hostile environment. As to specific hardware development, this project includes:

- Supersonic Targets: GQM-163A Supersonic Sea-Skimming Target (SSST) and GQM-173A Multi-Stage Supersonic Target (MSST). Supersonic targets represent supersonic anti-ship cruise missile threats. The design and development of GQM-163A SSST capabilities provide threat representative targets that are used in direct support of Developmental Test and Evaluation, Operational Test and Evaluation, and Live Fire Test and Evaluation of major combat weapons programs and, to a lesser degree, support fleet training. GQM-163A is a non-recoverable supersonic sea skimming aerial target, capable of speeds in excess of Mach 2.5 and cruise altitudes from 15 to 66 ft. The GQM-163A has also demonstrated a capability to perform a higher altitude diving threat profile. Funding is also provided for closing out the GQM-173A MSST development effort.
- Subsonic Targets: BQM-177A Subsonic Aerial Target (SSAT) development primarily represents subsonic anti-ship cruise missile threats, replacing legacy BQM-34 and BQM-74 targets with a modernized subsonic target with increased capabilities. The BQM-177A SSAT provides threat representation for developmental and operational Test & Evaluation events of major combat weapons systems programs and in support of fleet training events. Specifically, the BQM-177A provides critical live-fire Test and Evaluation events for AEGIS, SM-6, SM-2, RAM, and ESSM.
- TTSP and TC and TA/AS development: The Target Threat Simulation Program (TTSP) provides the payload equipment required to electronically enhance aerial/surface targets to provide threat representative Radio Frequency signatures, specifically the Electronic Attack and Threat Radar Emissions (Active Emitters). TC provides command and control of targets to enable the execution of threat-representative mission profiles. The mission also includes the 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 and provide high fidelity simulation of foreign threats. 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.

In addition to the design and development of target hardware and software, funding supports studies 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

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0604258N / Target Systems Development	<b>Project (Number/Name)</b> 0609 / Aerial Target System Dev				
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.						
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
<b>Title:</b> Supersonic Targets	<b>Articles:</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>Description:</b> Provides funding for the development of GQM-163A upgrades/evolutionary development to keep pace with evolving threat characteristics. Efforts include continued development of performance envelope characteristics to include flight termination performance and quad launch capability. Funding will also support closeout of the GQM-173 development effort.		47.805 1	21.653 -	0.000 -	0.000 -	0.000 -
<b>FY 2015 Accomplishments:</b> Completed GQM-173 Captive Carry Phase II and III testing and performed a subsystem level vehicle flight test. Continued ground testing and began validation of the models and simulations. Conducted Program Management Reviews (PMR), System Functional Review, and technical design meetings. Commenced improvements to the GQM-163 quad launch capability infrastructure to accommodate an increased number of targets from two to four.						
<b>FY 2016 Plans:</b> Commencement of shutdown activities in support of pending GQM-173A Multi-Stage Supersonic Target program termination, which includes closeout of ground and captive carry testing, Sprint Vehicle subsystem level flight tests, and validation of the models and simulations utilizing the Hardware In the Loop test bed. Continue the GQM-163A Supersonic Sea Skimming Targets Quad Launch effort, which will provide the required improvements in the current infrastructure of the launch capability to accommodate the increased number of targets from two to four. Commence Radome and Radar Altimeter design and development efforts and Orbital Front End System space allocation studies for SSST.						
<b>FY 2017 Base Plans:</b> N/A						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Subsonic Targets	<b>Articles:</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
		7.984 -	9.464 -	5.571 -	0.000 -	5.571 -

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
		FY 2015	FY 2016	FY 2017 Base
				FY 2017 OCO
				FY 2017 Total
<b>Description:</b> The BQM-177A Subsonic Aerial Target represents subsonic anti-ship cruise missile threat in direct support of the Test & Evaluation of major combat weapons systems programs and fleet training. It is the follow-on to the BQM-74 and BQM-34 targets, featuring increased speed, longer range, lower cruise altitudes and greater maneuverability.				
<b>FY 2015 Accomplishments:</b> Continued testing for qualification of software functionality and Rocket Assisted Take Off (RATO)/structures. Conducted design reviews and flight tests to validate integrity of target. Provided government program management, engineering and logistics support and contract support services towards accomplishment of developmental efforts.				
<b>FY 2016 Plans:</b> Complete testing for qualification of RATO/structures. Continue to conduct design reviews and complete flight tests to validate integrity of target and address deficiencies when discovered. Provide government program management, engineering and logistics support and contract support services towards accomplishment of developmental efforts.				
<b>FY 2017 Base Plans:</b> Complete Navy led flight testing to support a Milestone C/procurement decision and award the Low Rate Initial Production (LRIP) 1 contract. Continue to review final design documents and perform required target characteristic testing to support key performance parameters and attributes. Provide government program management, engineering and logistics support and contract support services towards the completion of the engineering, manufacturing and developmental efforts of the BQM-177A Subsonic Aerial Target for transition to LRIP2 and Full Rate Production efforts in FY18.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Title:</b> Target Threat Simulation Program (TTSP), Target Control (TC) and Target Augmentation and Auxiliary Systems (TA/AS)	<b>Articles:</b>	4.250	6.981	5.739
<b>Description:</b> Continue to support the development of 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		0.000	5.739	-

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)				
1319 / 6	PE 0604258N / Target Systems Development	0609 / Aerial Target System Dev				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
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 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. The TTSP provides the payload equipment required to electronically enhance aerial/surface targets to provide threat representative Radio Frequency (RF) signatures, specifically the Electronic Attack and Threat Radar Emissions (Active Emitters). The TTSP accomplishes this by providing a collection of modules which are integrated into individual targets in various configurations to provide the ability to simulate the RF environment. TTSP equipment in various configurations is certified for carriage in aerial/surface targets.		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>FY 2015 Accomplishments:</b> Developed and integrated threat electronic attack & active emitter simulators. Worked with National Air and Space Intelligence Center (US Air Force) to gather intelligence data and briefed aerial target threat simulation capabilities during biennial Top 20 Electronic Attack Threat Working Group meeting at Point Mugu, CA. Provided support to enterprise team for Electronic Attack / Anti-Ship Cruise Missile (EA/ASCM) working group meetings in preparation for DOT&E data call regarding simulation shortfalls. Completed a millimeter wave ALQ-167 for the Electronic Attack system integration project. Continued BQM-34(S) Local Engineering Change (LEC) support to enable carriage of TTSP threat simulation payloads. Provided three single and one dual Open Loop Seeker (OLS) presentations for surface weapons testing at Point Mugu, CA. Provided a Dual Stream GQM-163A presentation with DPT-2B emitter with rhombic horn antenna. Provided multiple East Coast / West Coast Fleet Events with BQM-74E DPT-2B and DPT-2C emitter sets. Provided Navy and Joint Test & Evaluation programs with electronic attack payloads on aerial targets.						
<b>FY 2016 Plans:</b> Continue development, prototype and integration of threat electronic attack & active emitter simulators. Gather and exploit threat intelligence. Support the development and qualification of Target Mission Support Systems (TMSS). As a result of the termination of the GQM-173A Multi-Stage Supersonic Target program, development of new threat simulations are necessary to satisfy the Fleet's requirements to build operator confidence and proficiency in operation of anti-ship cruise missile defense systems.						
<b>FY 2017 Base Plans:</b>						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy							Date: February 2016								
<b>Appropriation/Budget Activity</b> 1319 / 6			<b>R-1 Program Element (Number/Name)</b> PE 0604258N / Target Systems Development				<b>Project (Number/Name)</b> 0609 / Aerial Target System Dev								
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO					
Continue development, prototype and integration of threat electronic attack & active emitter simulators. Gather and exploit threat intelligence. Support the development and qualification of TMSS.															
<b>FY 2017 OCO Plans:</b> N/A							Accomplishments/Planned Programs Subtotals	60.039	38.098	11.310	0.000				
<b>C. Other Program Funding Summary (\$ in Millions)</b>							FY 2017	FY 2017	FY 2017	Cost To Complete	Total Cost				
<b>Line Item</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>Base</b>	<b>OCO</b>	<b>Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>					
• WPN 228000: <i>Aerial Targets</i>		45.683	40.792	137.484	-	137.484	140.770	142.854	145.253	148.068	Continuing				
• WPN 612020: <i>Initial Spares</i>		1.094	1.116	1.316	-	1.316	2.225	1.496	1.513	1.544	Continuing				
<b>Remarks</b>															
<b>D. Acquisition Strategy</b>															
Supersonics: The GQM-163A Supersonic Sea-Skimming Target (SSST) will continue and complete development of the Quad Launch capability. The SSST program will also commence the development and design efforts for a new Radome and Radar Altimeter required to emulate emerging threat systems and begin Orbital Front End System space allocation studies. Commencing in FY 2016, MSST development and testing activities and associated follow-on procurement have been terminated by the Department of the Navy.															
Subsonics: The BQM-177A Subsonic Aerial Target program is an Acquisition Category IVM. The program is currently undergoing extensive developmental testing with Critical Design Review to be completed 1st Quarter FY16. The Test Readiness Review / Flight Readiness Review is scheduled to be completed in 3rd Quarter FY16 with Milestone C achievement in 1st Quarter FY17. IOC is scheduled for 4th Quarter FY18 and acquisition requirements are in-work for a sole-source Firm Fixed Price follow-on Full Rate Production contract with anticipated award in 1st Quarter FY19.															
Target Threat Simulation Program (TTSP), Target Control, and Target Augmentation and Auxiliary Systems: TTSP will continue to award contracts to support the development of electronic attack & threat simulations. Additional contracts will be awarded to support the development and design of Target Mission Support Systems upgrades.															
<b>E. Performance Metrics</b>															
EFFORT	PERFORMANCE REQUIREMENT		OBJECTIVE		THRESHOLD		TEST RESULT								
BQM-177	Maximum Speed at Low Altitude		0.95 M @ 6.6 ft @		0.90 M @10.0 ft @		TBD								

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
Appropriation/Budget Activity		R-1 Program Element (Number/Name)	Project (Number/Name)	
1319 / 6		PE 0604258N / Target Systems Development		0609 / Aerial Target System Dev
EMD program	[Mach (M) at feet (ft) above wave crest at WMO Sea State conditions]	Sea State 5	Sea State 3	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)				
1319 / 6					PE 0604258N / Target Systems Development				0610 / Wpn Sys T&E Trng Dev/Proc				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0610: Wpn Sys T&E Trng Dev/ Proc	0.000	0.000	31.818	24.094	-	24.094	0.000	0.000	0.000	0.000	0.000	55.912	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>													
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<i>Title:</i> QF-16 Full-Scale Aerial Target (FSAT)  <i>Articles:</i>  <i>Description:</i> The QF-16 FSAT is being developed as a 4th generation full scale threat representative target providing a replacement to the existing FSAT/QF-4 which are maintained and operated by the Air Force. 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 FSAT target presentations will support aircraft and weapons systems testing and development, including that of the Joint Strike Fighter, AIM-9X Sidewinder missile, AIM-120 Advanced Medium Range Air-to-Air Missile, and Standard Missile-6.  <i>FY 2015 Accomplishments:</i> N/A  <i>FY 2016 Plans:</i> Procure five (5) QF-16 FSAT test assets; Conduct regeneration and conversion of QF-16 aircraft retrieved from Davis Monthan AFB storage. Conduct FY16 missions and standup the QF-16 at Tyndall, AFB and Holloman, AFB.  <i>FY 2017 Base Plans:</i>													
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total									
0.000	31.000	24.094	0.000	24.094									
	5	4	-	4									

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0604258N / Target Systems Development	<b>Project (Number/Name)</b> 0610 / Wpn Sys T&E Trng Dev/Proc	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Procure four (4) QF-16 FSAT test assets; Conduct regeneration and conversion of QF-16 aircraft retrieved from Davis Monthan AFB storage.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Title:</b> QF-4 Full-Scale Aerial Target (FSAT)  <b>Description:</b> The QF-4 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 Joint Strike Fighter, AIM-9X Sidewinder missile, Advanced Medium Range Air-to Air Missile and Standard Missile 6.	<b>Articles:</b> -  0.000	0.818	0.000	0.000
<b>FY 2015 Accomplishments:</b> N/A				
<b>FY 2016 Plans:</b> Conduct FY16 missions with Air Force QF-4's at Holloman, AFB.				
<b>FY 2017 Base Plans:</b> N/A				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>		0.000	31.818	24.094
			0.000	24.094
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
A Memorandum of Agreement was signed between the United States Navy (USN) and The United States Air Force (USAF) for QF-16 Full-Scale Aerial Target Program. Milestone C was achieved in 1st Quarter FY14. IOC is planned for 3rd Quarter FY16.				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016				
Appropriation/Budget Activity		R-1 Program Element (Number/Name)		Project (Number/Name)					
1319 / 6		PE 0604258N / Target Systems Development		0610 / Wpn Sys T&E Trng Dev/Proc					
The Navy is using RDT&E funding to procure the QF-16s because they are used/expended to satisfy RDT&E requirements.									
<b>E. Performance Metrics</b>									
EFFORT	PERFORMANCE REQUIREMENT	OBJECTIVE	THRESHOLD	TEST RESULT					
QF-4 Full Scale Aerial Target	Flight Termination Sys.- Reliable & effective auto & manual failsafe fast destruct, orbit destruct, & destruct receiver capability	Achieve requirement	Threshold=objective	Satisfactory					
QF-16 FSAT Superiority Target	Drone Mission Performance Payload Integration carry, operation & monitoring TEMS, ALE-47, AIM-9, ALQ-188, ALQ-167 ALE-56 & 300 Gallon Fuel Tank	Achieve requirement Achieve requirement	Threshold=objective Threshold=objective	TBD TBD					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016				
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)						
1319 / 6					PE 0604258N / Target Systems Development				0612 / Surface Targets Development						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
0612: Surface Targets Development	0.000	1.262	1.236	1.258	-	1.258	1.296	1.326	1.356	1.389	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>															
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Surface Targets Development  <b>Articles:</b>											1.262	1.236	1.258	0.000	1.258
<b>FY 2015 Accomplishments:</b> Researched target modifications and operational changes to reduce Explosive Ordnance Disposal (EOD) involvement during exercises involving High Explosive (HE) or tracer rounds. Developed electronic steering remote control interface for powered seaborne targets. Supported software development and continued testing of single hardware platform for Portable Command and Control Unit (PCCU) and System for Naval Target Control (SNTC). Tested PCCU ground station enhancements to allow remote control of more than 15 independent seaborne targets. Reviewed existing capabilities of program of record (POR) seaborne targets inventory with regard to threats, weapons test schedules and evolving fleet training requirements. Continued refining design and fabrication of passive radio frequency (RF) reflectors across varied aperture lengths to reduce unit cost and ease fabrication. Researched additional lower cost manufacturing and fielding methods for POR targets.											-	-	-	-	-
<b>FY 2016 Plans:</b> Develop predictive models for response of Low Cost Modular Target (LCMT) and Polyethylene Tow Target (PETT) behind weaving tow vessels. Develop stability-in-sea-state analysis tool to customize configurations of LCMT. Conduct test and evaluation of basic formation algorithms with High Speed Maneuverable Surface Target (HSMST). Develop advanced target swarm formations with real-time group reassessments. Develop enhanced precision for real-time scoring banner on seaborne targets. Develop real-time display of weapon system lethality utilizing human target system (Humannequin). Integrate SeaCAN on-board remote control system with new platform and systems for Fast Attack Craft Target (FACT). Test new FACT platform performance and measure															

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 1319 / 6				<b>R-1 Program Element (Number/Name)</b> PE 0604258N / Target Systems Development				<b>Project (Number/Name)</b> 0612 / Surface Targets Development				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>		
radar cross section and infrared signatures. Develop improved target navigation control tools for Portable Command and Control Unit (PCCU).  <b>FY 2017 Base Plans:</b> Develop graphical user interface (GUI) for target formation control during swarm training and test and evaluation exercises. Implement advanced control modes. Integrate and test target collision avoidance hardware and software algorithms. Develop and implement additional on-screen graphics to support complex target presentations. Measure and populate data in stability software tool to include additional target platforms. Research development of predictive algorithms for stability of dynamic towed targets at higher speeds. Develop advanced radar and infrared signature enhancement for powered targets. Monitor developments in Command and Control and support developments for System for Naval Target Control (SNTC) applicable to seaborne targets.  <b>FY 2017 OCO Plans:</b> N/A												
<b>Accomplishments/Planned Programs Subtotals</b>						1.262	1.236	1.258	0.000	1.258		
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• OPN/5429: ASW SE	0.000	14.593	12.319	-	12.319	10.501	10.733	10.962	11.189	0.000	70.297	
<b>Remarks</b>												
<b>D. Acquisition Strategy</b> Not applicable.												
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016				
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0604258N / Target Systems Development					Project (Number/Name) 2159 / ASW TARGET					
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
2159: ASW TARGET		0.000	4.950	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	4.950			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-				
<b>A. Mission Description and Budget Item Justification</b>															
Provide performance improvements to MK39 Mod 2 Expendable Mobile ASW Training Targets (EMATT) and MK30 Mod 1 Targets programs to address identified performance shortfalls in the current Fleet of ASW Targets and to provide technology development for the next-generation ASW Target programs 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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>															
<i>Title: ASW Target Development</i>															
<i>Articles:</i>															
<i>FY 2015 Accomplishments:</i>															
FY2015 funded efforts addressed MK39 EMATT performance shortfalls which included upgrading the MK39 EMATT Graphical Unit Interface (GUI) to work with Windows 7 or later operating system; perform an analysis to identify a more robust hardware interface solution; and identify the scope of effort required to make the Portable Target Programmer (PTP) Information Assurance (IA) compliant. Funding was also provided to integrate the results of the ASW Trade Study Analysis Report into the MK39 EMATT program and upgrade MK39 EMATT Acoustic Response to integrate with MK54 Mod 1 Torpedo and Sonar Active/Passive frequencies.															
<i>FY 2016 Plans:</i>															
N/A															
<i>FY 2017 Base Plans:</i>															
N/A															
<i>FY 2017 OCO Plans:</i>															
N/A															
<b>Accomplishments/Planned Programs Subtotals</b>											4.950	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										Date: February 2016			
Appropriation/Budget Activity			R-1 Program Element (Number/Name)				Project (Number/Name)						
1319 / 6			PE 0604258N / Target Systems Development				2159 / ASW TARGET						
<b>C. Other Program Funding Summary (\$ in Millions)</b>													
Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost		
• 3141: ASW Targets	2.515	3.353	9.302	-	9.302	10.812	11.018	11.243	11.472	0.000	7,194.715		
<b>Remarks</b>													
<b>D. Acquisition Strategy</b>													
Not applicable													
<b>E. Performance Metrics</b>													
- Frequent IPT meetings with contract and government technical program personnel. - Rigorous acoustic, environmental and in-water dynamic test program. - Complete DMEA LMS MK39 EMATT Acoustic Response Contract Delivery Order. - Integrate the results of the ASW Trade Study Analysis Report into the MK39 EMATT Acoustic Response Effort. - Complete MK39 EMATT Graphical Unit Interface (GUI) efforts with Windows 7 efforts.													

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)								
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0604759N / Major T&E Investment								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
Total Program Element	0.000	121.108	61.234	42.109	-	42.109	42.969	45.243	43.476	49.744	Continuing	Continuing	
2195: T & E Investment	0.000	121.108	61.234	42.109	-	42.109	42.969	45.243	43.476	49.744	Continuing	Continuing	
<b>A. Mission Description and Budget Item Justification</b>													
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 Ranges, 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>B. Program Change Summary (\$ in Millions)</b>					FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total				
Previous President's Budget					123.993	61.234	45.729	-	45.729				
Current President's Budget					121.108	61.234	42.109	-	42.109				
Total Adjustments					-2.885	0.000	-3.620	-	-3.620				
<ul style="list-style-type: none"> <li>• Congressional General Reductions</li> <li>• Congressional Directed Reductions</li> <li>• Congressional Rescissions</li> <li>• Congressional Adds</li> <li>• Congressional Directed Transfers</li> <li>• Reprogrammings</li> <li>• SBIR/STTR Transfer</li> <li>• Program Adjustments</li> <li>• Rate/Misc Adjustments</li> </ul>					-	-	-	-	-				
					-2.885	0.000	-	-	-				
					0.000	0.000	-0.187	-	-0.187				
					0.000	0.000	-3.433	-	-3.433				
<b>Change Summary Explanation</b>													
The FY 2017 request was reduced by -\$3.4 million as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.													
Technical: Not applicable.													

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604759N / <i>Major T&amp;E Investment</i>
Schedule: Not applicable.	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2195: T & E Investment	0.000	121.108	61.234	42.109	-	42.109	42.969	45.243	43.476	49.744	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 (AUTEC), Andros Island, Bahamas; the Nanoose and Dabob ranges of the Naval Undersea Warfare Center Division Keyport, Keyport, WA; the Sea Range, Land Ranges, 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.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> UNDERSEA RANGE INVESTMENTS	9.975	4.927	6.255	0.000	6.255
<b>Articles:</b>	-	-	-	-	-
<b>Description:</b> 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 AUTEC, Andros Island, Bahamas and the Nanoose and Dabob ranges of the Naval Undersea Warfare Center Division Keyport, Keyport, WA.					
The decrease in funding from FY15 to FY16 reflects the completion of the range noise monitoring project and the T&E Target upgrades at the Nanoose and Dabob ranges. The decrease also reflects the purchase of the majority of the materials needed for the Nanoose and Dabob range craft service life extension.					
The funding increase from FY16 to FY17 reflects the material purchase for the tracking radar replacement at AUTEC, as well as the initiation of multiple projects at the Nanoose and Dabob ranges.					
<b>FY 2015 Accomplishments:</b>					
- Continue the minor upgrade and modernization of test capabilities at AUTEC, Nanoose and Dabob. - Continue the development of Information Operations T&E capability at AUTEC. - Continue range data information assurance project at Nanoose and Dabob. - Continue range radar obsolescence project at Nanoose and Dabob.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0604759N / Major T&E Investment	<b>Project (Number/Name)</b> 2195 / T & E Investment				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
- Complete range noise monitoring project at Nanoose and Dabob. - Complete the upgrade to the Test & Evaluation (T&E) target at Nanoose and Dabob. - Initiate replacement of in-water sensors at Atlantic Undersea Test and Evaluation Center (AUTEC). - Initiate range craft service life extension at Nanoose and Dabob. - Initiate and complete tracking radar replacement at Nanoose and Dabob.						
<b>FY 2016 Plans:</b>						
- 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. - Continue range radar obsolescence project at Nanoose and Dabob. - Initiate replace of range tracking radar at AUTEC.						
<b>FY 2017 Base Plans:</b>						
- 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. - Continue replace of range tracking radar at AUTEC. - Complete range radar obsolescence project at Nanoose and Dabob. - Initiate tracking system modernization at Nanoose and Dabob. - Initiate launch system modernization at Nanoose and Dabob. - Initiate recovery system improvement at Nanoose and Dabob. - Initiate operating system upgrade at Nanoose and Dabob.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> OPEN AIR RANGE INVESTMENTS	<b>Articles:</b>	109.901	53.207	33.141	0.000	33.141
<b>Description:</b> 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.		-	-	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0604759N / Major T&E Investment	<b>Project (Number/Name)</b> 2195 / T & E Investment				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
The funding decreased from FY15 to FY16 because the Range Support Aircraft (RSA) was purchased in FY15.						
The funding decreased from FY16 to FY17 because the avionics systems for the RSA were purchased in FY16. 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 FY19.						
<b>FY 2015 Accomplishments:</b>						
- Continue the minor upgrade and modernization of test capabilities at Naval Air Warfare Center Aircraft Division (NAWCAD), Naval Air Warfare Center Weapons Division (NAWCWD) and Pacific Missile Range Facility (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.						
- 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 NAWCWD.						
- Initiate target vessel modernization at NAWCWD.						
- Initiate procurement of Range Support Aircraft.						
<b>FY 2016 Plans:</b>						
- Continue the minor upgrade and modernization of test capabilities at NAWCAD, NAWCWD and 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.						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0604759N / Major T&E Investment	<b>Project (Number/Name)</b> 2195 / T & E Investment				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total			
<ul style="list-style-type: none"> <li>- Complete the modernization of the Kineto Tracking Mounts at NAWCAD.</li> <li>- Complete the modernization of the telemetry system at Pacific Missile Range Facility (PMRF).</li> <li>- Complete the purchase of secure network system for the aircraft prototyping facility.</li> <li>- Complete the modernization of the moving target scoring system at Naval Air Warfare Center Weapons Division (NAWCWD).</li> <li>- Complete video microwave link replacement at NAWCWD.</li> <li>- Initiate and complete the installation and instrumentation of a quad launcher at NAWCWD.</li> <li>- Initiate the upgrade of the telemetry processing system at Naval Air Warfare Center Aircraft Division (NAWCAD).</li> <li>- Initiate the purchase and installation of communication, IT and video equipment in P-155 at NAWCAD.</li> <li>- Initiate the modernization of the Land Range telemetry receivers at NAWCWD.</li> <li>- Initiate a study for the replacement of the FOCUS cable at NAWCWD.</li> </ul> <p><b>FY 2017 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue the minor upgrade and modernization of test capabilities at NAWCAD, NAWCWD and PMRF.</li> <li>- Continue procurement of new aircraft position tracking system.</li> <li>- Complete the modernization of the imaging radar at PMRF.</li> <li>- Continue target vessel modernization at NAWCWD.</li> <li>- Continue procurement of Range Support Aircraft.</li> <li>- Complete the upgrade of the telemetry processing system at NAWCAD.</li> <li>- Complete the purchase and installation of communication, IT and video equipment in P-155 at NAWCAD.</li> <li>- Complete the modernization of the Land Range telemetry receivers at NAWCWD.</li> <li>- Complete a study for the replacement of the FOCUS cable at NAWCWD.</li> <li>-Initiate the modernization of the InfraRed measurement capability at NAWCAD.</li> <li>-Initiate the modernization of the video tracking mounts at PMRF.</li> <li>-Initiate the modernization of the telemetry antenna controllers and data processors at PMRF.</li> <li>-Initiate the modernization of the Land Range timing and instrumentation control system at NAWCWD.</li> <li>-Initiate the modernization of the Land Range and Sea Range voice switch at NAWCWD.</li> </ul> <p><b>FY 2017 OCO Plans:</b></p> <p>N/A</p>							
<b>Title:</b> TEST FACILITIES INVESTMENTS		<b>Articles:</b>	1.232	3.100	2.713	0.000	2.713

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0604759N / Major T&E Investment	<b>Project (Number/Name)</b> 2195 / T & E Investment	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p><b>Description:</b> This effort funds the modernization and upgrades of existing capabilities and the development of new Test &amp; Evaluation capabilities required at the Navy's Major Range Test Facility Base ground test facilities at Naval Air Warfare Center Aircraft Division (NAWCAD), Patuxent River, MD, and Naval Air Warfare Center Weapons Division (NAWCWD), Point Mugu, CA and China Lake, CA.</p> <p>Funding increases from FY15 to FY16 are due to the helicopter propulsion data acquisition system project moving from the design phase in FY15 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><b>FY 2015 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Continue the minor upgrade and modernization of test capabilities at NAWCAD and NAWCWD.</li> <li>- Continue the upgrade to general instrumentation and equipment.</li> <li>- Initiate the modernization of the helicopter propulsion data acquisition system.</li> </ul> <p><b>FY 2016 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue the minor upgrade and modernization of test capabilities at NAWCAD and NAWCWD.</li> <li>- Continue the upgrade to general instrumentation and equipment.</li> <li>- Continue the modernization of the helicopter propulsion data acquisition system.</li> </ul> <p><b>FY 2017 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue the minor upgrade and modernization of test capabilities at NAWCAD and NAWCWD.</li> <li>- Continue the upgrade to general instrumentation and equipment.</li> <li>- Continue the modernization of the helicopter propulsion data acquisition system.</li> </ul> <p><b>FY 2017 OCO Plans:</b></p> <p>N/A</p>				
<b>Accomplishments/Planned Programs Subtotals</b>				121.108    61.234    42.109    0.000    42.109
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
Not Applicable.				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0604759N / Major T&E Investment	<b>Project (Number/Name)</b> 2195 / T & E Investment
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605126N I (U)Joint Theater Air and Missile Defense Org							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	4.800	6.995	2.998	-	2.998	0.140	0.046	0.000	0.000	0.000	14.979
3307: Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)	0.000	4.800	6.995	2.998	-	2.998	0.140	0.046	0.000	0.000	0.000	14.979
<b>A. Mission Description and Budget Item Justification</b>												
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) and 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 completed 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 began development to deliver an automated planning capability for Naval Integrated Fire Control-Counter Air (NIFC-CA) operations.												
<b>B. Program Change Summary (\$ in Millions)</b>				FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total				
Previous President's Budget				4.960	6.995	3.238	-	-	3.238			
Current President's Budget				4.800	6.995	2.998	-	-	2.998			
Total Adjustments				-0.160	0.000	-0.240	-	-	-0.240			
<ul style="list-style-type: none"> <li>• Congressional General Reductions</li> <li>• Congressional Directed Reductions</li> <li>• Congressional Rescissions</li> <li>• Congressional Adds</li> <li>• Congressional Directed Transfers</li> <li>• Reprogrammings</li> <li>• SBIR/STTR Transfer</li> <li>• Program Adjustments</li> </ul>				-	-	-	-	-				
				-	-	-	-	-				
				-	-	-	-	-				
				-	-	-	-	-				
				-	-	-	-	-				
				-0.160	0.000	-0.240	-	-	-0.240			
<b>Change Summary Explanation</b>												
Decrease in Joint Theater Air and Missile Defense Org by \$.125M was required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.												
The FY 2017 funding request was reduced by \$.115 million to account for the availability of prior year execution balances.												

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)					
1319 / 6					PE 0605126N I (U)Joint Theater Air and Missile Defense Org				3307 I Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)					
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost		
3307: Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)	0.000	4.800	6.995	2.998	-	2.998	0.140	0.046	0.000	0.000	0.000	14.979		
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-			
<b>A. Mission Description and Budget Item Justification</b>														
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) and 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 completed 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 began development to deliver an automated planning capability for Naval Integrated Fire Control-Counter Air (NIFC-CA) operations.														
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>														
Title: Systems Engineering										FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Articles:										4.800	6.995	2.998	0.000	2.998
<b>FY 2015 Accomplishments:</b>										-	-	-	-	-
Developed Long Range Search and Track (LRS&T, Cured Engagement and Launch on TADIL (LoT) planning capability by:														
- Conducted Systems Engineering Technical Review (SETR).														
- Completed contractor testing and Development Testing & Operational Testing (DT&OT).														
- Achieved approval to field.														
Began developing CEC stationing, Bottom Contours and Naval Integrated Fire Control-Counter Air (NIFC-CA) planning capability by performing the following:														
- Completed NIFC-CA risk reduction prototyping.														
- Established development contract for design, development, implementation, testing and delivery of the NIFC-CA capability.														
<b>FY 2016 Plans:</b>														
Funding increase from FY2015 supports the development of the MIPS competitive contract.														

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605126N I (U)Joint Theater Air and Missile Defense Org	<b>Project (Number/Name)</b> 3307 I Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<p>Commence development of Phase 2, Increment I update to MIPS includes develop of Cooperative Engagement Capability (CEC) stationing, Bottom Contours and NIFC-CA planning capability by performing the following:</p> <ul style="list-style-type: none"> <li>- Receive required Government Furnished Information (GFI) to update the MIPS modeling to consider bottom contours, incorporate CEC capability in planning and NIFC-CA requirements.</li> <li>- Allocate the requirements for Bottom Contours, CEC Stationing and NIFC-CA to the MIPS system elements determining the area impacted and requiring development.</li> <li>- Conduct Production Design Review (PDR) and Critical Design Review (CDR) to ensure the development is properly managed and risks are properly managed.</li> <li>- Complete development of detailed design.</li> </ul> <p><b>FY 2017 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Conduct Test Readiness Review (TRR) to ensure system is ready for system level test.</li> <li>- Conduct acceptance testing, DT and perform testing planning for Initial Operational Test &amp; Evaluation (IOT&amp;E) in FY2018.</li> </ul> <p><b>FY 2017 OCO Plans:</b></p> <p>N/A</p>					
<b>Accomplishments/Planned Programs Subtotals</b>		4.800	6.995	2.998	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>		2.998			
N/A					
<b>Remarks</b>					
<b>D. Acquisition Strategy</b>					
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 2016.					
Contracts: MIPS RDT&E FY15-FY17					
<b>E. Performance Metrics</b>					
FY15: - Commenced development of first increment NIFC-CA planning capability, and Bottom Contours, CEC stationing model updates.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>	<b>Project (Number/Name)</b>
1319 / 6	PE 0605126N I (U)Joint Theater Air and Missile Defense Org	3307 I Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)
- Continued to conduct Developmental Tests (DT) and Operational Tests (OT) to support fielding the LRS&T, Cued Engagement and Launch on TADIL updated. - Conducted TIMs as needed to explore and resolve emergent design and requirement issues.		
<b>FY16:</b> - 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.		
<b>FY17:</b> Complete system development and prepare for IOT&E occurring in FY2018.		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)								
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605152N / Studies & Analysis Supt - Navy								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
Total Program Element	0.000	3.411	4.011	3.931	-	3.931	4.033	3.973	4.005	4.102	Continuing	Continuing	
2092: Naval Warfare Studies	0.000	0.723	0.751	0.683	-	0.683	0.769	0.787	0.806	0.823	Continuing	Continuing	
2097: Manpower Personnel & Training	0.000	0.478	0.323	0.555	-	0.555	0.578	0.504	0.507	0.518	Continuing	Continuing	
3310: Naval Aviation Developmental Planning	0.000	2.210	2.937	2.693	-	2.693	2.686	2.682	2.692	2.761	Continuing	Continuing	
<b>A. Mission Description and Budget Item Justification</b>													
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>B. Program Change Summary (\$ in Millions)</b>				FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total					
Previous President's Budget				3.484	4.011	4.722	-	-					
Current President's Budget				3.411	4.011	3.931	-	-					
Total Adjustments				-0.073	0.000	-0.791	-	-					
• Congressional General Reductions				-	-	-	-	-					
• Congressional Directed Reductions				-	-	-	-	-					
• Congressional Rescissions				-	-	-	-	-					
• Congressional Adds				-	-	-	-	-					
• Congressional Directed Transfers				-	-	-	-	-					
• Reprogrammings				-	-	-	-	-					
• SBIR/STTR Transfer				-0.073	0.000	-	-	-					
• Program Adjustments				0.000	0.000	0.000	-	-					
• Rate/Misc Adjustments				0.000	0.000	-0.791	-	-					
<b>Change Summary Explanation</b>													
The FY 2017 request has been reduced by -\$0.021 million to account for the availability of prior year execution balances and by -\$0.168 million as required in order for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.													

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605152N / <i>Studies &amp; Analysis Supt - Navy</i>
Technical: Not applicable.	
Schedule: Not applicable.	

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605152N / Studies & Analysis Supt - Navy				Project (Number/Name) 2092 / Naval Warfare Studies				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2092: Naval Warfare Studies	0.000	0.723	0.751	0.683	-	0.683	0.769	0.787	0.806	0.823	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 work adds fidelity to the system through the inclusion of Mission Technical Baselines and Integrated Capabilities Technical Baselines data to identify program of record integration and interoperability dependencies to inform investment/divestment decisions. 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 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Resource Allocation Model (RAM)	0.723	0.751	0.683	0.000	0.683
<b>Articles:</b>	-	-	-	-	-

**FY 2015 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.  
 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 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 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605152N / Studies & Analysis Supt - Navy	Project (Number/Name) 2092 / Naval Warfare Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 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.						
<b>FY 2017 Base Plans:</b> 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, pedigree, 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.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>		0.723	0.751	0.683	0.000	0.683
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b> Not applicable.						
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605152N / Studies & Analysis Supt - Navy					Project (Number/Name) 2097 / Manpower Personnel & Training			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2097: Manpower Personnel & Training	0.000	0.478	0.323	0.555	-	0.555	0.578	0.504	0.507	0.518	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Manpower Personnel & Training  <b>Articles:</b>	0.478 5	0.323 4	0.555 -	0.000 5	0.555 5
<b>Description:</b> The FY16 funding request was reduced by -\$0.173 million to account for the availability of prior year balances. The funding increase from FY16 to FY17 reflects the resumption of the assessment of factors, thresholds and mitigation strategies to avoid a Hollow Force.					
<b>FY 2015 Accomplishments:</b>					
- 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.					
<b>FY 2016 Plans:</b>					
- 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.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016						
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605152N / Studies & Analysis Supt - Navy	<b>Project (Number/Name)</b> 2097 / Manpower Personnel & Training						
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>									
		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>				
- Continue assessing economic factors and relationships to MPTE business lines ISO forecasting and responses.									
<b>FY 2017 Base Plans:</b>									
- 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.									
- Resume assessing factors, thresholds and mitigation strategies to avoid a Hollow Force.									
<b>FY 2017 OCO Plans:</b>									
N/A									
<b>Accomplishments/Planned Programs Subtotals</b>		0.478	0.323	0.555	0.000				
<b>C. Other Program Funding Summary (\$ in Millions)</b>									
N/A									
<b>Remarks</b>									
<b>D. Acquisition Strategy</b>									
N/A									
<b>E. Performance Metrics</b>									
<p>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 &amp; 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.</p>									

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605152N / Studies & Analysis Supt - Navy				Project (Number/Name) 3310 / Naval Aviation Developmental Planning			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3310: Naval Aviation Developmental Planning	0.000	2.210	2.937	2.693	-	2.693	2.686	2.682	2.692	2.761	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Naval Aviation Developmental Planning					2.210	2.937	2.693	0.000	2.693
<b>Articles:</b>					-	-	-	-	-

**FY 2015 Accomplishments:**  
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 Plans:**  
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

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605152N / Studies & Analysis Supt - Navy		<b>Project (Number/Name)</b> 3310 / Naval Aviation Developmental Planning
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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.				
<b>FY 2017 Base Plans:</b> Continue various studies for training aircraft, FA-18E/F/G, P-8A, MH-60R, MH-60S, and Joint Strike Fighter 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.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				2.210    2.937    2.693    0.000    2.693
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				
<b>E. Performance Metrics</b>				
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 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605154N / Center For Naval Analyses							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	43.054	47.071	46.634	-	46.634	49.937	51.251	52.400	53.524	Continuing	Continuing
0031: MCOAG	0.000	5.398	5.695	5.989	-	5.989	6.188	6.328	6.456	6.598	Continuing	Continuing
0148: Center For Naval Analyses (CNA)	0.000	37.656	41.376	40.645	-	40.645	43.749	44.923	45.944	46.926	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	44.696	48.563	49.773	-	49.773
Current President's Budget	43.054	47.071	46.634	-	46.634
Total Adjustments	-1.642	-1.492	-3.139	-	-3.139
• Congressional General Reductions	-	-1.492			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.100	0.000			
• SBIR/STTR Transfer	-1.542	0.000			
• Rate/Misc Adjustments	0.000	0.000	-3.139	-	-3.139

**Change Summary Explanation**

The FY 2017 request was reduced by -\$1.3 million as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

Technical: N/A

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605154N / <i>Center For Naval Analyses</i>
Schedule: N/A	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										Date: February 2016			
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605154N / Center For Naval Analyses				Project (Number/Name) 0031 / MCOAG				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0031: MCOAG		0.000	5.398	5.695	5.989	-	5.989	6.188	6.328	6.456	6.598	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		

**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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> MARINE CORPS OPERATIONS AND ANALYSIS GROUP  <b>Articles:</b>	5.398 9	5.695 8	5.989 9	0.000 -	5.989 9
<b>FY 2015 Accomplishments:</b> - Continued research analysis, modeling and simulation data that focused analytical support to the Special Marine Air Ground Task Forces (MAGTF) Crisis Response(CR) that provides critical mission research advise to unit commanders. - Continued support current operations to include: weapons and systems programs, MAGTF training and exercise assessments, amphibious shipping capabilities, and reductions to naval operations and strategic commitments. Analysis and solutions relating to support and sustainment in terms of equipment readiness, training, responsiveness and maintaining squadron readiness, development of facilities sustainment and service life programs save the Marine Corps valuable time and resources. Manpower, force structure, aviation recruiting and retention, and valuations of recruiting, retaining and retiring Marines analyses provide viable personnel solutions in times of shrinking resources. Intelligence capabilities assessments, analyses of threat assessments					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605154N / Center For Naval Analyses	<b>Project (Number/Name)</b> 0031 / MCOAG	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
from known and unknown enemies, i.e. Al-Qaeda, Northern Africa and Iran, and Joint Irregular Warfare Analytic Baseline (JIWAB) development provide valuable information to assist Marine Corps Intelligence organizations in keeping the force educated and safe. - Initiated high priority study and analysis projects approved in FY15 Marine Corps Studies System Management Plan (MCSSMP). - Initiated research analysis, and survey support efforts associated with development and implantation of the Marine Forces Integration Plan (MCFIP) Women in Infantry.				
<b>FY 2016 Plans:</b> - Continue all efforts of FY15 - Initiate high priority study and analysis projects approved in FY16 Marine Corps Studies System Master Plan (MCSSMP).				
<b>FY 2017 Base Plans:</b> - Continue all efforts of FY16 - Initiate high priority study and analysis projects approved in FY17 MCSSMP.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				5.398    5.695    5.989    0.000    5.989
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				
<b>E. Performance Metrics</b>				
This 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.				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605154N / Center For Naval Analyses	<b>Project (Number/Name)</b> 0031 / MCOAG
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 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 2017 Navy											Date: February 2016				
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605154N / Center For Naval Analyses				Project (Number/Name) 0148 / Center For Naval Analyses (CNA)						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
0148: Center For Naval Analyses (CNA)	0.000	37.656	41.376	40.645	-	40.645	43.749	44.923	45.944	46.926	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-	-			
<b>A. Mission Description and Budget Item Justification</b>															
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> CENTER FOR NAVAL ANALYSES, NAVY  <b>Articles:</b>											37.656	41.376	40.645	0.000	40.645
<b>Description:</b> 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 in FY16 reflects the Navy priorities to expand the ability to respond to both CNO tasking and anticipated real-world contingencies.															
<b>FY 2015 Accomplishments:</b>															
CNA initiated 451 analytic efforts in FY15. 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 OPTEVFOR and DOT&E, SYSCOMs, Office of the Secretary of Defense, Defense agencies and the Defense Intelligence Community.															

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605154N / Center For Naval Analyses	<b>Project (Number/Name)</b> 0148 / Center For Naval Analyses (CNA)				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
A few examples of recently completed or ongoing efforts that parallel the general topics mentioned in the preceding section include: <ul style="list-style-type: none"><li>-Helping train Carrier Strike Groups (CSGs) to operate successfully in contested radio frequency (RF) environments;</li><li>-Support for operational testing of the F-35, a new sensor package for the F/A-18E/F, and littoral combat ship (LCS) mission packages;</li><li>-An independent assessment of the Afghan National Security Forces;</li><li>-Assessing the consequence of maintenance delays on ship deployment readiness and analysis of Navy logistics resiliency in WESTPAC;</li><li>-Developing recommendations to help the Navy improve FIT (skills associated with the bodies) and FILL (number of bodies) on its surface combatants, assessing the impact of increased OPTEMPO on officer retention, and providing analytical support for the Marine Corps Force Integration plan;</li><li>-Analysis of cyber activity conducted against the Navy's intranet in 2013 and helping improve Fleet cyber defense;</li><li>-Helping the Program Assessment and Root Cause Analysis (PARCA) office in OSD anticipate cost and schedule changes in defense acquisition programs;</li><li>-Conducting a series of wargames to help the Navy examine future fleet architecture;</li><li>-Assessing the People's Liberation Army (PLA) and People's Liberation Army Navy (PLAN) views of the U.S rebalance to Asia and helping the Navy develop a competitive strategy for Iran.</li></ul> <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 carrier strike groups (CSG) and 1st Marine expeditionary Force (I MEF) (Forward) in ongoing operations in the CENTCOM area of responsibility (AOR).</p> <p><b>FY 2016 Plans:</b></p> <ul style="list-style-type: none"><li>- Continue all efforts of FY15.</li><li>- Increase efforts in Cyber security.</li><li>- Initiate high priority China studies.</li><li>- Provide additional support in the area of Electronic Warfare.</li></ul> <p><b>FY 2017 Base Plans:</b></p> <ul style="list-style-type: none"><li>- Continue all efforts of FY16.</li></ul> <p><b>FY 2017 OCO Plans:</b></p>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605154N / Center For Naval Analyses		<b>Project (Number/Name)</b> 0148 / Center For Naval Analyses (CNA)	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>
N/A					
<b>Accomplishments/Planned Programs Subtotals</b>		37.656	41.376	40.645	0.000
					40.645
<b>C. Other Program Funding Summary (\$ in Millions)</b>					
N/A					
<b>Remarks</b>					
<b>D. Acquisition Strategy</b>					
N/A					
<b>E. Performance Metrics</b>					
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 Federally Funded Research and Development Center (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 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605285N / (U)Next Generation Fighter							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	4.794	5.000	1.200	-	1.200	0.000	0.000	0.000	0.000	0.000	10.994
2937: Next Generation Fighter	0.000	4.794	5.000	1.200	-	1.200	0.000	0.000	0.000	0.000	0.000	10.994
<b>A. Mission Description and Budget Item Justification</b>												
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>B. Program Change Summary (\$ in Millions)</b>			FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total					
Previous President's Budget			4.794	5.000	0.000	-	-				0.000	
Current President's Budget			4.794	5.000	1.200	-	-				1.200	
Total Adjustments			0.000	0.000	1.200	-	-				1.200	
• Congressional General Reductions			-	-	-	-	-					
• Congressional Directed Reductions			-	-	-	-	-					
• Congressional Rescissions			-	-	-	-	-					
• Congressional Adds			-	-	-	-	-					
• Congressional Directed Transfers			-	-	-	-	-					
• Reprogrammings			-	-	-	-	-					
• SBIR/STTR Transfer			-	-	-	-	-					
• Rate/Misc Adjustments			0.000	0.000	1.200	-	-				1.200	
<b>Change Summary Explanation</b>												
Technical: Not applicable.												
Schedule: Not applicable.												

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605285N / (U)Next Generation Fighter				Project (Number/Name) 2937 / Next Generation Fighter				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2937: Next Generation Fighter		0.000	4.794	5.000	1.200	-	1.200	0.000	0.000	0.000	0.000	10.994	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		

**Note**

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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
4.794	5.000	1.200	0.000	1.200

**Title:** Next Generation Air Dominance Analysis

**Articles:**

**FY 2015 Accomplishments:**

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 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 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 2017 Base Plans:**

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605285N / (U)Next Generation Fighter	Project (Number/Name) 2937 / Next Generation Fighter				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue an AoA to establish cost and capability tradespaces described by the capability requirements described in the Next Generation Air Dominance (NGAD) Initial Capabilities Document and the signed NGAD Study Plan. Conduct systems engineering and mission effectiveness analysis to sufficiently review capabilities of the proposed family-of-system alternatives. Conduct cost estimates and affordability analysis with sufficient fidelity across the total life-cycle of the alternative courses of action to identify a preferred system concept. This includes analysis and support of Analysis of Alternatives (AoA) execution and Advanced Development Program Office planning. Products include data sets, automated tools, and decision aids necessary to provide OPNAV and OSD the information to perform acquisition planning in support of warfighter capability requirements. Conduct briefing support as required by excursions at the direction of the AoA executive steering group.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		<b>Accomplishments/Planned Programs Subtotals</b>		4.794	5.000	1.200
<b>D. Acquisition Strategy</b> N/A				0.000	1.200	
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605502N / Small Business Innovative Research							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	325.428	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	325.428
1812: NAVAIR SBIR Program	0.000	93.821	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	93.821
1813: SPAWAR SBIR Program	0.000	6.707	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.707
1814: NAVSEA SBIR Program	0.000	54.875	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	54.875
1824: CMC SBIR Program	0.000	10.602	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.602
1862: SSPO SBIR Program	0.000	3.561	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.561
1863: NAVSUP SBIR Program	0.000	1.844	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.844
1864: CNR SBIR Program	0.000	77.743	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	77.743
1865: SBIR Administration	0.000	4.718	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.718
2016: NAVFAC SBIR Program	0.000	1.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.000
2204: Small Business Tech Transfer Program	0.000	23.902	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	23.902
2240: Navy Dual Use Technology Program	0.000	0.533	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.533
2241: SBIR ADMIN - SPAWAR	0.000	0.372	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.372
2242: SBIR ADMIN - NAVSEA	0.000	7.233	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.233
2243: SBIR ADMIN - NAVAIR	0.000	5.030	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.030
2244: SBIR ADMIN - NAVFAC	0.000	0.050	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.050
2245: SBIR ADMIN - NAVSUP	0.000	0.060	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.060
2248: SBIR ADMIN - SSPO	0.000	0.183	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.183
2813: SBIR - NSMA	0.000	8.580	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	8.580
2814: SBIR ADMIN - NSMA	0.000	0.558	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.558
3201: SBIR CPP - NAVAIR	0.000	0.962	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.962
3202: SBIR CPP - SPAWAR	0.000	0.070	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.070
3203: SBIR CPP - NAVSEA	0.000	0.572	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.572

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605502N / Small Business Innovative Research							
3204: SBIR CPP - MARINE CORPS	0.000	0.128	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.128
3205: SBIR CPP - ONR	0.000	0.963	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.963
3213: NAVAIR STTR Program	0.000	13.275	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.275
3344: SBIR Trial Admin Program	0.000	8.086	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	8.086

**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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	325.428	0.000	0.000	-	0.000
Total Adjustments	325.428	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.018	0.000			
• SBIR/STTR Transfer	325.447	0.000			
• Rate/Misc Adjustments	-0.001	0.000	0.000	-	0.000

**Change Summary Explanation**

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 1812 / NAVAIR SBIR Program			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
1812: NAVAIR SBIR Program	0.000	93.821	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	93.821
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>												
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 2.9% for SBIR in FY 2015. This funds Research and Development (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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>												
											FY 2017 Total	
<b>Title:</b> Phase I Feasibility											0.000	
<i>Articles:</i>											-	
<b>FY 2015 Accomplishments:</b>											0.000	
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.											-	
<b>Phase I Feasibility:</b>											0.000	
Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns.											-	
<b>FY 2016 Plans:</b>											N/A	
<b>FY 2017 Base Plans:</b>											N/A	
<b>FY 2017 OCO Plans:</b>											N/A	
<b>Title:</b> Phase II Technology Development											0.000	
<i>Articles:</i>											0.000	
<b>FY 2015 Accomplishments:</b>											0.000	
											0.000	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research	Project (Number/Name) 1812 / NAVAIR SBIR Program				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 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.						
<b>FY 2016 Plans:</b> N/A						
<b>FY 2017 Base Plans:</b> N/A						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>						
93.821      0.000      0.000      0.000      0.000						
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A						
<b>E. Performance Metrics</b>						
None.						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 1813 / SPAWAR SBIR Program				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
1813: SPAWAR SBIR Program		0.000	6.707	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	6.707	
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 2.9% for SBIR in FY 2015. This funds Research and Development (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)**

Title: SPAWAR SBIR Program	Articles:	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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).		6.707	0.000	0.000	0.000	0.000
<b>FY 2015 Accomplishments:</b> 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 II Technology Development: Phase II awarded 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 - The ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts awarded to those efforts that were ready to be commercialized or integrated into a Program of Record (POR). The DOD started tracking DOD Phase III contract awards in 2000 in order to track the success of the SBIR program. The Navy generally awards more Phase III contracts than the rest of the DOD combined. Although no government SBIR funds are involved, phase III funding can come from the						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 1813 / <i>SPAWAR SBIR Program</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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.				
<b>FY 2016 Plans:</b> N/A				
<b>FY 2017 Base Plans:</b> N/A				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				6.707    0.000    0.000    0.000    0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> N/A				
<b>E. Performance Metrics</b> None				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 1814 / NAVSEA SBIR Program				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
1814: NAVSEA SBIR Program	0.000	54.875	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	54.875	
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 2.9% for SBIR in FY 2015. 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> NAVSEA SBIR PROGRAM  <b>FY 2015 Accomplishments:</b> 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,	54.875	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 1814 / <i>NAVSEA SBIR Program</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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.				
<b>FY 2016 Plans:</b> N/A				
<b>FY 2017 Base Plans:</b> N/A				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				54.875    0.000    0.000    0.000    0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> N/A				
<b>E. Performance Metrics</b> None.				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 1824 / CMC SBIR Program			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
1824: CMC SBIR Program	0.000	10.602	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.602
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 2.9% for SBIR in FY 2015. 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)**

Title: USMC SBIR Program	Articles:	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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.		10.602	0.000	0.000	0.000	0.000
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,						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016				
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research	Project (Number/Name) 1824 / CMC SBIR Program						
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total		
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.								
<b>FY 2016 Plans:</b> N/A	<b>FY 2017 Base Plans:</b> N/A	<b>FY 2017 OCO Plans:</b> N/A	Accomplishments/Planned Programs Subtotals	10.602	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>								
N/A								
<b>Remarks</b>								
<b>D. Acquisition Strategy</b>								
N/A								
<b>E. Performance Metrics</b>								
None.								

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 1862 / SSPO SBIR Program				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
1862: SSPO SBIR Program		0.000	3.561	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	3.561	
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 2.9% for SBIR in FY 2015. 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> SSPO SBIR Program  <b>FY 2015 Accomplishments:</b> 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,	3.561	0.000	0.000	0.000	0.000
<b>Articles:</b>	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 1862 / <i>SSPO SBIR Program</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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.				
<b>FY 2016 Plans:</b> N/A				
<b>FY 2017 Base Plans:</b> N/A				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				3.561    0.000    0.000    0.000    0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> N/A				
<b>E. Performance Metrics</b> None.				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 1863 / NAVSUP SBIR Program			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
1863: NAVSUP SBIR Program		0.000	1.844	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	1.844
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-	
<b>A. Mission Description and Budget Item Justification</b>												
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 2.9% for SBIR in FY 2015. 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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>												
<b>Title:</b> NAVSUP SBIR PROGRAM <b>Articles:</b> <b>FY 2015 Accomplishments:</b> 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.  <b>FY 2016 Plans:</b>												
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total								
1.844	0.000	0.000	0.000	0.000								
-	-	-	-	-								

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 1863 / <i>NAVSUP SBIR Program</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A				
<b>FY 2017 Base Plans:</b> N/A				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				1.844    0.000    0.000    0.000    0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				
<b>E. Performance Metrics</b>				
None.				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 1864 / CNR SBIR Program			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
1864: CNR SBIR Program	0.000	77.743	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	77.743
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 2.9% for SBIR in FY 2015. This funds Research and Development (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)**

Title: CNR SBIR Program	Articles:	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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.		77.743	0.000	0.000	0.000	0.000
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.						
<b>FY 2016 Plans:</b>						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 1864 / <i>CNR SBIR Program</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>
N/A <b>FY 2017 Base Plans:</b> N/A				<b>FY 2017 OCO</b>
<b>FY 2017 OCO Plans:</b> N/A				<b>FY 2017 Total</b>
<b>Accomplishments/Planned Programs Subtotals</b>		77.743	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>		0.000	0.000	0.000
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				
<b>E. Performance Metrics</b>				
None.				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016				
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 1865 / SBIR Administration						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
1865: SBIR Administration	0.000	4.718	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.718			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-				
<b>A. Mission Description and Budget Item Justification</b>															
Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.															
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> SBIR Administration  <i>Articles:</i>											4.718	0.000	0.000	0.000	0.000
<i>FY 2015 Accomplishments:</i> -Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.											-	-	-	-	-
<i>FY 2016 Plans:</i> N/A															
<i>FY 2017 Base Plans:</i> N/A															
<i>FY 2017 OCO Plans:</i> N/A															
Accomplishments/Planned Programs Subtotals											4.718	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>															
N/A															
<b>Remarks</b>															
<b>D. Acquisition Strategy</b>															
N/A															
<b>E. Performance Metrics</b>															
None.															

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 2016 / NAVFAC SBIR Program				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2016: NAVFAC SBIR Program		0.000	1.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	1.000	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>													
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 2.9% for SBIR in FY 2015. This funds Research and Development (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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<b>Title:</b> NAVFAC SBIR Program <b>Articles:</b> <b>FY 2015 Accomplishments:</b> Phase 1 and Phase II's awarded based on solicitations issued three times a year for SBIR describing R&D needs and inviting from small companies. <b>Phase I Feasibility:</b> 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). <b>Phase II Technology Development:</b> 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. <b>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 then 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.</b>													
<b>FY 2016 Plans:</b>													
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total									
1.000	0.000	0.000	0.000	0.000									
-	-	-	-	-									

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016				
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 2016 / <i>NAVFAC SBIR Program</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>								
	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total			
N/A <b>FY 2017 Base Plans:</b> N/A <b>FY 2017 OCO Plans:</b> N/A								
<b>Accomplishments/Planned Programs Subtotals</b>				1.000	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>								
N/A								
<b>Remarks</b>								
<b>D. Acquisition Strategy</b>								
N/A								
<b>E. Performance Metrics</b>								
None.								

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016			
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 2204 / Small Business Tech Transfer Program					
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost		
2204: Small Business Tech Transfer Program	0.000	23.902	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	23.902		
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-			
<b>A. Mission Description and Budget Item Justification</b>														
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 2015. 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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>														
<i>Title:</i> Small Business Tech Transfer Program  <i>Articles:</i>										FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
23.902 - - -										23.902	0.000	0.000	0.000	0.000
<b>FY 2015 Accomplishments:</b> -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.														
<b>FY 2016 Plans:</b> N/A														
<b>FY 2017 Base Plans:</b> N/A														
<b>FY 2017 OCO Plans:</b> N/A														
<b>Accomplishments/Planned Programs Subtotals</b>										23.902	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>														
N/A														

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 2204 / <i>Small Business Tech Transfer Program</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> None.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016				
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 2240 / Navy Dual Use Technology Program						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
2240: Navy Dual Use Technology Program	0.000	0.533	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.533			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-				
<b>A. Mission Description and Budget Item Justification</b>															
Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.															
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> USMC SBIR Administration											0.533	0.000	0.000	0.000	0.000
<i>Articles:</i>											-	-	-	-	-
<b>FY 2015 Accomplishments:</b>															
Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.															
<b>FY 2016 Plans:</b>															
N/A															
<b>FY 2017 Base Plans:</b>															
N/A															
<b>FY 2017 OCO Plans:</b>															
N/A															
<b>Accomplishments/Planned Programs Subtotals</b>											0.533	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>															
N/A															
<b>Remarks</b>															
<b>D. Acquisition Strategy</b>															
N/A															

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 2240 / <i>Navy Dual Use Technology Program</i>
<b>E. Performance Metrics</b>		
None.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016						
<b>Appropriation/Budget Activity</b> 1319 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605502N / Small Business Innovative Research				<b>Project (Number/Name)</b> 2241 / SBIR ADMIN - SPAWAR								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost					
2241: SBIR ADMIN - SPAWAR	0.000	0.372	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.372					
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-							
<b>A. Mission Description and Budget Item Justification</b>																	
Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.																	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>																	
Title: SPAWAR SBIR Administration	<i>Articles:</i>					FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total							
						0.372	0.000	0.000	0.000	0.000	0.000						
<b>FY 2015 Accomplishments:</b>						-	-	-	-	-	-						
Managed the program, technical efforts and awarded contracts related to SBIR.																	
<b>FY 2016 Plans:</b>																	
N/A																	
<b>FY 2017 Base Plans:</b>																	
N/A																	
<b>FY 2017 OCO Plans:</b>																	
N/A																	
<b>Accomplishments/Planned Programs Subtotals</b>								0.372	0.000	0.000	0.000	0.000					
<b>C. Other Program Funding Summary (\$ in Millions)</b>																	
N/A																	
<b>Remarks</b>																	
<b>D. Acquisition Strategy</b>																	
N/A																	
<b>E. Performance Metrics</b>																	
None.																	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 2242 / SBIR ADMIN - NAVSEA				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2242: SBIR ADMIN - NAVSEA	0.000	7.233	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.233	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>													
Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.													
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<i>Title:</i> NAVSEA SBIR Administration  <i>Articles:</i>													
<i>FY 2015 Accomplishments:</i> Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.													
<i>FY 2016 Plans:</i> N/A													
<i>FY 2017 Base Plans:</i> N/A													
<i>FY 2017 OCO Plans:</i> N/A													
Accomplishments/Planned Programs Subtotals										7.233	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>													
N/A													
<b>Remarks</b>													
<b>D. Acquisition Strategy</b>													
N/A													
<b>E. Performance Metrics</b>													
None.													

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016					
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 2243 / SBIR ADMIN - NAVAIR							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost				
2243: SBIR ADMIN - NAVAIR		0.000	5.030	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	5.030				
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>																
Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.																
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<i>Title:</i> NAVAIR SBIR Administration											<i>Articles:</i>	5.030	0.000	0.000	0.000	0.000
<i>FY 2015 Accomplishments:</i> Manage the program, technical efforts and award contracts related to SBIR.												-	-	-	-	
<i>FY 2016 Plans:</i> N/A																
<i>FY 2017 Base Plans:</i> N/A																
<i>FY 2017 OCO Plans:</i> N/A																
<b>Accomplishments/Planned Programs Subtotals</b>											5.030	0.000	0.000	0.000	0.000	
<b>C. Other Program Funding Summary (\$ in Millions)</b>																
N/A																
<b>Remarks</b>																
<b>D. Acquisition Strategy</b>																
N/A																
<b>E. Performance Metrics</b>																
None																

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 2244 / SBIR ADMIN - NAVFAC				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2244: SBIR ADMIN - NAVFAC		0.000	0.050	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.050	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>													
Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.													
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<i>Title:</i> NAVFAC SBIR Administration  <i>Articles:</i>													
<i>FY 2015 Accomplishments:</i> Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.													
<i>FY 2016 Plans:</i> N/A													
<i>FY 2017 Base Plans:</i> N/A													
<i>FY 2017 OCO Plans:</i> N/A													
Accomplishments/Planned Programs Subtotals										0.050	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>													
N/A													
<b>Remarks</b>													
<b>D. Acquisition Strategy</b>													
N/A													
<b>E. Performance Metrics</b>													
None.													

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 2245 / SBIR ADMIN - NAVSUP				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2245: SBIR ADMIN - NAVSUP		0.000	0.060	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.060	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>													
Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.													
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<i>Title:</i> NAVSUP SBIR Administration  <i>FY 2015 Accomplishments:</i> Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.  <i>FY 2016 Plans:</i> N/A  <i>FY 2017 Base Plans:</i> N/A  <i>FY 2017 OCO Plans:</i> N/A													
<i>Articles:</i>													
FY 2015      FY 2016      FY 2017 Base      FY 2017 OCO      FY 2017 Total													
0.060      0.000      0.000      0.000      0.000													
-      -      -      -      -													
Accomplishments/Planned Programs Subtotals													
0.060      0.000      0.000      0.000      0.000													
<b>C. Other Program Funding Summary (\$ in Millions)</b>													
N/A													
<b>Remarks</b>													
<b>D. Acquisition Strategy</b>													
N/A													
<b>E. Performance Metrics</b>													
None.													

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										Date: February 2016			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)				
1319 / 6					PE 0605502N / Small Business Innovative Research				2248 / SBIR ADMIN - SSPO				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2248: SBIR ADMIN - SSPO	0.000	0.183	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.183	
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
0.183	0.000	0.000	0.000	0.183

**Title:** SSPO SBIR Administration  
**Articles:**

**FY 2015 Accomplishments:**  
 Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.

**FY 2016 Plans:**  
 N/A

**FY 2017 Base Plans:**  
 N/A

**FY 2017 OCO Plans:**  
 N/A

**Accomplishments/Planned Programs Subtotals**

0.183	0.000	0.000	0.000	0.000
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**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 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 2813 / SBIR - NSMA				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2813: SBIR - NSMA		0.000	8.580	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	8.580	
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 2.9% for SBIR in FY 2015. This funds Research and Development (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)**

Title: NSMA SBIR PROGRAM	Articles:	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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).		8.580	0.000	0.000	0.000	0.000
<b>FY 2015 Accomplishments:</b> 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 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,						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research	Project (Number/Name) 2813 / SBIR - NSMA				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>  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	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>FY 2016 Plans:</b> N/A						
<b>FY 2017 Base Plans:</b> N/A						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>		8.580	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A						
<b>E. Performance Metrics</b>						
None.						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6				<b>R-1 Program Element (Number/Name)</b> PE 0605502N / Small Business Innovative Research					<b>Project (Number/Name)</b> 2814 / SBIR ADMIN - NSMA			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2814: SBIR ADMIN - NSMA	0.000	0.558	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.558
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b> Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.												
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>												
<i>Title:</i> NSMA SBIR Administration  <i>FY 2015 Accomplishments:</i> Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.  <i>FY 2016 Plans:</i> N/A  <i>FY 2017 Base Plans:</i> N/A  <i>FY 2017 OCO Plans:</i> N/A						<i>Articles:</i>	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
							0.558	0.000	0.000	0.000	0.000	
							-	-	-	-	-	
Accomplishments/Planned Programs Subtotals												
0.558      0.000      0.000      0.000      0.000												
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
N/A												
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
N/A												
<b>E. Performance Metrics</b>												
None.												

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 3201 / SBIR CPP - NAVAIR				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3201: SBIR CPP - NAVAIR	0.000	0.962	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.962	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>													
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<b>Title:</b> Small Business Innovative Research Pilot Program - NAVAIR <b>Articles:</b> <b>FY 2015 Accomplishments:</b> Manage the Commercialization Readiness Program (CRP) <b>FY 2016 Plans:</b> N/A <b>FY 2017 Base Plans:</b> N/A <b>FY 2017 OCO Plans:</b> N/A													
<b>Accomplishments/Planned Programs Subtotals</b> 0.962      0.000      0.000      0.000      0.000													
<b>C. Other Program Funding Summary (\$ in Millions)</b>													
N/A													
<b>Remarks</b>													
<b>D. Acquisition Strategy</b>													
N/A													

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 3201 / <i>SBIR CPP - NAVAIR</i>
<b>E. Performance Metrics</b> CPP Administration		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
<b>Appropriation/Budget Activity</b> 1319 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605502N / Small Business Innovative Research				<b>Project (Number/Name)</b> 3202 / SBIR CPP - SPAWAR				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3202: SBIR CPP - SPAWAR	0.000	0.070	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.070	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-			
<b>A. Mission Description and Budget Item Justification</b>													
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
									FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> SBIR CRP - SPAWAR  <i>FY 2015 Accomplishments:</i> Managed the Commercialization Readiness Program (CRP).													
<i>Articles:</i>													
<i>FY 2016 Plans:</i> N/A													
<i>FY 2017 Base Plans:</i> N/A													
<i>FY 2017 OCO Plans:</i> N/A													
Accomplishments/Planned Programs Subtotals													
0.070      0.000      0.000      0.000      0.000													
<b>C. Other Program Funding Summary (\$ in Millions)</b>													
N/A													
<b>Remarks</b>													
<b>D. Acquisition Strategy</b>													
N/A													
<b>E. Performance Metrics</b>													
None.													

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016						
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 3203 / SBIR CPP - NAVSEA								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost					
3203: SBIR CPP - NAVSEA		0.000	0.572	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.572					
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-						
<b>A. Mission Description and Budget Item Justification</b>																	
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total		
<i>Title:</i> NAVSEA SBIR CRP  <i>FY 2015 Accomplishments:</i> Manage the Commercialization Readiness Program (CRP)											<i>Articles:</i>	0.572	0.000	0.000	0.000	0.000	0.000
<i>FY 2016 Plans:</i> N/A												-	-	-	-	-	
<i>FY 2017 Base Plans:</i> N/A																	
<i>FY 2017 OCO Plans:</i> N/A																	
Accomplishments/Planned Programs Subtotals											0.572	0.000	0.000	0.000	0.000	0.000	
<b>C. Other Program Funding Summary (\$ in Millions)</b>																	
N/A																	
<b>Remarks</b>																	
<b>D. Acquisition Strategy</b>																	
N/A																	
<b>E. Performance Metrics</b>																	
None.																	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)				
1319 / 6					PE 0605502N / Small Business Innovative Research				3204 / SBIR CPP - MARINE CORPS				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3204: SBIR CPP - MARINE CORPS	0.000	0.128	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.128	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>													
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<i>Title:</i> SBIR CRP - USMC													
<i>Articles:</i>													
<i>FY 2015 Accomplishments:</i> Manage the Commercialization Readiness Program (CRP).													
<i>FY 2016 Plans:</i> N/A													
<i>FY 2017 Base Plans:</i> N/A													
<i>FY 2017 OCO Plans:</i> N/A													
<b>Accomplishments/Planned Programs Subtotals</b>											0.128	0.000	0.000
											0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>													
N/A													
<b>Remarks</b>													
<b>D. Acquisition Strategy</b>													
N/A													

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 3204 / <i>SBIR CPP - MARINE CORPS</i>
<b>E. Performance Metrics</b> None.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016					
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 3205 / SBIR CPP - ONR							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost				
3205: SBIR CPP - ONR		0.000	0.963	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.963				
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>																
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<i>Title:</i> SBIR CRP - ONR											<i>Articles:</i>	0.963	0.000	0.000	0.000	0.000
<i>FY 2015 Accomplishments:</i> -Manage the Commercialization Readiness Program (CRP)												-	-	-	-	
<i>FY 2016 Plans:</i> N/A																
<i>FY 2017 Base Plans:</i> N/A																
<i>FY 2017 OCO Plans:</i> N/A																
Accomplishments/Planned Programs Subtotals											0.963	0.000	0.000	0.000	0.000	
<b>C. Other Program Funding Summary (\$ in Millions)</b>																
N/A																
<b>Remarks</b>																
<b>D. Acquisition Strategy</b>																
N/A																
<b>E. Performance Metrics</b>																
None.																

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016			
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605502N / Small Business Innovative Research				Project (Number/Name) 3213 / NAVAIR STTR Program					
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost		
3213: NAVAIR STTR Program		0.000	13.275	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	13.275		
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-			
<b>A. Mission Description and Budget Item Justification</b>														
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 2015. 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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>														
										FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> Phase I Feasibility										4.215	0.000	0.000	0.000	0.000
<i>Articles:</i>										-	-	-	-	-
<b>FY 2015 Accomplishments:</b> Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns.														
<b>FY 2016 Plans:</b> N/A														
<b>FY 2017 Base Plans:</b> N/A														
<b>FY 2017 OCO Plans:</b> N/A														
<i>Title:</i> Phase II Technology Development										9.060	0.000	0.000	0.000	0.000
<i>Articles:</i>										-	-	-	-	-
<b>FY 2015 Accomplishments:</b> 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.														
<b>FY 2016 Plans:</b>														

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 3213 / <i>NAVAIR STTR Program</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A				
<b>FY 2017 Base Plans:</b> N/A				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				13.275    0.000    0.000    0.000    0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				
<b>E. Performance Metrics</b>				
None				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016						
<b>Appropriation/Budget Activity</b> 1319 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605502N / Small Business Innovative Research				<b>Project (Number/Name)</b> 3344 / SBIR Trial Admin Program								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost					
3344: SBIR Trial Admin Program	0.000	8.086	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	8.086					
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-							
<b>A. Mission Description and Budget Item Justification</b>																	
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 2.9% for SBIR in FY 2015. 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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>																	
<i>Title:</i> SBIR Trial Admin						<i>Articles:</i>											
<b>FY 2015 Accomplishments:</b>																	
-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>FY 2016 Plans:</b>																	
N/A																	
<b>FY 2017 Base Plans:</b>																	
N/A																	
<b>FY 2017 OCO Plans:</b>																	
N/A																	
<b>Accomplishments/Planned Programs Subtotals</b>																	
8.086      0.000      0.000      0.000      0.000																	
<b>C. Other Program Funding Summary (\$ in Millions)</b>																	
N/A																	
<b>Remarks</b>																	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605502N / <i>Small Business Innovative Research</i>	<b>Project (Number/Name)</b> 3344 / <i>SBIR Trial Admin Program</i>
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> None.		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605804N / Technical Information Services							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	1.290	0.925	0.903	-	0.903	0.955	0.977	0.998	1.018	Continuing	Continuing
0835: Tech Info System	0.000	0.853	0.925	0.903	-	0.903	0.955	0.977	0.998	1.018	Continuing	Continuing
2296: Federal Lab Consortium	0.000	0.437	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.437
<b>A. Mission Description and Budget Item Justification</b>												
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>B. Program Change Summary (\$ in Millions)</b>				FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total				
Previous President's Budget				0.876	0.925	0.946	-	-	0.946			
Current President's Budget				1.290	0.925	0.903	-	-	0.903			
Total Adjustments				0.414	0.000	-0.043	-	-	-0.043			
• Congressional General Reductions				-	-	-	-	-				
• Congressional Directed Reductions				-	-	-	-	-				
• Congressional Rescissions				-	-	-	-	-				
• Congressional Adds				-	-	-	-	-				
• Congressional Directed Transfers				-	-	-	-	-				
• Reprogrammings				-	-	-	-	-				
• SBIR/STTR Transfer				0.414	0.000	-	-	-				
• Rate/Misc Adjustments				0.000	0.000	-0.043	-	-	-0.043			
<b>Change Summary Explanation</b>												
The FY 2017 request was reduced by -\$0.037 million as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.												
Technical: Not applicable.												
Schedule: Not applicable.												

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605804N / Technical Information Services					Project (Number/Name) 0835 / Tech Info System			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0835: Tech Info System	0.000	0.853	0.925	0.903	-	0.903	0.955	0.977	0.998	1.018	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.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> TECHNICAL INFORMATION SERVICES  <b>Articles:</b>  <b>Description:</b> 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.	0.853	0.925	0.903	0.000	0.903
<b>FY 2015 Accomplishments:</b> Initiated the following efforts: - 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.	-	-	-	-	-
<b>FY 2016 Plans:</b>					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605804N / Technical Information Services	Project (Number/Name) 0835 / Tech Info System				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue all efforts of FY2015. Initiate the following efforts: - 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.						
<b>FY 2017 Base Plans:</b> Continue all efforts of FY2016. Initiate the following efforts: - 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), to include patent license agreements (PLAs). - Effort to continue the Navy wide T2 Innovation Discovery/Intellectual Property Mining Program. - Effort to coordinate/support a regional technology transfer industry day. - Effort to expand the Navy T2 Handbook to incorporate new policy guidance for PLAs.						
<b>FY 2017 OCO Plans:</b> N/A						
	<b>Accomplishments/Planned Programs Subtotals</b>	0.853	0.925	0.903	0.000	0.903
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605804N / <i>Technical Information Services</i>	<b>Project (Number/Name)</b> 0835 / <i>Tech Info System</i>
<b>D. Acquisition Strategy</b>		
N/A		
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605804N / Technical Information Services					<b>Project (Number/Name)</b> 2296 / Federal Lab Consortium		
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2296: <i>Federal Lab Consortium</i>	0.000	0.437	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.437
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>												
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>												
<b>Title:</b> Federal Lab Consortium <b>Articles:</b> <b>FY 2015 Accomplishments:</b> Provided 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 request. Provided recognition of scientist and engineers through a national award program. <b>FY 2016 Plans:</b> N/A <b>FY 2017 Base Plans:</b> N/A <b>FY 2017 OCO Plans:</b> N/A												
<b>Accomplishments/Planned Programs Subtotals</b>												
0.437      0.000      0.000      0.000      0.000												
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
N/A												
<b>Remarks</b>												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605804N / <i>Technical Information Services</i>	<b>Project (Number/Name)</b> 2296 / <i>Federal Lab Consortium</i>
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605853N / Management, Technical & Intl Supt							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	83.789	83.024	87.077	-	87.077	97.266	94.826	96.567	98.916	Continuing	Continuing
0149: International Coop RDT&E	0.000	4.608	2.584	3.557	-	3.557	3.638	3.423	3.526	3.652	Continuing	Continuing
1767: Naval War Col Strategic Studies Supt	0.000	4.755	4.386	4.139	-	4.139	4.388	4.524	4.634	4.738	Continuing	Continuing
2098: Navy Postgraduate School (NPS) Studies Support	0.000	3.610	8.924	13.261	-	13.261	13.201	12.005	11.910	12.309	Continuing	Continuing
2221: JT Mission Assessment Studies	0.000	24.413	16.958	20.863	-	20.863	28.019	26.668	27.096	27.676	Continuing	Continuing
2801: Anti-Tamper	0.000	1.374	1.374	1.389	-	1.389	1.373	1.373	1.399	1.429	Continuing	Continuing
3024: Financial Auditability and Audit Readiness (FIAR)	0.000	0.000	0.000	0.142	-	0.142	0.144	0.147	0.150	0.153	Continuing	Continuing
3025: Mid-Range Financial Improvement Plans	0.000	0.710	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.710
3027: Defense Critical Infrastructure Program	0.000	0.000	5.800	4.808	-	4.808	6.431	6.963	6.980	7.131	Continuing	Continuing
3039: CHENG	0.000	11.267	10.813	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	22.080
3312: MTMD-Maritime Theater Missile Defense Forum	0.000	0.000	0.000	8.570	-	8.570	7.713	7.867	8.083	8.364	Continuing	Continuing
3330: Naval Research Laboratory (NRL) Facilities Modernization	0.000	1.595	13.849	15.424	-	15.424	17.045	16.817	17.419	17.782	Continuing	Continuing
3363: PACOM Initiative	0.000	7.865	13.336	14.924	-	14.924	15.314	15.039	15.370	15.682	Continuing	Continuing
3381: JIE Initiative	0.000	8.592	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	8.592
9999: Congressional Adds	0.000	15.000	5.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	20.000

**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

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>	
defense, command, control, communications, computers and intelligence (C4I), and cooperative acquisition programs while also identifying technology to support the Global Maritime Partnership initiative.		
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.		
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.		
Mid-Range Financial Improvement Plans: This project supports the Research Development Test & Evaluation, Navy (RDTEN) 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 RDTEN.		
Operations Integration Group: Classified		

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2017 Navy</b>		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>	
1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>	
<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 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.</p> <p>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&amp;T) laboratory facilities which are reaching or have reached critical stages of deterioration. The program includes restoration and modernization (R&amp;M) initiatives for about 350,000 net square feet, where the average age of the buildings is 67 years old.</p> <p>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.</p> <p>MTMD - Maritime Theater Missile Defense Forum:</p> <p>This project funds participation in Maritime Integrated Air and Missile Defense projects with other nations. Included is participation in the Maritime Missile Defense Projects Framework Memorandum of Understanding of 2004 (as amended 2009). Known as the Maritime Theater Missile Defense (MTMD) forum, it promotes interoperability with the Navies of ten participating nations (Australia, Canada, France, Germany, Italy, Netherlands, Norway, Spain, United Kingdom and the United States). This project funds participation in several Project Arrangements and includes maritime contribution to the NATO Active Layered Theater Ballistic Missile Defense (ALTBMD) project, now known as NATO Ballistic Missile Defense (BMD). Engineering analysis and recommendations from MTMD activities are provided to European, Pacific and Central Combatant Commands to influence present day operations. Specifically, the MTMD Forum is addressing challenges with "Maritime Allied Air Defense in Support of Ballistic Missile Defense Operations" that face the Combatant Commanders during present day operations.</p> <p>The MTMD forum provides protection against the proliferation of short, medium and long-range Ballistic Missile (BM) and Advanced Anti-Ship Cruise Missile (ASCM) threats through the creation of an interoperable sea-based Integrated Air and Missile Defense (IAMD) capability among coalition nations. This includes protection across the full spectrum of these threats through the enhanced utilization of existing sea-based systems to protect against current threats while progressively improving and developing systems and system-of- systems to effectively counter evolving threats.</p>		

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>

This project supports USN participation in several Maritime IAMD related Project Arrangements and Working Groups including:

- (1) Battle Management Command, Control, Communications, Computers, and Intelligence (BMC4I) to define and develop architectures as well as to perform engineering to address coalition capability gaps.
  - (2) Modeling & Simulation (M&S) to establish and maintain a maritime coalition M&S testbed and to perform legacy and future systems simulation testing.
  - (3) Coalition Distributed Engineering Plant (CDEP) to establish and maintain a maritime coalition Hardware-in-the Loop Testbed and to conduct CDEP testing.
  - (4) Open Architecture (OA) to develop Interface Standards and Data Models.
  - (5) Test Planning and Execution (TPEX) to develop Test Plans, oversee exercise participation and conduct post event data analysis and reporting.
  - (6) Operational Requirements (OR) to develop a Coalition Maritime Missile Defense Operational Concept Document and to identify operational constraints and tactical constructs surrounding coalition maritime missile defense activities.
  - (7) Reciprocal Use of Test Facilities agreements with other nations to support Maritime IAMD and MTMD related demonstrations.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
Previous President's Budget	87.038	78.143	106.144	-	106.144
Current President's Budget	83.789	83.024	87.077	-	87.077
Total Adjustments	-3.249	4.881	-19.067	-	-19.067
• Congressional General Reductions	-	-0.119			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.017	0.000			
• SBIR/STTR Transfer	-1.232	0.000			
• Program Adjustments	0.000	0.000	9.262	-	9.262
• Rate/Misc Adjustments	0.000	0.000	-28.329	-	-28.329

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

**Project: 9999: Congressional Adds**

**Congressional Add: Printed Circuit Board Executive Agent**

	<b>FY 2015</b>	<b>FY 2016</b>
Congressional Add Subtotals for Project: 9999	15.000	5.000
Congressional Add Totals for all Projects	15.000	5.000

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>
<p><b><u>Change Summary Explanation</u></b></p> <p>The FY 2016 funding request was reduced by -\$14.5 million to account for the availability of prior year execution balances.</p> <p>The FY 2017 request was reduced by -\$0.433 million to account for the availability of prior year execution balances and -\$2.5 million as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.</p>	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)				
1319 / 6					PE 0605853N / Management, Technical & Intl Supt				0149 / International Coop RDT&E				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0149: International Coop RDT&E	0.000	4.608	2.584	3.557	-	3.557	3.638	3.423	3.526	3.652	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> International Coop RDT&E	<b>Articles:</b>	4.608	2.584	3.557	0.000	3.557

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 0149 / International Coop RDT&E				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>FY 2015 Accomplishments:</b> <ul style="list-style-type: none"><li>- Continue to support Maritime Theater Missile Defense (MTMD) Forum that obtained \$8.1M in R&amp;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&amp;S). The MTMD has a goal of an at-sea capability demonstration in 2015.</li><li>-Continue execution of approximately 300 Information Exchange Agreements/Date Exchange Agreements (IEA/DEA) with more than 30 countries.</li><li>-Continue execution and support in placement of US Navy and partner nation engineers and scientists under OSD's Engineer and Scientist Exchange Program (ESEP).</li><li>-Continue to coordinate US Navy participation in OUSD (AT&amp;L) Coalition Warfare Program (CWP) selection processes to meet emerging military capability requirements.</li><li>-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&amp;L) International Cooperation Office.</li><li>-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.</li><li>-Continue execution of Expeditionary Warfare Working Group (EWWG).</li><li>-Execution of Assured Precision Strike (APS) Study.</li><li>-Execution of Above Water Working Group(AWWG).</li><li>-Execution of Undersea Warfare Working Group (UWWG).</li><li>-Execution of Commnication and Information Warfare Working Group (CIWWG).</li><li>-Execution of Amphibious Operations Working Group (AOWG)</li><li>-Execution of Pre-International Agreement Work.</li><li>-Continue execution and support of NATO Maritime EW Trials/NATO Travel.</li></ul>						
<b>FY 2016 Plans:</b> <ul style="list-style-type: none"><li>-Continue all efforts of FY15</li><li>-Continue to support Maritime Theater Missile Defense (MTMD) Forum that obtained \$8.1M in R&amp;D monies from Partner Nation contributions. The multi-lateral forum (9 Maritime Partner countries and the US Navy) entered</li></ul>						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 0149 / International Coop RDT&E				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
into four international agreements (Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I); Distributed Engineering Plant; Open Architecture; and Modeling and Simulation (M&S). -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)						
<b>FY 2017 Base Plans:</b> -Continue all efforts of FY16 -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). -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).						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt		<b>Project (Number/Name)</b> 0149 / International Coop RDT&E		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p>-Continue to coordinate US Navy participation in OUSD (AT&amp;L) Coalition Warfare Program (CWP) selection processes to meet emerging military capability requirements.</p> <p>-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&amp;L) International Cooperation Office.</p> <p>-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.</p> <p>-Continue execution of Expeditionary Warfare Working Group (EWWG).</p> <p>-Execution of Assured Precision Strike (APS) Study.</p> <p>-Execution of Above Water Working Group(AWWG).</p> <p>-Execution of Undersea Warfare Working Group (UWWG).</p> <p>-Execution of Communication and Information Warfare Working Group (CIWWG).</p> <p>-Execution of Amphibious Operations Working Group (AOWG)</p>						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>					4.608      2.584      3.557      0.000      3.557	
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A						
<b>E. Performance Metrics</b>						
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						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>	<b>Project (Number/Name)</b> 0149 / <i>International Coop RDT&amp;E</i>
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 2017 Navy											<b>Date:</b> February 2016		
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
1767: Naval War Col Strategic Studies Supt	0.000	4.755	4.386	4.139	-	4.139	4.388	4.524	4.634	4.738	Continuing	Continuing	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-			
<b>A. Mission Description and Budget Item Justification</b>													
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<b>Title:</b> Strategic Studies <b>Articles:</b> <b>Description:</b> 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. <b>FY 2015 Accomplishments:</b> - Conducted research and analysis projects and provide supporting events for Office of the Chief of Naval Operations (OPNAV), the numbered Fleets, Navy Component Commanders, and the Combatant Commanders. - Conducted support the OPNAV Staff on operational and strategic level of war tasked research projects. - CNO SSG tasking from the CNO to SSG XXXIV to generate revolutionary operating and warfighting concepts for maritime expeditionary operations . - Followed up on CNO and OPNAV actions resulting from SSG XXXIII Final Report "Own the Undersea". - Conducted 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. <b>FY 2016 Plans:</b>													
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total									
1.497	1.496	1.344	0.000	1.344									

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 1767 / Naval War Col Strategic Studies Supt			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total		
<ul style="list-style-type: none"> <li>- Conduct research and analysis projects and provide supporting events for OPNAV, the numbered Fleets, Navy Component Commanders, and the Combatant Commanders.</li> <li>- Continue to support the OPNAV Staff on operational and strategic level of war tasked research projects.</li> <li>- 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.</li> <li>- 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.</li> <li>- Conduct research in support of the refresh to the Navy's Strategy "Cooperative Strategy for the 21st Century".</li> </ul>						
<b>FY 2017 Base Plans:</b>						
<ul style="list-style-type: none"> <li>- Conduct research and analysis projects and provide supporting events for OPNAV, the numbered Fleets, Navy Component Commanders, and the Combatant Commanders.</li> <li>- Continue to support the OPNAV Staff on tasked research projects.</li> <li>- CNO SSG tasking from the CNO to SSG XXXVI to generate revolutionary operating and warfighting concepts for future Navy and maritime operations. Following up on CNO and OPNAV actions resulting from SSG XXXV Final Report.</li> <li>- 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.</li> </ul>						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Naval War Gaming Support		<b>Articles:</b>	2.543	2.023	2.411	0.000
<b>Description:</b> 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, 45-60 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.			-	-	-	-
<b>FY 2015 Accomplishments:</b>						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Continued to conduct 60-65 major war games and related events in support of OPNAV, the numbered Fleets, and the Combatant Commands. - Continued to support CNO and OPNAV with Navy Title X war games, research, and analysis. Continued to provide war gaming expertise to other services' Title 10 war games. - Continued to provide research, analysis, and war gaming support to senior Navy leadership in areas as directed, such as MDA, Irregular Warfare, cyber, and C4ISR - Continued to foster and sustain cooperative relationships with international partners through the use of war gaming, research, and analysis. - Continued to conduct research supporting war games co-sponsored with Naval Warfare Development Command (NWDC) and US Joint Forces Command. - Continued to conduct analytic research on maritime security cooperation planning for forward based fleets. - Supported Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection. - Continued to conduct advanced research and analysis for OPNAV on determining measures of effectiveness for implementation of Cooperative Strategy for 21st Century Seapower. - Continued to conduct high level policy analytic research and gaming addressing Proliferation Security Initiatives for Office of the Secretary of Defense (OSD). - Continued war gaming, research and analytical support for Navy core capabilities, such as deterrence, maritime security, and sea control. - Continued International War Gaming in support of Maritime Security Cooperation and implementation of Cooperative Strategy for 21st Century Seapower. - Continued 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. - Continue to improve on War Gaming capabilities through equipment and infrastructure investments.						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Continue to foster and sustain cooperative relationships with international partners through the use of war gaming, research, and analysis. - 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). - Continued to conduct analytic research on maritime security cooperation planning for forward based fleets. - Continued to support Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection. - 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 develop educational materials for the Maritime Advanced Warfighting School. - Continue to conduct additional 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. - Continue to improve on War Gaming capabilities through equipment and infrastructure investments.						

**FY 2017 Base Plans:**

- 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 conduct research, analysis, and war gaming of emerging concepts such as anti access and area denial and air sea battle.
- Continue to conduct high level policy analytic research and gaming addressing Proliferation Security Initiatives for Office of the Secretary of Defense (OSD).
- 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.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt		<b>Project (Number/Name)</b> 1767 / Naval War Col Strategic Studies Supt	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<ul style="list-style-type: none"> <li>- Continue to lead the effort to conduct analytical research in operational concepts of Cyber Warfare.</li> <li>- Continue to support Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection and counter piracy.</li> <li>- Continue to support Fleet Commanders with high quality Course of Action Analysis and war games of operational plans.</li> <li>- Continue to conduct advanced research and analysis for OPNAV on determining measures of effectiveness for implementation of Cooperative Strategy for 21st Century Seapower.</li> <li>- Continue war gaming, research and analytical support for Navy core capabilities, such as deterrence, maritime security, and sea control.</li> <li>- Continue to conduct additional 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.</li> <li>- Continue to improve on War Gaming capabilities through equipment and infrastructure investments.</li> </ul>					
<b>FY 2017 OCO Plans:</b> N/A					
<b>Title:</b> Warfare Analysis and Research <b>Articles:</b>		0.421	0.392	0.305	0.000
<b>Description:</b> 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 well-informed, objective decisions on strategic, operational and programmatic issues through collaborative research which integrates traditional research and analysis with advanced decision support tools.					
<b>FY 2015 Accomplishments:</b> <ul style="list-style-type: none"> <li>- Continued 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.</li> <li>- Conducted analytical research on key strategic and operational challenges such as maritime ballistic missile defense, proliferation security initiative, global maritime security, maritime situational awareness,</li> </ul>					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)		
1319 / 6	PE 0605853N / Management, Technical & Intl Supt	1767 / Naval War Col Strategic Studies Supt		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
maritime operations headquarters, interconnectivity, and multi-service force deployment. - Continued additional evaluation of concepts and decision events in conjunction with war gaming center. - Continued to conduct research targeted at the strategic and policy level decision making within China. - Continued to provide direct support to NWC student research groups and war gaming. - 25-30 major decision events were conducted in support of these efforts.		FY 2015	FY 2016	FY 2017 Base
<b>FY 2016 Plans:</b> - 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. - 20-25 major decision events will be conducted in support of there efforts.				FY 2017 OCO
<b>FY 2017 Base Plans:</b> - 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. - 20-25 major decision events will be conducted in support of there efforts.				FY 2017 Total
<b>FY 2017 OCO Plans:</b>				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016	
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A						
<b>Title:</b> NWC Student Research Projects	<b>Articles:</b>  <b>Description:</b> 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.	0.075	0.090	0.079	0.000	0.079
<b>FY 2015 Accomplishments:</b> - Conducted focused research, analysis and war gaming of current and future strategic/operational challenges and tactical imperatives by the Halsey Groups and Mahan Scholars programs. - Researched 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. - Conducted research for Deputy Secretary of Defense (DEPSECDEF) on matters tasked to the College.						
<b>FY 2016 Plans:</b> - 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 (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. - Conduct research for Deputy Secretary of Defense (DEPSECDEF) on matters tasked to the College.						
<b>FY 2017 Base Plans:</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 1767 / Naval War Col Strategic Studies Supt				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<ul style="list-style-type: none"> <li>- 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.</li> <li>- 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.</li> <li>- Conduct research for Deputy Secretary of Defense (DEPSECDEF) on matters tasked to the College.</li> </ul>						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Maritime Headquarters / Maritime Operations Center (MOC) Analysis <b>Articles:</b>		0.219	0.385	0.000	0.000	0.000
<b>Description:</b> 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.		-	-	-	-	
<b>FY 2015 Accomplishments:</b>						
<ul style="list-style-type: none"> <li>- Continued development of MOC processes, doctrine and educational products MSOC</li> </ul>						
<b>Maritime Staff Operators Course (MSOC):</b> <ul style="list-style-type: none"> <li>- Expanded research into the required competencies for Maritime Staff Operations Course for officer and enlisted personnel to successfully operate at the operational level of war</li> <li>- Actively participated in creation and review of existing and emerging doctrine, and have active involvement in development of evolving operational level issues</li> <li>- Incorporated more interactive technologies for staff collaboration while conducting distributed operations</li> </ul>						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Conducted research in advanced adaptive intelligence, information warfare, and other advanced decision-support tools, including adapting Spiral-developed systems into the MOC classroom environment.						
- Continued research to improve coalition-related MOC education programs for International Officers and senior officers (continued improvements). Includes support for MAWS and alignment with all other operational level education at NWC and other Service educational facilities.						
- Examined gaps in education at the OLW; develop COI to close same gaps (Information management/knowledge management, et al)						
<b>Assist and Assess Team (AAT):</b>						
- Expanded research and analysis into integrating lateral and vertical operations of Commander, TENTH Fleet MOC with 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.						
- Conducted 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.						
- Provided 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.						
<b>Joint/Combined Forces Maritime Commanders Course (J/CFMCC):</b>						
- Continued development/research in national and international implications of maritime commander leadership roles, and development of new flag course curriculum accordingly.						
<b>FY 2016 Plans:</b>						
- Continued development of MOC processes, doctrine and educational products.						
<b>Maritime Staff Operators Course (MSOC):</b>						
- 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						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 1767 / Naval War Col Strategic Studies Supt			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total		
<ul style="list-style-type: none"> <li>- Conduct research in advanced adaptive intelligence, information warfare, and other advanced decision-support tools, including adapting Spiral-developed systems into the MOC classroom environment.</li> <li>- Continue research to improve coalition-related MOC education programs for International Officers and senior officers (continued improvements). Includes support for MAWS and alignment with all other operational level education at NWC and other Service educational facilities AAT.</li> <li>- Conduct research into how Navy units worldwide can support Commander, TENTH Fleet in the execution of the full spectrum of information and cyber operations.</li> </ul> <p><b>Assist and Assess Team (AAT):</b></p> <ul style="list-style-type: none"> <li>- 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.</li> </ul> <p><b>Joint/Combined Forces Maritime Commanders Course (J/CFMCC):</b></p> <ul style="list-style-type: none"> <li>- Continue development/research in national and international implications of maritime commander leadership roles, and development of new flag course curriculum accordingly.</li> </ul>						
<p><b>FY 2017 Base Plans:</b> N/A</p> <p><b>FY 2017 OCO Plans:</b> N/A</p>						
<b>Accomplishments/Planned Programs Subtotals</b>						4.755    4.386    4.139    0.000    4.139
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A						
<b>E. Performance Metrics</b>						
This 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						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>	<b>Project (Number/Name)</b> 1767 / <i>Naval War Col Strategic Studies Supt</i>
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 2017 Navy											Date: February 2016				
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)						
1319 / 6					PE 0605853N / Management, Technical & Intl Supt				2098 / Navy Postgraduate School (NPS) Studies Support						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
2098: Navy Postgraduate School (NPS) Studies Support	0.000	3.610	8.924	13.261	-	13.261	13.201	12.005	11.910	12.309	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>															
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 that will enhance graduate education for Naval Officers and potentially provide students with areas of studies for theses and 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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>															
Title: Faculty and Student Studies, Analysis and Research											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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.											3.610	8.924	13.261	0.000	13.261
The increase from FY16 to FY17 supports the performance of additional studies at NPS.											Articles:	-	-	-	-
<b>FY 2015 Accomplishments:</b>															
<ul style="list-style-type: none"> <li>- Conducted studies in support of OPNAV N1</li> <li>- Conducted studies in support of OPNAV N2/N6</li> <li>- Conducted studies in support of OPNAV N3/N5</li> <li>- Conducted studies in support of OPNAV N4</li> <li>- Conducted studies in support of OPNAV N8</li> </ul>															

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt		<b>Project (Number/Name)</b> 2098 / Navy Postgraduate School (NPS) Studies Support	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
			<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>
- Conducted studies in support of OPNAV N9					
- Conducting studies in support of US Fleet Forces Command					
- Conducting studies in support of the Secretary of the Navy					
<b>FY 2016 Plans:</b>					
-Conduct studies in support of OPNAV N1Conduct 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					
<b>FY 2017 Base Plans:</b>					
-Conduct studies in support of OPNAV N1Conduct 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					
<b>FY 2017 OCO Plans:</b>					
N/A					
<b>Accomplishments/Planned Programs Subtotals</b>			3.610	8.924	13.261
			0.000	13.261	
<b>C. Other Program Funding Summary (\$ in Millions)</b>					
N/A					
<b>Remarks</b>					
<b>D. Acquisition Strategy</b>					
N/A					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>	<b>Project (Number/Name)</b> 2098 / <i>Navy Postgraduate School (NPS) Studies Support</i>
<b>E. Performance Metrics</b> <p>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 &amp; Execution (PPBE) process. This project supports research of both Naval Postgraduate School faculty and students.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 2221. / JT Mission Assessment Studies			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2221.: JT Mission Assessment Studies	0.000	24.413	16.958	20.863	-	20.863	28.019	26.668	27.096	27.676	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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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
1319 / 6	PE 0605853N / Management, Technical & Intl Supt	2221. / JT Mission Assessment Studies
<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 both current and future Navy platforms and systems capabilities.</p>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 2221.1 JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>Title:</b> Navy Standard Scenarios with Warfare and Warfare Support Analyses	<b>Articles:</b>	1.289	0.799	0.990	0.000	0.990
<p><b>FY 2015 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>-Continue to develop, update and maintain detailed level Navy Standard scenarios based on DPG.</li> <li>-Continue to develop alternative scenarios in support of Defense Review guidance, Joint studies, and Navy resource analyses.</li> <li>-Continue to develop, update, and maintain analytic baselines for the MCO) based on DPG.</li> <li>-Continue to develop details required to execute analysis of designated Defense Planning Scenarios and their respective Multi-Service Force Deployment Plans.</li> <li>-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.</li> <li>-Continue to develop scenarios and operational concepts based on government inputs that are sufficiently detailed for use in naval and joint campaign analyses.</li> <li>-Continue to develop MOPs and MOEs and recommend appropriate modeling/methodology to support analyses.</li> <li>-At the mission level, continue to script OPSITS or TACSITS for use in effectiveness analyses in specific warfare mission areas.</li> </ul> <p><b>FY 2016 Plans:</b></p> <ul style="list-style-type: none"> <li>-Continue to develop, update and maintain detailed level Navy Standard scenarios based on DPG.</li> <li>-Continue to develop alternative scenarios in support of Defense Review guidance, Joint studies, and Navy resource analyses.</li> <li>-Continue to develop, update, and maintain analytic baselines for the MCO) based on DPG.</li> <li>-Continue to develop details required to execute analysis of designated Defense Planning Scenarios and their respective Multi-Service Force Deployment Plans.</li> <li>-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.</li> <li>-Continue to develop scenarios and operational concepts based on government inputs that are sufficiently detailed for use in naval and joint campaign analyses.</li> <li>-Continue to develop MOPs and MOEs and recommend appropriate modeling/methodology to support analyses.</li> </ul>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 2221. I JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
-At the mission level, continue to script OPSITS or TACSITS for use in effectiveness analyses in specific warfare mission areas.						
<b>FY 2017 Base Plans:</b> -Continue all the efforts of FY16.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Capability Based Assessments with Campaign Mission Analyses Analytical and Technical Support <b>Articles:</b> <b>FY 2015 Accomplishments:</b> -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.		2.531	1.584	2.730	0.000	2.730

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 2221. / JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-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.						
-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.						
-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.						
-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.						
-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.						
<b>FY 2016 Plans:</b>						
-Continue to perform collaborative assessment with capability sponsors.						
-Continue to proactively participate in Capability Sponsors' Integrated Process Teams.						
-Continue to present 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.						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 2221.1 JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total			
<ul style="list-style-type: none"> <li>-Continue to conduct weapons safety and sea basing capability assessments.</li> <li>-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.</li> <li>-Continue to perform CBAs to meet the requirements of current and future scenarios, and make strategic decisions within a constrained economic framework.</li> <li>-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.</li> <li>-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.</li> <li>-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.</li> <li>-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.</li> <li>-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.</li> <li>-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.</li> </ul> <p><b>FY 2017 Base Plans:</b> -Continue the efforts of FY16.</p> <p><b>FY 2017 OCO Plans:</b> N/A</p>							
<b>Title:</b> Campaign Analysis-Modeling and Simulation		<b>Articles:</b>	4.757	2.977	3.642	0.000	3.642
<b>FY 2015 Accomplishments:</b>							

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 2221. I JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-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.						
<b>FY 2016 Plans:</b> -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.						
<b>FY 2017 Base Plans:</b> -Continue to the efforts of FY16.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> OSD/Joint Staff Study Analysis and Assessment with Investment Strategy Development	<b>Articles:</b>	1.733	0.985	1.326	0.000	1.326
<b>FY 2015 Accomplishments:</b> -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.		-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 2221. / JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continue to provide overarching PPBES analyses and guidance. -Continue to provide analytically-based decision recommendations to OPNAV for joint war fighting and support areas. -Continue to conduct net assessments and provide independent analytic support to Navy leadership in conjunction with various executive level decision forums. -Continue to serve as the Navy's lead to Joint Requirements Oversight Council, Joint Capabilities Board, and Functional Capabilities Board. -Continue to provide the lead requirements and acquisition for OPNAV. -Continue to coordinate and lead Navy's role in Defense Planning Guidance, Program Decision Memoranda, Quadrennial Defense Review, and Defense Science Board studies. -Continue to participate in OSD and JS analysis assessment and provided structure for coordination across the Navy. -Continue to coordinate and support Joint Analytical Model Improvement Program. -Continue to develop new analytic techniques for informing resource allocation decisions; conduct all campaign and warfare mission-level analyses and develop investment strategy.						
<b>FY 2016 Plans:</b> -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. -Continue to provide overarching PPBES analyses and guidance. -Continue to provide analytically-based decision recommendations to OPNAV for joint war fighting and support areas. -Continue to conduct net assessments and provide independent analytic support to Navy leadership in conjunction with various executive level decision forums. -Continue to serve as the Navy's lead to Joint Requirements Oversight Council, Joint Capabilities Board, and Functional Capabilities Board. -Continue to provide the lead requirements and acquisition for OPNAV. -Continue to coordinate and lead Navy's role in Defense Planning Guidance, Program Decision Memoranda, Quadrennial Defense Review, and Defense Science Board studies. -Continue to participate in OSD and JS analysis assessment and provided structure for coordination across the Navy. -Continue to coordinate and support Joint Analytical Model Improvement Program.						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 2221.1 JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
-Continue to develop new analytic techniques for informing resource allocation decisions; conduct all campaign and warfare mission-level analyses and develop investment strategy.						
<b>FY 2017 Base Plans:</b> -Continue all the efforts of FY16.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> World Class Modeling, Simulation, and Capability Analysis  <b>FY 2015 Accomplishments:</b> -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. -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. -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.		<b>Articles:</b> 6.385 - -	4.146 - -	3.836 - -	0.000 - -	3.836 - -
<b>FY 2016 Plans:</b> -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.						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016				
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 2221. / JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-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.						
-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.						
<b>FY 2017 Base Plans:</b> -Continue all the efforts of FY16.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> CONFORM  <b>Articles:</b>	3.530	2.766	5.082	0.000	5.082	
<b>FY 2015 Accomplishments:</b> -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 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	-	-	-	-	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 2221. / JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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 interoperability concepts, force architecture impact studies, Long Range Shipbuilding Schedule (LRSS) support, and operational employment concept studies. -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.						

**FY 2016 Plans:**

- 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 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.
- 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

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 2221. I JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
interoperability concepts, force architecture impact studies, Long Range Shipbuilding Schedule (LRSS) support, and operational employment concept studies.						
<b>FY 2017 Base Plans:</b> -Continue all the efforts in FY16.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Joint Mission Assessment Studies  <b>Description:</b> 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.  <b>FY 2015 Accomplishments:</b> 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.  <b>FY 2016 Plans:</b> Continue CBA's 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.  <b>FY 2017 Base Plans:</b> 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		<b>Articles:</b> 4.188 - -	3.701 - -	3.257 - -	0.000 - -	3.257 - -

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 2221. / JT Mission Assessment Studies				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>		24.413	16.958	20.863	0.000	20.863
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A. N/A						
<b>E. Performance Metrics</b>						
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 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 2017 Navy											<b>Date:</b> February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 2801 / Anti-Tamper				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2801: Anti-Tamper		0.000	1.374	1.374	1.389	-	1.389	1.373	1.373	1.399	1.429	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		

**Note**  
Realignment from PU 3039 to 2801 starting in FY15.

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

Anti-Tamper (AT): The AT program performs as the Navy Technical Process Owner for the AT systems engineering activity that is intended to prevent and/or delay the exploitation of critical technologies in U.S. systems; manages the research, design, development, implementation, and testing of AT measures; coordinates with Department of Defense AT Executive Agent and implements Department of Navy AT policy in conjunction with the Deputy Assistant Secretary Navy; and manages 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Anti-Tamper (AT)  <b>Articles:</b>	1.374	1.374	1.389	0.000	1.389
<b>FY 2015 Accomplishments:</b> 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 AT implementation and execution by SYSCOM's programs, incorporating AT requirements.	-	-	-	-	-
<b>FY 2016 Plans:</b> 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 Special Program operational environments to enable AT implementation and execution by SYSCOM's programs, incorporating AT requirements.					
<b>FY 2017 Base Plans:</b>					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 2801 / Anti-Tamper				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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 Special Program operational environments to enable Anti-Tamper (AT) implementation and execution by SYSCOM's programs, incorporating AT requirements.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>		1.374	1.374	1.389	0.000	1.389
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A						
<b>E. Performance Metrics</b>						
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 2017 Navy											Date: February 2016					
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 3024 / Financial Auditability and Audit Readiness (FIAR)							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost				
3024: Financial Auditability and Audit Readiness (FIAR)	0.000	0.000	0.000	0.142	-	0.142	0.144	0.147	0.150	0.153	Continuing	Continuing				
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-						
<b>A. Mission Description and Budget Item Justification</b>																
Funding will support DON FIAR efforts to achieve audit readiness.																
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<i>Title:</i> FIAR Reimbursable Support											<i>Articles:</i>	0.000	0.000	0.142	0.000	0.142
<i>FY 2015 Accomplishments:</i>												-	-	-	-	
<i>N/A</i>																
<i>FY 2016 Plans:</i>																
<i>N/A</i>																
<i>FY 2017 Base Plans:</i>																
Funding will be used to support one reimbursable FTE/Civilian labor cost at the Office of Naval Research (ONR)in support of their Financial Auditability and Audit Readiness (FIAR).																
<i>FY 2017 OCO Plans:</i>																
<i>N/A</i>																
<b>Accomplishments/Planned Programs Subtotals</b>											0.000	0.000	0.142	0.000	0.142	
<b>C. Other Program Funding Summary (\$ in Millions)</b>																
<i>N/A</i>																
<b>Remarks</b>																
<b>D. Acquisition Strategy</b>																
<i>N/A</i>																

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>
<b>E. Performance Metrics</b>	
Efforts will be in compliance with National Defense Authorization Act of 2010 that mandated auditable financial statements. Performance includes monitoring internal controls surrounding business processes at Office of Naval Research BSO-14.	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3025: <i>Mid-Range Financial Improvement Plans</i>	0.000	0.710	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.710	
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Mid-Range Financial Improvement Plans					0.710	0.000	0.000	0.000	0.000
					<i>Articles:</i>	-	-	-	-
<p><b>FY 2015 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Continued to participate in the Navy Financial Management Office (FMO) Business Process Standardization (BPS) initiatives.</li> <li>- 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.</li> <li>- Continued eliminating problem disbursements older than 120 days, narrowing to 60 days, and potentially narrowing even further.</li> <li>- Continued performing obligation validations ensuring accuracy.</li> </ul> <p><b>FY 2016 Plans:</b></p> <ul style="list-style-type: none"> <li>- The Mid-Range Financial Improvement Plan effort was transferred to PE 0605861N RDT&amp;E Science and Technology Management for FY16 and out.</li> </ul> <p><b>FY 2017 Base Plans:</b></p>									

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 3025 / Mid-Range Financial Improvement Plans		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>
N/A				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>		0.710	0.000	0.000
			0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				
<b>E. Performance Metrics</b>				
Financial records are compliant in accordance with the Chief Financial Officers Act.				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											<b>Date:</b> February 2016		
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3027: Defense Critical Infrastructure Program	0.000	0.000	5.800	4.808	-	4.808	6.431	6.963	6.980	7.131	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> DCIP Onsite Assessment, Analysis Support, and Reports  <i>Articles:</i>	0.000	1.700	1.300	0.000	1.300
<i>FY 2015 Accomplishments:</i> N/A	-	-	-	-	-
<i>FY 2016 Plans:</i> 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. The MAD will work with U.S. Air Force Criticality and Risk Assessment (CARA) and other service teams to					

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 3027 / Defense Critical Infrastructure Program				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
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						
<b>FY 2017 Base Plans:</b> Continue all efforts of FY16.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Central Analytic Capability (CAC) for Research and Data Development  <b>FY 2015 Accomplishments:</b> N/A		<b>Articles:</b> 0.000	0.970	0.764	0.000	0.764
<b>FY 2016 Plans:</b> 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 procedures, and refining lists of potential mitigation options for energy-related vulnerabilities. They will serve as		-	-	-	-	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 3027 / Defense Critical Infrastructure Program				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
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.						
<b>FY 2017 Base Plans:</b> Continue all efforts of FY16.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> DoD Cyber Critical Infrastructure Support  <b>FY 2015 Accomplishments:</b> N/A		<b>Articles:</b> 0.000	<b>Articles:</b> 0.900	<b>Articles:</b> 0.800	<b>Articles:</b> 0.000	<b>Articles:</b> 0.800
<b>FY 2016 Plans:</b> 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.						
<b>FY 2017 Base Plans:</b> Continue all efforts of FY16.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Dependency Analysis for MA and Infrastructure Network Operations		<b>Articles:</b> 0.000	<b>Articles:</b> 0.740	<b>Articles:</b> 0.640	<b>Articles:</b> 0.000	<b>Articles:</b> 0.640

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 3027 / Defense Critical Infrastructure Program				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>FY 2015 Accomplishments:</b> N/A						
<b>FY 2016 Plans:</b> 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.						
<b>FY 2017 Base Plans:</b> 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 various COCOM specific tasks related to mission asset decomposition, energy security dependencies and other infrastructure characterizations based on emerging circumstances and issues. Provide research on Task Critical Asset (TCA) prioritization and analysis to develop the final nomination list for review by Chairman of the Joint Chiefs of Staff (CJCS) and OASD HD&GS. 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.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Crisis Support, Exercise Support and Emergent Requirements Analysis  <b>FY 2015 Accomplishments:</b>		<b>Articles:</b> 0.000	<b>Articles:</b> 0.440	<b>Articles:</b> 0.440	<b>Articles:</b> 0.000	<b>Articles:</b> 0.440

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)				
1319 / 6	PE 0605853N / Management, Technical & Intl Supt	3027 / Defense Critical Infrastructure Program				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A						
<b>FY 2016 Plans:</b> 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 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. 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.						
<b>FY 2017 Base Plans:</b> 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 Office of the Assistant Secretary of Defense for Homeland Defense and Global Security (OASD(HD&GS)), CCMDs, Services, Sectors, and Agencies in the form of technical analysis and recommendations to the OASD (HD&GS) and the DCIP Community on infrastructure networks and points of service related to pre-event and post-event analysis for manmade or natural disaster						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
incidents and intelligence relating to threats. The crisis response / preparation of infrastructure analysis to the DCIP Community will also be utilized during planned exercises.						
Through this support, the MADs 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&GS). 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.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> On-Site Liaison to OASD (HD&ASA) and Data Exchange Working Groups Leadership and Participation <b>Articles:</b>		0.000	0.180	0.128	0.000	0.128
<b>FY 2015 Accomplishments:</b> N/A		-	-	-	-	-
<b>FY 2016 Plans:</b> The MAD will provide liaisons to support the OASD (HD&ASA) and Joint Staff J33 Mission Assurance Branch. Liaisons will provide temporary support as team leader for the MARMS integration within DCIP, Defense Critical Asset (DCA) risk management processes, Nominations, Validations, and compilations. The liaisons will assist with DCIP IT policy development, facilitate stakeholder requirement meetings, and perform other inherently government functions as directed. Responsibilities include tasking and monitoring of progress by contractor personnel supporting the Joint Staff on DCA nominations, validations, and risk decision package adjudication along with other related critical infrastructure projects. Liaisons will manage tasking and deliverables of technology development tools performed by MAD-Dahlgren in support of the Joint Staff, OASD HD&ASA and Mission Assurance Directorate. Liaisons may also be asked to represent Homeland Defense at meetings, working groups and task forces as required.						
<b>FY 2017 Base Plans:</b> The MAD will provide liaisons to support the OASD (HD&GS) and Joint Staff J33 Mission Assurance Branch. Liaisons will provide temporary support as team leader for the MARMS integration within DCIP, Defense						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016	
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				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Critical Asset (DCA) risk management processes, Nominations, Validations, and compilations. The liaisons will assist with DCIP IT policy development, facilitate stakeholder requirement meetings, and perform other inherently government functions as directed. Responsibilities include tasking and monitoring of progress by contractor personnel supporting the Joint Staff on DCA nominations, validations, and risk decision package adjudication along with other related critical infrastructure projects. Liaisons will manage tasking and deliverables of technology development tools performed by MAD-Dahlgren in support of the Joint Staff, OASD HD&GS and Mission Assurance Directorate. Liaisons may also be asked to represent Homeland Defense at meetings, working groups and task forces as required.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Mission Assurance Knowledge Management and Technical Information and Dissemination Support and Maintenance		0.000	0.870	0.736	0.000	0.736
<b>Articles:</b>		-	-	-	-	-
<b>FY 2015 Accomplishments:</b> N/A						
<b>FY 2016 Plans:</b> 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.						
<b>FY 2017 Base Plans:</b>						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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&GS. 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.						
<b>FY 2017 OCO Plans:</b> N/A						
	<b>Accomplishments/Planned Programs Subtotals</b>	0.000	5.800	4.808	0.000	4.808
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A						
<b>E. Performance Metrics</b>						
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 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 3039 / CHENG			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3039: CHENG	0.000	11.267	10.813	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	22.080
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**Note**  
Funding realigned to PE 0603382N Advanced Combat Systems Technology starting in FY17 to support Rapid Prototype Development.

**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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Standards, Policy, and Guidelines  <b>Articles:</b>	2.637	2.484	0.000	0.000	0.000
<b>Description:</b> 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	-	-	-	-	-
<b>FY 2015 Accomplishments:</b> -Continuation of FY14 efforts and initiatives					
<b>FY 2016 Plans:</b>					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 3039 / CHENG				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Continued policy analysis, studies and guidance to include issue identification and resolution of Information Support Plan (ISP) processes. -Continued Program Office ISP planning and development support						
<b>FY 2017 Base Plans:</b> -Funding realigned to PE 0603382N Advanced Combat Systems Technology starting in FY 2017 to support the Rapid Prototype Development project.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Naval System Engineering Resource Center (NSERC)	<b>Articles:</b>	2.335	2.090	0.000	0.000	0.000
<b>Description:</b> 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.		-	-	-	-	-
<b>FY 2015 Accomplishments:</b> - Continue Phased Delivery (Phase III) of NEAR						
<b>FY 2016 Plans:</b> - Continue Phased Delivery of NEAR						
<b>FY 2017 Base Plans:</b> - Funding realigned to PE 0603382N Advanced Combat Systems Technology starting in FY 2017 to support the Rapid Prototype Development project.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Systems Engineering	<b>Articles:</b>	6.295	6.239	0.000	0.000	0.000
<b>Description:</b> 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		-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt	Project (Number/Name) 3039 / CHENG				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>FY 2015 Accomplishments:</b> - Continue Corrosion Prevention and Control initiatives - Complete and transition I&I initiatives to OPNAV/Fleet components - Continue Program Office SEP review and support						
<b>FY 2016 Plans:</b> - Continue Program Office SEP review and support - Continue Corrosion Prevention and Control initiatives						
<b>FY 2017 Base Plans:</b> -Funding realigned to PE 0603382N Advanced Combat Systems Technology starting in FY 2017 to support the Rapid Prototype Development project.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>		11.267	10.813	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A						
<b>E. Performance Metrics</b>						
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.						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>	<b>Project (Number/Name)</b> 3039 / CHENG
Naval Collaborative Engineering Environment (NCEE): Number of customers/ users. Percentage of time the tool is available. Number of tools integrated into the system. Systems Engineering: 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. 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.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)				
1319 / 6					PE 0605853N / Management, Technical & Intl Supt				3312 / MTMD-Maritime Theater Missile Defense Forum				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3312: MTMD-Maritime Theater Missile Defense Forum	0.000	0.000	0.000	8.570	-	8.570	7.713	7.867	8.083	8.364	Continuing	Continuing	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-			

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

This project funds participation in Maritime Integrated Air and Missile Defense projects with other nations. Included is participation in the Maritime Missile Defense Projects Framework Memorandum of Understanding of 2004 (as amended 2009). Known as the Maritime Theater Missile Defense (MTMD) forum, it promotes interoperability with the Navies of ten participating nations (Australia, Canada, France, Germany, Italy, Netherlands, Norway, Spain, United Kingdom and the United States). This project funds participation in several Project Arrangements and includes maritime contribution to the NATO Active Layered Theater Ballistic Missile Defense (ALTBMD) project, now known as NATO Ballistic Missile Defense (BMD). Engineering analysis and recommendations from MTMD activities are provided to European, Pacific and Central Combatant Commands to influence present day operations. Specifically, the MTMD Forum is addressing challenges with "Maritime Allied Air Defense in Support of Ballistic Missile Defense Operations" that face the Combatant Commanders during present day operations.

The MTMD forum provides protection against the proliferation of short, medium and long-range Ballistic Missile (BM) and Advanced Anti-Ship Cruise Missile (ASCM) threats through the creation of an interoperable sea-based Integrated Air and Missile Defense (IAMD) capability among coalition nations. This includes protection across the full spectrum of these threats through the enhanced utilization of existing sea-based systems to protect against current threats while progressively improving and developing systems and system-of- systems to effectively counter evolving threats.

This project supports USN participation in several Maritime IAMD related Project Arrangements and Working Groups including:

- (1) Battle Management Command, Control, Communications, Computers, and Intelligence (BMC4I) to define and develop architectures as well as to perform engineering to address coalition capability gaps.
- (2) Modeling & Simulation (M&S) to establish and maintain a maritime coalition M&S testbed and to perform legacy and future systems simulation testing.
- (3) Coalition Distributed Engineering Plant (CDEP) to establish and maintain a maritime coalition Hardware-in-the-Loop Testbed and to conduct CDEP testing.
- (4) Open Architecture (OA) to develop Interface Standards and Data Models.
- (5) Test Planning and Execution (TPEX) to develop Test Plans, oversee exercise participation and conduct post event data analysis and reporting.
- (6) Operational Requirements (OR) to develop a Coalition Maritime Missile Defense Operational Concept Document and to identify operational constraints and tactical constructs surrounding coalition maritime missile defense activities.
- (7) Reciprocal Use of Test Facilities agreements with other nations to support Maritime IAMD and MTMD related demonstrations.

Starting in FY17, funding for MTMD is realigned from Program Element 0603582N Combat System Integration.

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & <i>Intl Supt</i>	<b>Project (Number/Name)</b> 3312 / MTMD-Maritime Theater Missile Defense Forum				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>Title:</b> Maritime Theater Missile Defense Forum (MTMD)	<b>Articles:</b>	0.000	0.000	8.570	0.000	8.570
<p><b>Description:</b> This project funds participation in Maritime IAMD to promote interoperability with other nations. This project funds participation in Modeling and Simulation (M&amp;S), Battle Management, Command, Control, Communications, Computers and Intelligence (BMC4I), Coalition Distributed Engineering Plant (CDEP), Test Planning and Execution (TPEX), Open Architecture (OA), and Operational Requirements (OR) activities.</p> <p><b>FY 2015 Accomplishments:</b> N/A</p> <p><b>FY 2016 Plans:</b> N/A</p> <p><b>FY 2017 Base Plans:</b> Starting in FY17, funding for MTMD is realigned from Program Element 0603582N Combat System Integration.</p> <p>(1) BMC4I will continue engineering analysis and multi-national interoperability gap assessment for Target Architectures based on test results and complete development of Target Architectures based on requests for information input from member nations. BMC4I will evaluate Recommended Point Solutions and provide recommendations for the implementation in correcting coalition interoperability gaps. BMC4I will finalize information exchange requirements in preparation for at-sea demonstrations. BMC4I develop updates to MTMD Coalition Capabilities and Interoperability (CCI) and Systems Tactical Data Links Interoperability (STIR) Reports as appropriate.</p> <p>(2) M&amp;S will continue analysis of Target Architectures and conduct further assessments in support of providing recommendations to improve information exchange requirements identified by BMC4I and the Systems Engineering Team (SET). M&amp;S will model and further Target Architectures and provide training in support of future at sea demonstration.</p> <p>(3) CDEP will prepare for and conduct hardware-in-the-loop tests and provide assessments and recommendations to improve information exchanges required to conduct at-sea demonstrations or to evaluate performance not possible to perform at sea. CDEP will evaluate At-Sea Demonstration architecture risk, and update the Capabilities &amp; Limitations document to support the at-sea demonstrations.</p> <p>(4) Open Architecture will implement of the Force Level Open Architecture Technical Standards. Inputs from M&amp;S, CDEP and TPEX tests will be used to improve standards.</p>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy										<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6			<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt				<b>Project (Number/Name)</b> 3312 / MTMD-Maritime Theater Missile Defense Forum				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total							
(5) TPEX will continue preparations for MTMD participation as part of ongoing at-sea test event continuums. At-Sea Demonstrations will include live tracking events and a combination of live and simulated engagements. Integrated Air Defense and Ballistic Missile Defense test scenarios will be conducted among the nations. Planning for At-Sea Demonstrations and follow-on at-sea testing will continue into future years and include target configuration/procurement. (6) Operational Requirements group will continue to provide fleet inputs and operator oversight to test and evaluation events. The Operational Concept Document will be updated as will final tactics, techniques and procedures in support of ongoing at-sea demonstrations.											
<b>FY 2017 OCO Plans:</b> N/A											
<b>Accomplishments/Planned Programs Subtotals</b>						0.000	0.000	8.570	0.000	8.570	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• RDTEN/0603582N: <i>Combat System Integration</i>	9.232	8.873	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	29.462
<b>Remarks</b>											
<b>D. Acquisition Strategy</b> N/A											
<b>E. Performance Metrics</b> Program Reviews and Baseline Assessments											

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)				
1319 / 6					PE 0605853N / Management, Technical & Intl Supt				3330 / Naval Research Laboratory (NRL) Facilities Modernization				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3330: Naval Research Laboratory (NRL) Facilities Modernization	0.000	1.595	13.849	15.424	-	15.424	17.045	16.817	17.419	17.782	Continuing	Continuing	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-			
<b>A. Mission Description and Budget Item Justification</b>													
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<b>Title:</b> NRL Facilities Modernization <b>Articles:</b> <b>Description:</b> 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 FY16 and FY17 funding increases will support the restoration/modernization of 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total									
1.595	13.849	15.424	0.000	15.424									
	-	-	-	-									

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 3330 / Naval Research Laboratory (NRL) Facilities Modernization		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>
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).				
<b>FY 2017 Base Plans:</b> - Continue all efforts of FY16.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>		1.595	13.849	15.424
<b>C. Other Program Funding Summary (\$ in Millions)</b>		0.000	15.424	
<b>N/A</b>				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> None				
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016					
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 3363 / PACOM Initiative							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost				
3363: PACOM Initiative	0.000	7.865	13.336	14.924	-	14.924	15.314	15.039	15.370	15.682	Continuing	Continuing				
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-						
<b>Note</b> This funding is for a classified effort.																
<b>A. Mission Description and Budget Item Justification</b> This funding is for a classified effort.																
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<i>Title:</i> PACOM Initiative											<i>Articles:</i>	7.865	13.336	14.924	0.000	14.924
<i>Description:</i> This is a classified initiative.												-	-	-	-	
<i>FY 2015 Accomplishments:</i> This is a classified initiative.																
<i>FY 2016 Plans:</i> This is a classified initiative.																
<i>FY 2017 Base Plans:</i> This is a classified initiative.																
<i>FY 2017 OCO Plans:</i> N/A																
<b>Accomplishments/Planned Programs Subtotals</b>											7.865	13.336	14.924	0.000	14.924	
<b>C. Other Program Funding Summary (\$ in Millions)</b>																
N/A																
<b>Remarks</b>																
<b>D. Acquisition Strategy</b>																
This funding is for a classified effort.																

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>	<b>Project (Number/Name)</b> 3363 / <i>PACOM Initiative</i>
<b>E. Performance Metrics</b> This funding is for a classified effort.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 3381 / JIE Initiative				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3381: JIE Initiative	0.000	8.592	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	8.592	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>													
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
<i>Title:</i> Strategies for Defense of Data  <i>Articles:</i>  <i>Description:</i> 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.  <i>FY 2015 Accomplishments:</i> 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.  <i>FY 2016 Plans:</i> N/A  <i>FY 2017 Base Plans:</i>													
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total									
8.592	0.000	0.000	0.000	0.000									
-	-	-	-	-									

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / Management, Technical & Intl Supt	<b>Project (Number/Name)</b> 3381 / JIE Initiative		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>
N/A				
<b>FY 2017 OCO Plans:</b> N/A				
	<b>Accomplishments/Planned Programs Subtotals</b>	8.592	0.000	0.000
		0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> 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)).				
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / Management, Technical & Intl Supt				Project (Number/Name) 9999 / Congressional Adds				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
9999: Congressional Adds	0.000	15.000	5.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	20.000	
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 2015	FY 2016	
<b>Congressional Add:</b> Printed Circuit Board Executive Agent	15.000	5.000	
<b>FY 2015 Accomplishments:</b> - 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			
<b>FY 2016 Plans:</b> N/A	Congressional Adds Subtotals	15.000	5.000

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605853N / <i>Management, Technical &amp; Intl Supt</i>	<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>
<b>E. Performance Metrics</b>		
<p>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.</p> <p>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.</p> <p>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 identifying future technology research and development needs and securing the domestic military market.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605856N / Strategic Technical Support							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	2.501	3.258	3.597	-	3.597	4.349	4.407	4.452	4.523	Continuing	Continuing
0128: Mgmt/Tech Supt Strategic	0.000	1.128	1.181	1.215	-	1.215	1.239	1.264	1.290	1.316	Continuing	Continuing
1038: Acoustic & Non-Acoustic Analysis Supt	0.000	1.373	2.077	2.382	-	2.382	3.110	3.143	3.162	3.207	Continuing	Continuing
<b>A. Mission Description and Budget Item Justification</b>												
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>B. Program Change Summary (\$ in Millions)</b>				FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total				
Previous President's Budget				2.590	3.258	3.345	-	-				3.345
Current President's Budget				2.501	3.258	3.597	-	-				3.597
Total Adjustments				-0.089	0.000	0.252	-	-				0.252
• Congressional General Reductions				-	-	-						
• Congressional Directed Reductions				-	-	-						
• Congressional Rescissions				-	-	-						
• Congressional Adds				-	-	-						
• Congressional Directed Transfers				-	-	-						
• Reprogrammings				-	-	-						
• SBIR/STTR Transfer				-0.090	0.000	-						
• Program Adjustments				0.000	0.000	0.900	-	-				0.900
• Rate/Misc Adjustments				0.001	0.000	-0.648	-	-				-0.648
<b>Change Summary Explanation</b>												
The FY 2017 request was reduced by -\$0.069 million to account for the availability of prior year execution balances.												
Technical: N/A												
Schedule: N/A												

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605856N / Strategic Technical Support				Project (Number/Name) 0128 / Mgmt/Tech Supt Strategic			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0128: Mgmt/Tech Supt Strategic	0.000	1.128	1.181	1.215	-	1.215	1.239	1.264	1.290	1.316	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> MANAGEMENT AND TECHNICAL SUPPORT, STRATEGIC	1.128	1.181	1.215	0.000	1.215
<b>Articles:</b>	-	-	-	-	-
<b>FY 2015 Accomplishments:</b>					
- Examined specific applications for submarine mine countermeasures and develop a strategy for ensuring submarine access to contested areas of the world.					
- Assessed the strategic deterrence (conventional and nuclear) force structure, security, and capability in the Navy.					
- Performed an in-depth review of undersea warfare research and development requirements, past and present, and propose an investment strategy to maximize future capabilities.					
- Assessed 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.					
- Assessed 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.					
<b>FY 2016 Plans:</b>					
- Continue all efforts of FY15.					
<b>FY 2017 Base Plans:</b>					
- Continue all efforts of FY16					
<b>FY 2017 OCO Plans:</b>					
N/A					
<b>Accomplishments/Planned Programs Subtotals</b>	1.128	1.181	1.215	0.000	1.215

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605856N / <i>Strategic Technical Support</i>	<b>Project (Number/Name)</b> 0128 / <i>Mgmt/Tech Supt Strategic</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b>		
N/A		
<b>E. Performance Metrics</b>		
This 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 2017 Navy											Date: February 2016				
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)						
1319 / 6					PE 0605856N / Strategic Technical Support				1038 / Acoustic & Non-Acoustic Analysis Supt						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
1038: Acoustic & Non-Acoustic Analysis Supt	0.000	1.373	2.077	2.382	-	2.382	3.110	3.143	3.162	3.207	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>															
This project provides analytical support to the Director, Intelligence, Surveillance, and Reconnaissance (ISR) Division, the Battlespace Awareness Division of DCNO Information Warfare, 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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> ACOUSTIC AND NON-ACOUSTIC ANALYSIS SUPPORT  <b>Articles:</b>											1.373	2.077	2.382	0.000	2.382
<b>Description:</b> The increase from FY16 to FY17 reflects the requirement to conduct a full 5 year Environmental Impact Statement in 2022 based on 20 years of operating LFA and the changes in technology and scientific understanding of the environment. A full scoping of prior studies, enhanced capabilities, environmental compliance is a 5 year process that will also require an assessment of potentially expanding current operating areas under the prior EIS/SEISs.											-	-	-	-	
<b>FY 2015 Accomplishments:</b> -Executed the Surveillance Engineering Measurements Program (SEMP) providing critical analytic insight into engineering and operational performance components of the IUSS shore based and Mobile systems -Provided analytic insights to tactical Sound Navigation and Ranging (SONAR) advanced capability improvements to the Integrated Common Processor (ICP) tactical SONAR system enabling the Advanced Surveillance Build (ASB) spiral development process -Provided technical and operational analysis based feedback and input to fleet doctrine products and operator training systems															

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605856N / Strategic Technical Support	Project (Number/Name) 1038 / Acoustic & Non-Acoustic Analysis Supt				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
-Perform Data Set identification and production as the sole source for real-world data to enable these advanced development initiatives which span Defense Advanced Research Projects Agency (DARPA), Office of Naval Research (ONR), Integrated Warfare Systems (IWS), Space & Naval Warfare Systems Command (SPAWAR), Naval Research Laboratory (NRL), and others to bring critically needed new capabilities and capability improvements to the IUSS community						
-Provide oversight of the Marine Mammal Monitoring Program						
-Provided environmental compliance documentation review, generation and revision of draft Supplemental Environmental Impact Statement (SEIS) statements enabling continuing fleet operations of Low Frequency Active systems						
-Provided analytic and Subject Matter Expertise (SME) support to facilitate Naval Litigation Office (NLO) efforts						
<b>FY 2016 Plans:</b>						
-Continue to execute the Surveillance Engineering Measurements Program (SEMP) providing critical analytic insight into engineering and operational performance components of the IUSS shore based and Mobile systems						
-Continue comprehensive case analyses to establish a basis for understanding what impact, both positive and negative, our legacy tactical SONAR systems and new ASB capability deliveries have on fleet operations						
-Continue Data Set identification and production as the sole source for real-world data to enable these advanced development initiatives which span Defense Advanced Research Projects Agency (DARPA), Office of Naval Research (ONR), Integrated Warfare Systems (IWS), Space & Naval Warfare Systems Command (SPAWAR), Naval Research Laboratory (NRL), and others to bring critically needed new capabilities and capability improvements to the IUSS community						
-Continue oversight of the Marine Mammal Monitoring Program						
-Continue to provide environmental compliance documentation review, generation and revision of draft SEIS statements enabling continuing fleet operations of Low Frequency Active systems						
-Continue to provide analytic and Subject Matter Expertise (SME) support to facilitate Naval Litigation Office (NLO) efforts enabling ongoing Marine Mammal Mitigation litigation						
-Provide passive acoustic monitoring, which must occur whenever the SURTASS LFA sonar is operational, to support continued fleet Low Frequency Active operations worldwide						
<b>FY 2017 Base Plans:</b>						
-Continue to execute the Surveillance Engineering Measurements Program (SEMP) providing critical analytic insight into engineering and operational performance components of the IUSS shore based and Mobile systems						
-Continue comprehensive case analyses to establish a basis for understanding what impact, both positive and negative, our legacy tactical SONAR systems and new ASB capability deliveries have on fleet operations						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016								
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)										
1319 / 6	PE 0605856N / Strategic Technical Support	1038 / Acoustic & Non-Acoustic Analysis Supt										
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>												
		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total						
<p>-Continue Data Set identification and production as the sole source for real-world data to enable these advanced development initiatives which span Defense Advanced Research Projects Agency (DARPA), Office of Naval Research (ONR), Integrated Warfare Systems (IWS), Space &amp; Naval Warfare Systems Command (SPAWAR), Naval Research Laboratory (NRL), and others to bring critically needed new capabilities and capability improvements to the IUSS community</p> <p>-Continue oversight of the Marine Mammal Monitoring Program</p> <p>-Continue to provide environmental compliance documentation review, generation and revision of draft SEIS statements enabling continuing fleet operations of Low Frequency Active systems</p> <p>-Continue to provide analytic and Subject Matter Expertise (SME) support to facilitate Naval Litigation Office (NLO) efforts enabling ongoing Marine Mammal Mitigation litigation</p> <p>-Provide passive acoustic monitoring, which must occur whenever the SURTASS LFA sonar is operational, to support continued fleet Low Frequency Active operations worldwide</p>												
<b>FY 2017 OCO Plans:</b> N/A												
		Accomplishments/Planned Programs Subtotals			1.373	2.077	2.382	0.000	2.382			
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
N/A												
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
N/A												
<b>E. Performance Metrics</b>												
This 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 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605861N / RDT&E Science & Tech Mgmt							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	72.943	76.948	62.811	-	62.811	62.901	64.224	65.809	66.973	Continuing	Continuing
0135: ONR Science & Technology Mgmt	0.000	64.966	69.489	55.561	-	55.561	55.338	56.438	57.806	58.816	Continuing	Continuing
2353: DFAS Billings	0.000	2.324	1.695	1.465	-	1.465	1.623	1.715	1.793	1.838	Continuing	Continuing
3234: Office of Naval Research - N-ERP	0.000	1.120	1.168	1.121	-	1.121	1.205	1.241	1.270	1.297	Continuing	Continuing
3364: ONR Global Management	0.000	4.533	4.596	4.664	-	4.664	4.735	4.830	4.940	5.022	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)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	73.033	76.948	77.793	-	77.793
Current President's Budget	72.943	76.948	62.811	-	62.811
Total Adjustments	-0.090	0.000	-14.982	-	-14.982
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.090	0.000			
• Rate/Misc Adjustments	0.000	0.000	-14.982	-	-14.982

**Change Summary Explanation**

The FY 2017 request was reduced by -\$0.185 as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605861N / <i>RDT&amp;E Science &amp; Tech Mgmt</i>
Effective in FY 2017, funding that supports Management Headquarters Activity (MHA) salaries in the amount of -\$14.5 million is realigned into PE 0605898N Management HQ - R&D.	
Technical: Not applicable.	
Schedule: Not applicable.	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)			
1319 / 6					PE 0605861N / RDT&E Science & Tech Mgmt				0135 / ONR Science & Technology Mgmt			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0135: ONR Science & Technology Mgmt	0.000	64.966	69.489	55.561	-	55.561	55.338	56.438	57.806	58.816	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)**

Title: S&T MANAGEMENT SUPPORT	Articles:	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
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.		64.966	69.489	55.561	0.000	55.561

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016				
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605861N / <i>RDT&amp;E Science &amp; Tech Mgmt</i>	<b>Project (Number/Name)</b> 0135 / <i>ONR Science &amp; Technology Mgmt</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							
		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	
This project also provides for basic costs of ONR's field activities to include fixed costs, such as salaries and communications.							
The increase from FY 2015 to FY 2016 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.							
Effective in FY 2017, ONR realigned costs associated with Management Headquarters Activity (MHA) salaries into PE 0605898N Management HQ - R&D. The reduction in FY 2016 to FY 2017 reflects that realignment.							
<b>FY 2015 Accomplishments:</b>							
- 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.							
<b>FY 2016 Plans:</b>							
- Continue all efforts of FY 2015							
- Ramp up support and focus on audit readiness to prepare for the FY17 financial auditability mandates set by SECDEF and Congress.							
<b>FY 2017 Base Plans:</b>							
- Continue all efforts in directly supporting Navy Science and Technology programs.							
<b>FY 2017 OCO Plans:</b>							
N/A							
<b>Accomplishments/Planned Programs Subtotals</b>		64.966	69.489	55.561	0.000	55.561	
<b>C. Other Program Funding Summary (\$ in Millions)</b>							
N/A							

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605861N / <i>RDT&amp;E Science &amp; Tech Mgmt</i>	<b>Project (Number/Name)</b> 0135 / <i>ONR Science &amp; Technology Mgmt</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> Not applicable.		
<b>E. Performance Metrics</b> 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.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016				
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605861N / RDT&E Science & Tech Mgmt				Project (Number/Name) 2353 / DFAS Billings						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
2353: DFAS Billings	0.000	2.324	1.695	1.465	-	1.465	1.623	1.715	1.793	1.838	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>															
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> TRANSACTIONS PROCESSED IN SUPPORT OF DON R&D											2.324	1.695	1.465	0.000	1.465
<b>Articles:</b>											-	-	-	-	-
<b>Description:</b> 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 FY 2015 to FY 2016 reflects historical execution.															
The decrease from FY 2016 to FY 2017 is due to an increase in automated efficiencies requiring less support from DFAS.															
<b>FY 2015 Accomplishments:</b>															
- 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.															
<b>FY 2016 Plans:</b>															
- Continue all efforts of FY 2015															
<b>FY 2017 Base Plans:</b>															
- Continue all efforts of FY 2016															
<b>FY 2017 OCO Plans:</b>															
N/A															
<b>Accomplishments/Planned Programs Subtotals</b>											2.324	1.695	1.465	0.000	1.465

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605861N / <i>RDT&amp;E Science &amp; Tech Mgmt</i>	<b>Project (Number/Name)</b> 2353 / <i>DFAS Billings</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> Not applicable.		
<b>E. Performance Metrics</b> 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.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016					
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 6					PE 0605861N / RDT&E Science & Tech Mgmt				3234 / Office of Naval Research - N-ERP							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost				
3234: Office of Naval Research - N-ERP	0.000	1.120	1.168	1.121	-	1.121	1.205	1.241	1.270	1.297	Continuing	Continuing				
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-						
<b>A. Mission Description and Budget Item Justification</b>																
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<i>Title:</i> OFFICE OF NAVAL RESEARCH NAVY ERP											Articles:	1.120	1.168	1.121	0.000	1.121
<i>Description:</i> This project funds N-ERP implementation and sustainment.												-	-	-	-	
<i>FY 2015 Accomplishments:</i>																
- Continue N-ERP sustainment efforts.																
<i>FY 2016 Plans:</i>																
- Continue N-ERP sustainment efforts.																
<i>FY 2017 Base Plans:</i>																
- Continue N-ERP sustainment efforts.																
<i>FY 2017 OCO Plans:</i>																
N/A																
<b>Accomplishments/Planned Programs Subtotals</b>												1.120	1.168	1.121	0.000	1.121
<b>C. Other Program Funding Summary (\$ in Millions)</b>																
N/A																
<b>Remarks</b>																
<b>D. Acquisition Strategy</b>																
Not applicable.																

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605861N / <i>RDT&amp;E Science &amp; Tech Mgmt</i>	<b>Project (Number/Name)</b> 3234 / <i>Office of Naval Research - N-ERP</i>
<b>E. Performance Metrics</b> 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.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016				
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						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
3364: ONR Global Management	0.000	4.533	4.596	4.664	-	4.664	4.735	4.830	4.940	5.022	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>															
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> ONR Global											4.533	4.596	4.664	0.000	4.664
<i>Articles:</i>											-	-	-	-	
<b>FY 2015 Accomplishments:</b>															
- This project provides for all basic costs of ONR field activities in support of the entire Navy S&T program.															
<b>FY 2016 Plans:</b>															
- Continue all efforts of FY 2015															
<b>FY 2017 Base Plans:</b>															
- Continue all efforts of FY 2016															
<b>FY 2017 OCO Plans:</b>															
N/A															
<b>Accomplishments/Planned Programs Subtotals</b>											4.533	4.596	4.664	0.000	4.664
<b>C. Other Program Funding Summary (\$ in Millions)</b>															
N/A															
<b>Remarks</b>															
<b>D. Acquisition Strategy</b>															
N/A															
<b>E. Performance Metrics</b>															
N/A															

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity				R-1 Program Element (Number/Name)								
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support				PE 0605863N / RDT&E Ship & Aircraft Support								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	127.634	132.122	106.093	-	106.093	97.775	97.023	99.338	101.471	Continuing	Continuing
0568: RDT&E Acft Flt Hours	0.000	33.723	33.187	32.283	-	32.283	33.611	34.234	35.394	36.154	Continuing	Continuing
0569: RDT&E Acft Supt	0.000	35.853	35.014	36.536	-	36.536	36.665	37.157	38.073	38.884	Continuing	Continuing
2924: SDTS	0.000	7.568	10.310	11.476	-	11.476	11.323	11.412	11.596	11.841	Continuing	Continuing
3206: T&E Enterprise	0.000	50.490	53.611	25.798	-	25.798	16.176	14.220	14.275	14.592	Continuing	Continuing
<b>A. Mission Description and Budget Item Justification</b>												
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total						
Previous President's Budget		138.304	132.122	109.742	-	-					109.742	
Current President's Budget		127.634	132.122	106.093	-	-					106.093	
Total Adjustments		-10.670	0.000	-3.649	-	-					-3.649	
• Congressional General Reductions		-	-									
• Congressional Directed Reductions		-	-									
• Congressional Rescissions		-	-									
• Congressional Adds		-	-									
• Congressional Directed Transfers		-	-									
• Reprogrammings		-9.999	0.000									
• SBIR/STTR Transfer		-0.671	0.000									
• Program Adjustments		0.000	0.000	0.014	-	-					0.014	
• Rate/Misc Adjustments		0.000	0.000	-3.663	-	-					-3.663	

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605863N / <i>RDT&amp;E Ship &amp; Aircraft Support</i>
<p><b>Change Summary Explanation</b></p> <p>In FY 2015, the T&amp;E Enterprise project was reduced by -\$9.999 million due to schedule shift of DDG1000 equipment installation and checkout (INCO) on the Self Defense Test Ship (SDTS) from a 2015 industrial availability to an FY16-FY17 industrial availability.</p> <p>The FY 2017 request was reduced by -\$1.6 million due to the availability of prior year execution balances and by -\$2.7 million as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.</p> <p>The funding increase from FY 2016 to FY 2017 for RDT&amp;E Aircraft Support supports an increase in Phased Depot Maintenance (PDM) costs. The increase in PDM costs are associated to multiple KC-130T's and P-8A's that are scheduled for depot maintenance in FY17.</p> <p>The funding increase from FY 2016 to FY 2017 for Self Defense Test Ship (SDTS) supports the work package development and purchase of long lead items for the SDTS drydock scheduled for FY19. Planned work includes ultrasonic testing of the hull, stern tube seal repair, main propulsion shafting repair/replace, fuel oil tank refurbishment and a myriad of other HM&amp;E systems repair or upgrades</p> <p>Technical: TECP-1 development efforts were added to PU 3206 in 2016-2019.</p> <p>Schedule: Not applicable.</p>	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016				
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					
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
0568: RDT&E Acft Flt Hours	0.000	33.723	33.187	32.283	-	32.283	33.611	34.234	35.394	36.154	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>															
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> RDT&E Acft Flt Hours  <b>Articles:</b>											33.723	33.187	32.283	0.000	32.283
<b>FY 2015 Accomplishments:</b> Continue to provide planned organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of RDT&E aircraft operations.											-	-	-	-	
<b>FY 2016 Plans:</b> Continue to provide planned organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of RDT&E aircraft operations.															
<b>FY 2017 Base Plans:</b> Continue to provide planned organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of RDT&E aircraft operations.															
<b>FY 2017 OCO Plans:</b> N/A															
<b>Accomplishments/Planned Programs Subtotals</b>											33.723	33.187	32.283	0.000	32.283
<b>C. Other Program Funding Summary (\$ in Millions)</b>															
N/A															

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605863N / <i>RDT&amp;E Ship &amp; Aircraft Support</i>	<b>Project (Number/Name)</b> 0568 / <i>RDT&amp;E Acft Flt Hours</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> Not Applicable		
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016	
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			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0569: RDT&E Acft Supt	0.000	35.853	35.014	36.536	-	36.536	36.665	37.157	38.073	38.884	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Aircraft/Engine Maintenance and AVDLR/IMRL Support  <b>Articles:</b>	34.250	33.523	35.936	0.000	35.936
<b>Description:</b> The increase from FY16 and FY17 reflects an increase in Phased Depot Maintenance (PDM) costs. The increase in PDM costs are associated to multiple KC-130T's and P-8A's that are scheduled for depot maintenance in FY17. PDM costs, AVDLR/IMRL, engine repairs and support costs, are all reflected within the same accomplishment.	-	-	-	-	-
<b>FY 2015 Accomplishments:</b> 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.					
<b>FY 2016 Plans:</b> 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					

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605863N / <i>RDT&amp;E Ship &amp; Aircraft Support</i>	<b>Project (Number/Name)</b> 0569 / <i>RDT&amp;E Acft Supt</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
inventory. Continue operation and implementation of maintenance and material management programs at Naval Air Warfare Center activities.						
<b>FY 2017 Base Plans:</b> 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.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> In-Service Repairs  <b>FY 2015 Accomplishments:</b> Continue to provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects.		<b>Articles:</b> 1.603 -	1.491 -	0.600 -	0.000 -	0.600 -
<b>FY 2016 Plans:</b> Continue to provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects.						
<b>FY 2017 Base Plans:</b> Continue to provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>		35.853	35.014	36.536	0.000	36.536
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605863N / <i>RDT&amp;E Ship &amp; Aircraft Support</i>	<b>Project (Number/Name)</b> 0569 / <i>RDT&amp;E Acft Supt</i>
<b>D. Acquisition Strategy</b>		
N/A		
<b>E. Performance Metrics</b> <p>The Research, Development, Test &amp; 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&amp;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.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605863N / RDT&E Ship & Aircraft Support					Project (Number/Name) 2924 / SDTS			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2924: SDTS	0.000	7.568	10.310	11.476	-	11.476	11.323	11.412	11.596	11.841	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> SDTS  <b>Articles:</b>  <b>Description:</b> The funding increase from FY15 and FY16 funds Self Defense Test Ship (SDTS) Hull, Mechanical and Electrical Maintenance requirements.  The funding increase from FY16 to FY17 supports the work package development and purchase of long lead items for the SDTS drydock scheduled for FY19. Planned work includes ultrasonic testing of the hull, stern tube seal repair, main propulsion shafting repair/replace, fuel oil tank refurbishment and a myriad of other HM&E systems repair or upgrades.	7.568	10.310	11.476	0.000	11.476
<b>FY 2015 Accomplishments:</b>  NSWC PHD continued to conduct the 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. Maintained, operated, configured and upgraded the Test Ship Remote Control System (TSRCS) and associated infrastructure in support of T&E requirements onboard SDTS to support the Air Warfare Ship Self Defense (AW SSD) Enterprise T&E Master Plan (TEMP) efforts. NSWC PHD conducted a complex pier side availability to install and test the combat systems elements for the DDG 1000, LSD 50 and LCS 8.					
<b>FY 2016 Plans:</b>  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					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605863N / <i>RDT&amp;E Ship &amp; Aircraft Support</i>	<b>Project (Number/Name)</b> 2924 / <i>SDTS</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
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 TEMP efforts. NSWC PHD will conduct a complex pier side availability to install and test the combat systems elements for the CVN 78 and LCS 7.						
<p><b>FY 2017 Base Plans:</b> NSWC PHD continues to conduct management, operation, maintenance and repair/upgrade of ship Hull, Mechanical and Electrical (HM&amp;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&amp;E requirements onboard SDTS to support the AW SSD Enterprise TEMP efforts. NSWC PHD will conduct a complex pier side availability for new Combat System installations (funded through the T&amp;E Enterprise Project 3206) which will include HM&amp;E maintenance and necessary upgrades.</p> <p>Initiate work package development and begin purchasing long lead items in preparation for the SDTS drydock scheduled for FY19. Planned work includes ultrasonic testing of the hull, stern tube seal repair, main propulsion shafting repair/replace, fuel oil tank refurbishment and a myriad of other HM&amp;E systems repair or upgrades.</p>						
<p><b>FY 2017 OCO Plans:</b> N/A</p>						
<b>Accomplishments/Planned Programs Subtotals</b>		7.568	10.310	11.476	0.000	11.476
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b> This line of accounting is for recurring HM&E and ship maintenance.						
<b>E. Performance Metrics</b>						
<ol style="list-style-type: none"> <li>Ability to successfully remain safe and operationally available to support testing and evaluation of systems while in an unmanned, remotely controlled mode.</li> <li>Successful development of applicable operation and maintenance documentation and reporting of installations.</li> <li>Successful and timely delivery of funding status, schedule and technical delays and other issues.</li> </ol>						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
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			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3206: T&E Enterprise	0.000	50.490	53.611	25.798	-	25.798	16.176	14.220	14.275	14.592	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 LHD 8, LSD 50, LHA 6, DDG 1000, CVN 78, and Littoral Combat Ship (LCS) versions 7 and 8. 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 T&E Master Plan (TEMP) 1714, and lead/operational ship testing requirements for Extended Sea Sparrow Missile (ESSM) TEMP 1471, Rolling Airframe Missile (RAM) Blk 2 TEMP 286-2, 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), 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 7, LCS 8 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 7, LCS 8 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 infrastructure, missile range allocations, execution time and underway time to eliminate duplicative testing. T&E Enterprise preserves end-to-end mission Operational

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016	
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)			
1319 / 6	PE 0605863N / RDT&E Ship & Aircraft Support	3206 / T&E Enterprise			
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p><b>Title:</b> T&amp;E Enterprise</p> <p><b>Articles:</b></p> <p><b>Description:</b> The decrease from FY16 to FY17 reflects fewer Test and Evaluation (T&amp;E) events to be conducted in FY17.</p> <p><b>FY 2015 Accomplishments:</b> The Enterprise 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 Enterprise Test (ET-05) to support the PRA Testbed model.</p> <p>The Enterprise conducted LHA 6 Lead Ship Testing (ET-06) on the SDTS to complete developmental test in PRA Testbed.</p> <p>FY15 activities included conducting a 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 DDG 1000, LHA 6, LSD 50/52, and LCS 8 configurations (to include SeaRAM).</p> <p>Started 7 month pier side industrial availability in spring CY15 (reduced based on DDG 1000 INCO shifting to FY16-FY17) during which time the LSD 50 SSDS Mk 2 Mod 5C equipment was installed and LCS 8 Combat System configuration was also being installed. 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>Continued supporting development of Threat Engineering Characterization Package (TECP-1), and facilitating the integration into the PEO IWS M&amp;S framework.</p> <p>The Enterprise continued routine maintenance, Information Assurance (IA)/Cybersecurity Certification and Accreditation on combat systems elements and the remote control system on the SDTS.</p> <p><b>FY 2016 Plans:</b></p>	50.490	53.611	25.798	0.000	25.798

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / <i>RDT&amp;E Ship &amp; Aircraft Support</i>	Project (Number/Name) 3206 / <i>T&amp;E Enterprise</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
The Enterprise will conclude conducting LSD 45 Lead Ship Testing (ET-14). Conduct ET 11B for LCS 8 configuration and ET 12 for LSD 45 configuration on SDTS.						
FY16 activities will include start of pier side industrial availability (June 2016-February 2017) to conduct Installation and Checkout (INCO) of DDG 1000 equipment to include Multi-Function Radar (MFR), and INCO on the LCS 7 and CVN 78 configurations on the SDTS.						
Continue to facilitate the integration of Enterprise systems into the Program Executive Office Integrated Warfare System(PEO IWS) Modeling and Simulation (M&S) framework.						
The Enterprise will continue routine maintenance, IA/Cybersecurity Certification and Accreditation on combat system elements and the remote control system on the SDTS.						
Stand up a strategic working group for long range Enterprise Test & Evaluation (ET&E) planning (e.g. LX-R, Rail Gun).						
Conduct PRA Testbed DT of the LSD 50/52, LCS 8, and CVN 78 configurations.						
Continue supporting development of TECP-1, and facilitating the integration into the PEO IWS M&S framework.						
<b>FY 2017 Base Plans:</b> Complete pier side industrial availability to conduct Installation and Checkout (INCO) of DDG1000 equipment to include MFR, and INCO on the LCS 7 and CVN 78 configurations on the SDTS. Upon completion of the availability the ship will undergo testing to ensure the combat system elements are properly installed and safe to operate.						
The Enterprise will conduct PRA Assessment of the LHA 6 configuration (ET-15).						
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 facilitate the integration of systems into the PEO IWS M&S framework.						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605863N / <i>RDT&amp;E Ship &amp; Aircraft Support</i>	<b>Project (Number/Name)</b> 3206 / <i>T&amp;E Enterprise</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue supporting development of TECP-1, and facilitating the integration into the PEO IWS M&S framework.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>		50.490	53.611	25.798
		0.000	25.798	
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> Acquire CVN-78 CS elements in FY15.				
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)								
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605864N / Test & Evaluation Support								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
Total Program Element	0.000	335.791	351.912	349.146	-	349.146	361.446	358.709	375.797	381.238	Continuing	Continuing	
0541: AUTEC	0.000	49.029	51.537	52.556	-	52.556	54.759	53.172	54.927	56.025	Continuing	Continuing	
0566: NAVAIR Environmental Compliance	0.000	4.222	4.257	4.219	-	4.219	4.382	4.462	4.609	4.702	Continuing	Continuing	
0653: NAWC Weapons Division	0.000	135.768	141.872	135.521	-	135.521	140.345	143.428	148.173	151.131	Continuing	Continuing	
0654: NAWC Acft Division	0.000	94.162	97.652	94.556	-	94.556	97.651	99.410	102.706	104.755	Continuing	Continuing	
2921: Pacific Missile Range Facility	0.000	5.275	5.316	5.179	-	5.179	5.442	5.542	5.724	5.838	Continuing	Continuing	
2922: MRTFB Maint & Repair	0.000	35.744	39.583	31.734	-	31.734	32.980	29.375	29.380	31.646	Continuing	Continuing	
3154: Nanoose and Dabob Bay Ranges	0.000	11.591	11.695	11.421	-	11.421	11.868	12.085	12.487	12.737	Continuing	Continuing	
3386: MRTFB Marine Vessels	0.000	0.000	0.000	13.960	-	13.960	14.019	11.235	17.791	14.404	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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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b> PE 0605864N / <i>Test &amp; Evaluation Support</i>				
<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
Previous President's Budget	336.286	351.912	344.029	-	344.029
Current President's Budget	335.791	351.912	349.146	-	349.146
Total Adjustments	-0.495	0.000	5.117	-	5.117
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.495	0.000			
• Program Adjustments	0.000	0.000	1.256	-	1.256
• Rate/Misc Adjustments	0.000	0.000	3.861	-	3.861
<b>Change Summary Explanation</b>					
The FY 2017 request was reduced by -\$7.6 million as required in order for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.					
Technical: Not applicable.					
Schedule: Not applicable.					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support				Project (Number/Name) 0541 / AUTEC				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0541: AUTEC	0.000	49.029	51.537	52.556	-	52.556	54.759	53.172	54.927	56.025	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 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Atlantic Undersea Test and Eval Ctr Facility					37.758	40.266	40.806	0.000	40.806
<b>Description:</b> 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 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605864N / Test & Evaluation Support		<b>Project (Number/Name)</b> 0541 / AUTEC
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>FY 2015 Accomplishments:</b> 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 and Test 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.				
<b>FY 2016 Plans:</b> 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.				
<b>FY 2017 Base Plans:</b> 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. Increased funding to resolve policy compliance issues resulting from a Naval Sea Systems Command Inspector General/Newport Office of Counsel and Contracting review.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Title:</b> Bahamian Lease  <b>Description:</b> Rental payments to the Bahamian government for use of land and ocean in the Bahamas.		<b>Articles:</b> 11.271 - - - - -	11.271 - - - - -	11.750 0.000 - - - -
<b>FY 2015 Accomplishments:</b> Continue to provide rental payments to the Bahamian government for use of land and ocean in the Bahamas.				
<b>FY 2016 Plans:</b>				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support	Project (Number/Name) 0541 / AUTEC				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue to provide rental payments to the Bahamian government for use of land and ocean in the Bahamas.						
<b>FY 2017 Base Plans:</b> Continue to provide rental payments to the Bahamian government for use of land and ocean in the Bahamas.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>		49.029	51.537	52.556	0.000	52.556
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
Not applicable.						
<b>E. Performance Metrics</b>						
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 2017 Navy											Date: February 2016				
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support				Project (Number/Name) 0566 / NAVAIR Environmental Compliance						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
0566: NAVAIR Environmental Compliance	0.000	4.222	4.257	4.219	-	4.219	4.382	4.462	4.609	4.702	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>															
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Environmental Compliance <b>Articles:</b>											4.222	4.257	4.219	0.000	4.219
<b>Description:</b> 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.											-	-	-		
<b>FY 2015 Accomplishments:</b> 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.															
<b>FY 2016 Plans:</b>															

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support	Project (Number/Name) 0566 / NAVAIR Environmental Compliance				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue the identification and funding of level 1 requirements that support compliance projects at Naval Air Systems Command (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						
<b>FY 2017 Base Plans:</b> 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						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>		4.222	4.257	4.219	0.000	4.219
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
Not applicable.						
<b>E. Performance Metrics</b>						
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 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support				Project (Number/Name) 0653 / NAWC Weapons Division				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0653: NAWC Weapons Division	0.000	135.768	141.872	135.521	-	135.521	140.345	143.428	148.173	151.131	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Pacific Ranges	54.495	57.153	55.114	0.000	55.114
<b>Articles:</b>	-	-	-	-	-
<b>Description:</b> 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.					
<b>FY 2015 Accomplishments:</b> 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.					
<b>FY 2016 Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605864N / <i>Test &amp; Evaluation Support</i>	<b>Project (Number/Name)</b> 0653 / <i>NAWC Weapons Division</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 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><b>FY 2017 Base Plans:</b>            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><b>FY 2017 OCO Plans:</b>            N/A</p> <p><b>Title:</b> Navy Test Wing Pacific</p> <p><b>Articles:</b></p> <p><b>Description:</b> 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 &amp; Evaluation of aircraft, weapons and weapons systems.</p> <p><b>FY 2015 Accomplishments:</b>            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><b>FY 2016 Plans:</b>            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>				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support	Project (Number/Name) 0653 / NAWC Weapons Division				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.						
<b>FY 2017 Base Plans:</b> Continue to maintain and operate mission essential/core test support resources associated with 10 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.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Threat/Target Systems  <b>Description:</b> 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.  <b>FY 2015 Accomplishments:</b> 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.		<b>Articles:</b> 10.984 -	11.339 -	11.226 -	0.000 -	11.226 -
<b>FY 2016 Plans:</b> 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.						
<b>FY 2017 Base Plans:</b> 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,						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605864N / Test & Evaluation Support	<b>Project (Number/Name)</b> 0653 / NAWC Weapons Division	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Title:</b> Test and Evaluation Ordnance	<b>Articles:</b>	2.998	3.012	3.033
<b>Description:</b> 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.		-	-	-
<b>FY 2015 Accomplishments:</b> 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.				
<b>FY 2016 Plans:</b> 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.				
<b>FY 2017 Base Plans:</b> 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.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Title:</b> Naval Air Warfare Center Weapons Division (NAWCWD) Command	45.201	48.206	45.184	0.000
				45.184

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016		
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605864N / Test & Evaluation Support	<b>Project (Number/Name)</b> 0653 / NAWC Weapons Division			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
	<b>Articles:</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>Description:</b> This project funds the overhead/institutional costs required to sustain the NAWCWD MRTFB Test and Evaluation capabilities.				-	-	-
<b>FY 2015 Accomplishments:</b> 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.						
<b>FY 2016 Plans:</b> 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.						
<b>FY 2017 Base Plans:</b> 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.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>				135.768	141.872	135.521
				0.000	135.521	
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
Not applicable.						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605864N / <i>Test &amp; Evaluation Support</i>	<b>Project (Number/Name)</b> 0653 / <i>NAWC Weapons Division</i>
<b>E. Performance Metrics</b> 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 2017 Navy										Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support				Project (Number/Name) 0654 / NAWC Acft Division			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0654: NAWC Acft Division	0.000	94.162	97.652	94.556	-	94.556	97.651	99.410	102.706	104.755	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Atlantic Ranges  <b>Articles:</b>	22.538	23.742	22.256	0.000	22.256

**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 2015 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 2016 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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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy					Date: February 2016	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support	Project (Number/Name) 0654 / NAWC Acft Division				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 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.						
<b>FY 2017 Base Plans:</b> 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.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Electromagnetic Environmental Effects (E-Cubed) and Air Combat Environment Test and Evaluation Facility (ACETEF)						
<b>Articles:</b>						
<b>Description:</b> 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.						
<b>FY 2015 Accomplishments:</b> 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.						
<b>FY 2016 Plans:</b> 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.						
<b>FY 2017 Base Plans:</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605864N / Test & Evaluation Support	<b>Project (Number/Name)</b> 0654 / NAWC Acft Division		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
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.					
<b>FY 2017 OCO Plans:</b> N/A					
<b>Title:</b> Propulsion Systems Test Facility (PSEF)  <b>Description:</b> 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 T&E Facility. Propulsion Systems consists of engines, engine components and accessories.  <b>FY 2015 Accomplishments:</b> 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.  <b>FY 2016 Plans:</b> 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.  <b>FY 2017 Base Plans:</b> 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.  <b>FY 2017 OCO Plans:</b> N/A	<b>Articles:</b> -  4.360	4.389	4.366	0.000	4.366
<b>Title:</b> Threat/Target Systems	1.610	1.621	1.645	0.000	1.645

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605864N / Test & Evaluation Support	<b>Project (Number/Name)</b> 0654 / NAWC Acft Division		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>Articles:</b>  <b>Description:</b> 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.  <b>FY 2015 Accomplishments:</b> 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.  <b>FY 2016 Plans:</b> 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.  <b>FY 2017 Base Plans:</b> 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.  <b>FY 2017 OCO Plans:</b> N/A	-	-	-	-	-
<b>Title:</b> Naval Test Wing Atlantic  <b>Articles:</b>  <b>Description:</b> 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.  <b>FY 2015 Accomplishments:</b> 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,	22.025	22.474	21.658	0.000	21.658

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605864N / <i>Test &amp; Evaluation Support</i>	<b>Project (Number/Name)</b> 0654 / <i>NAWC Acft Division</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations.				
<p><b>FY 2016 Plans:</b>            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><b>FY 2017 Base Plans:</b>            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><b>FY 2017 OCO Plans:</b>            N/A</p>				
<b>Title:</b> Naval Air Warfare Center Aircraft Division Command (NAWCAD) <b>Articles:</b> <b>Description:</b> This project funds the overhead/institutional costs required to sustain the NAWCAD MRTFB Test & Evaluation capabilities.		24.480	25.547	24.902
<b>FY 2015 Accomplishments:</b> 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.		-	-	0.000
<b>FY 2016 Plans:</b> 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.		-	-	24.902
<b>FY 2017 Base Plans:</b>				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support	Project (Number/Name) 0654 / NAWC Acft Division				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 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.						
<b>FY 2017 OCO Plans:</b> N/A		<b>Accomplishments/Planned Programs Subtotals</b>				
		94.162	97.652	94.556	0.000	94.556
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
Not applicable.						
<b>E. Performance Metrics</b>						
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 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support				Project (Number/Name) 2921 / Pacific Missile Range Facility				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
2921: <i>Pacific Missile Range Facility</i>	0.000	5.275	5.316	5.179	-	5.179	5.442	5.542	5.724	5.838	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> PMRF  <b>Articles:</b>  <b>Description:</b> 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.	5.275	5.316	5.179	0.000	5.179
<b>FY 2015 Accomplishments:</b> 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.	-	-	-	-	-
<b>FY 2016 Plans:</b> 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.					
<b>FY 2017 Base Plans:</b> 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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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605864N / <i>Test &amp; Evaluation Support</i>	<b>Project (Number/Name)</b> 2921 / <i>Pacific Missile Range Facility</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 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.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				5.275    5.316    5.179    0.000    5.179
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> Not applicable.				
<b>E. Performance Metrics</b> 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 2017 Navy										Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support				Project (Number/Name) 2922 / MRTFB Maint & Repair			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2922: MRTFB Maint & Repair	0.000	35.744	39.583	31.734	-	31.734	32.980	29.375	29.380	31.646	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Facility Maintenance and Repair  <b>Description:</b> Maintenance and repair of the MRTFB RPMA at NAWCWD, NAWCAD, and AUTEC.  <b>FY 2015 Accomplishments:</b> 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.  <b>FY 2016 Plans:</b> 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).  <b>FY 2017 Base Plans:</b> Continue to support mission critical emergency services, recurring maintenance and repair, and minor and major repair efforts at NAWCWD, NAWCAD, and AUTEC. FY17 budget funds MRTFB facility to 80% of Department of Defense sustainment model and 23% of the Restoration and Modernization Model. Continue NAWCAD Hangar Life Extension (\$5.0M).  <b>FY 2017 OCO Plans:</b>	35.744	39.583	31.734	0.000	31.734
<b>Articles:</b>	-	-	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605864N / <i>Test &amp; Evaluation Support</i>	<b>Project (Number/Name)</b> 2922 / <i>MRTFB Maint &amp; Repair</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>
N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				31.734
				31.734
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> Not applicable.				
<b>E. Performance Metrics</b> 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 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support				Project (Number/Name) 3154 / Nanoose and Dabob Bay Ranges				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3154: Nanoose and Dabob Bay Ranges	0.000	11.591	11.695	11.421	-	11.421	11.868	12.085	12.487	12.737	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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Undersea Ranges  <b>Articles:</b>  <b>Description:</b> 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.	11.591	11.695	11.421	0.000	11.421
 <b>FY 2015 Accomplishments:</b> 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.	-	-	-	-	-
 <b>FY 2016 Plans:</b> 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 2017 Navy					Date: February 2016	
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support	Project (Number/Name) 3154 / Nanoose and Dabob Bay Ranges				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 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.						
<b>FY 2017 Base Plans:</b> 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.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>						
11.591      11.695      11.421      0.000      11.421						
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<u>Remarks</u>						
<b>D. Acquisition Strategy</b>						
Not applicable.						
<b>E. Performance Metrics</b>						
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-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605864N / Test & Evaluation Support				Project (Number/Name) 3386 / MRTFB Marine Vessels			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3386: MRTFB Marine Vessels	0.000	0.000	0.000	13.960	-	13.960	14.019	11.235	17.791	14.404	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

This project funds the overhauls and preventative maintenance of the 23 Major Range and Test Facility Base (MRTFB) marine vessels located at Naval Air Warfare Center Weapons Division (NAWCWD), Point Mugu, CA, Pacific Missile Range Facility (PMRF), Honolulu, HI, Naval Undersea Warfare Center (NUWC) Keyport, WA, Naval Air Warfare Aircraft Division (NAWCAD), Patuxent River, MD, and Atlantic Undersea Test and Evaluation Center (AUTEC). These vessels are used to launch and recover torpedoes, acoustic systems, and other weapons, provide range surveillance and clearance, and can be configured as a target. Overhauls are required to operate ships over 300 tons overseas in compliance with American Bureau of Shipping "Load Line" certification requirements. Major preventative maintenance requiring shipyard support is also performed during these periods to mitigate risks of failures.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> MRTFB Marine Vessels	0.000	0.000	13.960	0.000	13.960
<b>Articles:</b>	-	-	-	-	-
<b>Description:</b> This project funds the overhauls and preventative maintenance of the 23 MRTFB marine vessels located at NAWCWD, Point Mugu, CA, PMRF, Honolulu, HI, NUWC Keyport Nanoose and Dabob Bay Ranges, Keyport, WA, NAWCAD, Patuxent River, MD, and NUWC Detachment (AUTEC).					
<b>FY 2015 Accomplishments:</b> N/A					
<b>FY 2016 Plans:</b> N/A					
<b>FY 2017 Base Plans:</b> Initiate overhauls and preventative maintenance on five MRTFB vessels. Initiate Service Life Extension Projects for YTT-10, YTT-11, and Transporter vessels.					
<b>FY 2017 OCO Plans:</b> N/A					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	13.960	0.000	13.960

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

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605864N / <i>Test &amp; Evaluation Support</i>	<b>Project (Number/Name)</b> 3386 / <i>MRTFB Marine Vessels</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> Not applicable.		
<b>E. Performance Metrics</b> Maintain Major Range Test Facility Base (MRTFB) marine vessels in a ready state to provide between 16,000-20,000 vessel 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 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)								
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605865N / Operational Test & Eval Capability								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
Total Program Element	0.000	16.423	17.985	18.160	-	18.160	18.487	18.856	19.505	19.846	Continuing	Continuing	
0831: OPTEVFOR Support	0.000	16.423	17.985	18.160	-	18.160	18.487	18.856	19.505	19.846	Continuing	Continuing	
<b>A. Mission Description and Budget Item Justification</b>													
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>B. Program Change Summary (\$ in Millions)</b>					FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total				
Previous President's Budget					16.650	17.985	18.327	-	18.327				
Current President's Budget					16.423	17.985	18.160	-	18.160				
Total Adjustments					-0.227	0.000	-0.167	-	-0.167				
<ul style="list-style-type: none"> <li>• Congressional General Reductions</li> <li>• Congressional Directed Reductions</li> <li>• Congressional Rescissions</li> <li>• Congressional Adds</li> <li>• Congressional Directed Transfers</li> <li>• Reprogrammings</li> <li>• SBIR/STTR Transfer</li> <li>• Program Adjustments</li> <li>• Rate/Misc Adjustments</li> </ul>					-	-	-	-	-				
					-0.227	0.000							
					0.000	0.000	0.457	-	0.457				
					0.000	0.000	-0.624	-	-0.624				

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605865N / <i>Operational Test &amp; Eval Capability</i>
<p><b><u>Change Summary Explanation</u></b></p> <p>The FY 2017 request was reduced by -\$0.156 million as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.</p>	
Technical: N/A	
Schedule: N/A	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605865N / Operational Test & Eval Capability				Project (Number/Name) 0831 / OPTEVFOR Support				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0831: OPTEVFOR Support	0.000	16.423	17.985	18.160	-	18.160	18.487	18.856	19.505	19.846	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)**

Title: OPTEVFOR SUPPORT	Articles:	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Description: Funding in this project funds the civilian salaries and operating costs for the Commander, Operational Test and Evaluation Force (COMOPTEVOR). In addition, it supports several senior management initiatives aimed at increasing efficiencies in Test and Evaluation (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.		16.423	17.985	18.160	0.000	18.160

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605865N / Operational Test & Eval Capability	Project (Number/Name) 0831 / OPTEVFOR Support				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>FY 2015 Accomplishments:</b> (1) Agile IT: Conduct of Operational Test & Evaluation (OT&E) adapted for the Agile IT process was initiated for two programs.  (2) Test and Product Processes: Performed initial TPPs, based on demonstrated system performance against representative threats in operational scenarios on systems, on systems prior to delivery resulting in immediate improvements in warfighting capability being delivered to the Fleet.  (3) Efforts continued in developing the means to electronically link deficiencies to the Warfare Capability Baseline Assessment efforts: this direct link will significantly decrease labor, ensure accuracy and allow rapid assessment update and increase relevance of OT findings to Fleet priorities.  (4) Workforce Shaping: The continuing effort to increase the analytic and cybersecurity workforce in support of enhanced operational test and evaluation. (5) OT&E:  a. Conducted 105 Operational Test events. b. Published 41 Operational Test Reports. b. Produced 31 Operational Test Plans. c. Created 25 Integrated Evaluation Frameworks. e. Provided 18 TEMP submissions.  (6) Warfare Capability Baseline Assessments (WCB): Assessed 13 weapon/system-target pairs totaling 60 kill/effects chains.						
<b>FY 2016 Plans:</b> - Continue all efforts of FY15.  (1) Agile IT: Expect to continue Agile IT OT&E efforts; a third program is under consideration for inclusion in this method.  (2) Test and Product Processes: Continue efforts to enhance and improve test processes and products in support of increasing the value of OT&E.						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605865N / Operational Test & Eval Capability	Project (Number/Name) 0831 / OPTEVFOR Support				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
(3) Efforts to electronically link program deficiencies to the Warfare Capability Baseline Assessment efforts will continue (PHOENIX).						
(4) Workforce Shaping: Anticipate limited, but measurable progress to continue in the effort to acquire analytic and cybersecurity workforce improvements.						
(5) WCB 6 is expected to be completed during FY16.						
<b>FY 2017 Base Plans:</b> Continue the efforts begun in FY16:						
(1) Agile IT process is expected to benefit and be refined following the first full year of effort.						
(2) OT&E processes and methods will continue to be examined for improvement						
(3) Anticipate that the linkage between WCB and deficiencies will be complete and other electronic database efforts associated with PHOENIX will continue.						
(4) Workforce shaping efforts will continue across the FYDP.						
(5) 7th increment of WCB is expected to be completed.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Accomplishments/Planned Programs Subtotals</b>		16.423	17.985	18.160	0.000	18.160
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605865N / <i>Operational Test &amp; Eval Capability</i>	<b>Project (Number/Name)</b> 0831 / <i>OPTEVFOR Support</i>
<b>E. Performance Metrics</b> <p>As indicated in section A above, funding provides for core headquarters operations and support (O&amp;S) costs related to required operational testing and evaluation (T&amp;E) conducted in support of Navy acquisition programs. The preponderance of funding provides for the annual O&amp;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&amp;E activity, COMOPTEVFOR's annual support costs are funded via RDTEN vice OMN; hence, and unlike most RDTEN programs, these funds provide for O&amp;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&amp;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.</p> <p>Number of Tests Conducted - FY15 = 105; FY16 = 103; FY17 = 104 Number of Programs Supported - FY15 = 425; FY16 = 422; FY17 = 424</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605866N / Navy Space & Electr Warfare Supt							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	2.992	5.316	9.658	-	9.658	11.520	10.865	10.699	10.689	Continuing	Continuing
0706: EMC & RF Mgmt	0.000	2.992	5.316	9.658	-	9.658	11.520	10.865	10.699	10.689	Continuing	Continuing

**Note**

Increased budget from FY 2016 to FY 2017 is required to assemble components and field three (3) RTSO EDMs to US Navy Platforms/Activities. One RTSO Unit will be sent to a land based test site for continual testing and update, as modules are ready for testing. Two RTSO Units will be sent to deploying ships (one LANT and one PAC). Funding to support ship integration requirements (Ship Change Document, Information Assurance Accreditation, and Crew Training).

**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.

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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	2.503	5.316	10.160	-	10.160
Current President's Budget	2.992	5.316	9.658	-	9.658
Total Adjustments	0.489	0.000	-0.502	-	-0.502
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.498	0.000			
• SBIR/STTR Transfer	-0.009	0.000			
• Program Adjustments	0.000	0.000	-0.160	-	-0.160
• Rate/Misc Adjustments	0.000	0.000	-0.342	-	-0.342

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605866N / <i>Navy Space &amp; Electr Warfare Supt</i>
<p><b><u>Change Summary Explanation</u></b></p> <p>Decrease in Navy Space &amp; Electr Warfare Supt by \$0.40M as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.</p> <p>The FY 2017 funding request was reduced by \$0.160 million to account for Real Time Spectrum Capacity Reduction.</p>	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
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				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0706: EMC & RF Mgmt	0.000	2.992	5.316	9.658	-	9.658	11.520	10.865	10.699	10.689	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)**

Title: Afloat Electromagnetic Spectrum Operations Program (AESOP)	Articles:	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Afloat Electromagnetic Spectrum Operations Program (AESOP)		0.438	0.420	0.420	0.000	0.420

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>FY 2015 Accomplishments:</b> <ul style="list-style-type: none"><li>- Participated in the Joint Electromagnetic Spectrum Operations (JEMSO) working group and defined the architecture for DoD spectrum management.</li><li>- Participated in the Joint Spectrum Data Repository (JSR) working group and defined the requirements for spectrum data sharing.</li><li>- Updated preliminary restrictions guidance for Commander, Fourth (4th) Fleet Area of Responsibility (AoR).</li><li>- Updated restrictions guidance for the Commander, Fifth (5th) Fleet AOR to reflect spectrum use allowances.</li><li>- Participated in the six (6) National Broadband Plan Meetings.</li><li>- Supported development and final review of the 3.5 GHz National Broadband Analysis Report.</li><li>- Supported development and final review of the 5.0 GHz National Broadband Analysis Report.</li><li>- Reviewed and provided comments to the proposals for the National Broadband Plan - Technology Demonstrations.</li></ul>	<b>FY 2016 Plans:</b> <ul style="list-style-type: none"><li>- Identify new military equipment and review their spectrum usage.</li><li>- Perform analysis of these new systems against existing Fleet equipment, and develop potential scenarios for further testing and evaluation.</li><li>- Maintain awareness of International, National, DoD and Navy spectrum processes that could impact Naval operations.</li><li>- 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.</li></ul>					
<b>FY 2017 Base Plans:</b> <ul style="list-style-type: none"><li>- Identify new/modified military equipment and review their spectrum usage to provide capability to ships.</li><li>- Perform analysis of these new/modified systems against existing Fleet equipment spectrum use, and develop potential scenarios for further testing and evaluation.</li><li>- Update the common system database elements with equipment parameters, platform data, policy/littoral restrictions information.</li><li>- Develop software modifications as needed to ensure interoperability and common analysis tools/techniques (e.g., propagation models).</li><li>- Evaluate International, National, DoD and Navy spectrum processes that could impact Naval operations.</li><li>- Assess potential changes and develop tests to evaluate potential updates to the fleet operational application.</li></ul>						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Continue support for the National Broadband Plan and Commercial Spectrum Inventory Act.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Shipboard Electromagnetic Compatibility Improvement Program (SEMCIP)	<b>Articles:</b>	0.643	1.033	1.270	0.000	1.270
<b>FY 2015 Accomplishments:</b>						
- Performed AN/SPQ-9B radar testing of the newest prototype transmit band-pass filter design on board the Self Defense Test Ship (SDTS). Use of a test target generator was needed to determine whether there were any decreases in the radar's performance.						
- Performed Radar Absorbing Material (RAM) testing of a new RAM material installed on USS Gerald Ford (CVN 78).						
- Completed Man Overboard Indicator (MOBI) EMI discovery testing aboard USS Bulkeley (DDG 84).						
- Conducted below-decks loopback testing aboard USS Mobile Bay (CG 53) and USS Somerset (LPD 25) at Naval Station in San Diego, CA.						
- Conducted emissions measurements on the Pandora Network and its subsystem components on board USS Fort Worth (LCS 3).						
- NSWCDD Q54 engineers conducted AN/SPY-1(D) to Scan Eagle EMI discovery testing aboard USS Bainbridge (DDG 96).						
<b>FY 2016 Plans:</b>						
- 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.						
<b>FY 2017 Base Plans:</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605866N / Navy Space & Electr Warfare Supt	<b>Project (Number/Name)</b> 0706 / EMC & RF Mgmt		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>
<ul style="list-style-type: none"> <li>- As new problems are identified, perform EMI Problem Characterization and Quantification to identify level of problem severity.</li> <li>- 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.</li> <li>- In FY2017 the program will continue evaluation of 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 (CDL) Programs.</li> <li>- An additional focus area is the evaluation of Commercial Off the Shelf (COTS) systems/radars and the integration of Unmanned Aircraft Systems (UAS).</li> <li>- Develop and evaluate the effectiveness of proposed EMI solutions and coordinate with system program managers for proper integration of the final EMI solution.</li> </ul>				<b>FY 2017 OCO</b>
<b>FY 2017 OCO Plans:</b> N/A				<b>FY 2017 Total</b>
<b>Title:</b> Electromagnetic Pulse (EMP) Survivability	<b>Articles:</b>	0.713	0.924	1.004
<b>FY 2015 Accomplishments:</b>		0.000	1.004	-
<ul style="list-style-type: none"> <li>- Supported the EMP Maritime Standard for Surface Ships. Attended and participated in 16 meetings.</li> <li>- Performed review of the EMP Maritime Standard and developed a Comment Review Matrix (CRM) detailing recommended corrections to the standard.</li> <li>- Supported a Pulse Current Injection (PCI) Test aboard the USS INDEPENDENCE (LCS 2). Identified several shipboard connectors that needed repair.</li> <li>- NSWCDD EMP Group members completed review of the "Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment" with regards to Electromagnetic Pulse (EMP) and found no significant changes.</li> </ul> <p>- EMP Group has completed maintenance of the antenna array at the Naval Ordnance Transient Electromagnetic Simulator (NOTES) facility.</p> <ul style="list-style-type: none"> <li>- Updated the Pulse Current Injection (PCI) Database (DB) with measurements taken from the NOTES Facility and shipboard measurements.</li> </ul>				
<b>FY 2016 Plans:</b>				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- 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 antenna systems. - Conduct test and evaluation of new materials and methods and develop approaches for EMP shielding of ship windows.						
<b>FY 2017 Base Plans:</b> - Investigate Modeling and Simulation (M&S) Verification, Validation, & Accreditation (VV&A) efforts in support of obtaining a higher confidence, low cost High Altitude Electromagnetic Pulse (HEMP) survivability assessment in lieu of full ship threat level testing. - Conduct HEMP survivability assessment using existing methods onboard an existing ship and compare measurements to multiple, independent M&S investigations leveraging different methodologies. - Continue support for the Naval NSWCDD Naval Ordnance Transient Electromagnetic Simulator (NOTES) EMP Facility (ashore test bed).						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Real-Time Spectrum Operations (RTSO)	<b>Articles:</b>	1.198	2.939	6.964	0.000	6.964
<b>FY 2015 Accomplishments:</b> - Real-Time Spectrum Operations (RTSO) personnel successfully conducted the first developmental RTSO land-based test event. The test validated the communications and interface between RTSO software and Specific Emitter Identification antenna of the Surface Electronic Warfare Improvement Program Block 1B2 system. - Completed integration of software module "SpecAn". - Completed an emission surveillance and validation field test. - Demonstrated the ability to capture and display spectrum traces from commercially off the shelf hardware and the ability to capture and display maximum hold data - Updated the user interface for RTSO to allow a user to customize emission control policies and allow a user input to customize/modify imported ship transit plan		-	-	-	-	-
<b>FY 2016 Plans:</b> - The Navy selected the RTSO program as a key tenet and enabler of Navy's EMMW concept.						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605866N / Navy Space & Electr Warfare Supt		<b>Project (Number/Name)</b> 0706 / EMC & RF Mgmt		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
			<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>
<ul style="list-style-type: none"> <li>- 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.</li> <li>- The increase in funding is due to development of an Engineering Design Model (EDM).</li> <li>- 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.</li> <li>- RTSO will offer recommended actions to Fleet operators to mitigate these EMI problems, issues, and threats.</li> </ul>						
<b>FY 2017 Base Plans:</b>						
<ul style="list-style-type: none"> <li>- Continue support for the Electromagnetic Maneuver Warfare (EMW) naval concept and Real-Time Spectrum Operations' (RTSO) role as a key tenet and enabler.</li> <li>- Continue development and enhancement of RTSO modules such as Electromagnetic (EM) Spectrum Awareness, EM Agility, Signature Control, and EM Engagement.</li> <li>- In FY 2017, efforts will focus on testing and validating a RTSO Engineering Design Model (EDM) in its ability to identify operational issues and provide/adjust operational conditions to support fleet operations and tactical feasibility.</li> <li>- Continue development on the fleet/user interface and the definition of recommended actions based on differing missions and operating areas.</li> <li>- Investigate and prioritize addition of new systems and platforms for inclusion into RTSO.</li> <li>- Develop and field an automated, networked exchange capability of electromagnetic spectrum data between shipboard systems.</li> </ul>						
<b>FY 2017 OCO Plans:</b>						
N/A						
<b>Accomplishments/Planned Programs Subtotals</b>						
2.992						9.658
5.316						0.000
9.658						9.658
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
An acquisition strategy is not required.						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605866N / <i>Navy Space &amp; Electr Warfare Supt</i>	<b>Project (Number/Name)</b> 0706 / <i>EMC &amp; RF Mgmt</i>
<b>E. Performance Metrics</b> Performance metrics will consist of quarterly program reviews.		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)								
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605867N / Space & Elec War Surv/Recon								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
Total Program Element	0.000	8.325	6.519	6.500	-	6.500	9.151	8.522	8.249	8.428	Continuing	Continuing	
1034: TAC SAT Recon Office	0.000	8.325	6.519	6.500	-	6.500	9.151	8.522	8.249	8.428	Continuing	Continuing	
<b>A. Mission Description and Budget Item Justification</b>													
(U) Link Crimson (Navy Tactical Exploitation of National Capabilities (TENCAP) is a congressionally directed program to rapidly develop (12-18 months) systems, processes, and training that leverages and exploits National Technical Means (NTM) and Intelligence Community (IC) resources to meet fleet tactical warfighting gaps. This is done through innovative research and development of capabilities aligned with Navy Programs of Record (PoR), while influencing national systems support and development. These efforts include advanced sensors, platform and ground processing, and integrated national-to-tactical information fusion capabilities. Link Crimson supports all Navy mission areas, including Anti-Submarine Warfare (ASW), Integrated Air and Missile Defense, Mine Warfare (MIW), Power projection/Precision Strike, Maritime Domain Awareness (MDA), and Intelligence, Surveillance, and Reconnaissance (ISR), in support of the Navy's Information Dominance pillars: Assured Command and Control (AC2), Battlespace Awareness (BA) and Integrated Fires (IF).													
(U) This program is funded under Budget Activity 6 because it supports the operations and installations required for general research and development. Program baseline addresses research and development on specific capabilities to support these mission areas such as signals collection and exploitation, acoustic and electronic signal detection, countering Unmanned Air Systems, Processing, Exploitation, and Dissemination (PED) processes, Commercial Maritime Navigation Radar (CMNR) detection and exploitation, open-ocean surveillance, and hostile threat geo-location. Link Crimson fields both prototypes to demonstrate new capabilities in real world environments in coordination with operational users, and develops warfighting capabilities for insertion into Navy, joint, and national agency programs of record.													
Additional detailed information is available at higher levels of classification.													
<b>B. Program Change Summary (\$ in Millions)</b>				FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total					
Previous President's Budget				8.325	6.519	8.761	-	-				8.761	
Current President's Budget				8.325	6.519	6.500	-	-				6.500	
Total Adjustments				0.000	0.000	-2.261	-	-				-2.261	
• Congressional General Reductions				-	-	-	-	-					
• Congressional Directed Reductions				-	-	-	-	-					
• Congressional Rescissions				-	-	-	-	-					
• Congressional Adds				-	-	-	-	-					
• Congressional Directed Transfers				-	-	-	-	-					
• Reprogrammings				-	-	-	-	-					
• SBIR/STTR Transfer				-	-	-	-	-					
• Rate/Misc Adjustments				0.000	0.000	-2.261	-	-				-2.261	

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605867N / <i>Space &amp; Elec War Surv/Recon</i>
<p><b><u>Change Summary Explanation</u></b></p> <p>Decrease in Space &amp; Elec War Surv/Recon by \$0.35M as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.</p>	

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)			
1319 / 6					PE 0605867N / Space & Elec War Surv/ Recon				1034 / TAC SAT Recon Office			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
1034: TAC SAT Recon Office	0.000	8.325	6.519	6.500	-	6.500	9.151	8.522	8.249	8.428	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 a congressionally directed program to rapidly develop (12-18 months) systems, processes, and training that leverages and exploits National Technical Means (NTM) and Intelligence Community (IC) resources to meet fleet tactical warfighting gaps. This is done through innovative research and development of capabilities aligned with Navy Programs of Record (PoR), while influencing national systems support and development. These efforts include advanced sensors, platform and ground processing, and integrated national-to-tactical information fusion capabilities. Link Crimson supports all Navy mission areas, including Anti-Submarine Warfare (ASW), Integrated Air and Missile Defense, Mine Warfare (MIW), Power projection/Precision Strike, Maritime Domain Awareness (MDA), and Intelligence, Surveillance, and Reconnaissance (ISR), in support of the Navy's Information Dominance pillars: Assured Command and Control (AC2), Battlespace Awareness (BA) and Integrated Fires (IF).

(U) This program is funded under Budget Activity 6 because it supports the operations and installations required for general research and development. Program baseline addresses research and development on specific capabilities to support these mission areas such as signals collection and exploitation, acoustic and electronic signal detection, countering Unmanned Air Systems, Processing, Exploitation, and Dissemination (PED) processes, Commercial Maritime Navigation Radar (CMNR) detection and exploitation, open-ocean surveillance, and hostile threat geo-location. Link Crimson fields both prototypes to demonstrate new capabilities in real world environments in coordination with operational users, and develops warfighting capabilities for insertion into Navy, joint, and national agency programs of record. Additional detailed information is available at higher levels 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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> Assured Command and Control  <i>Articles:</i>	0.611	0.652	0.560	0.000	0.560

**Description:** The Navy must assure its ability to command and control forces. This requires capabilities that enable commanders to: 1) Exchange orders and responses with subordinates; 2) Understand the disposition of friendly forces; 3) Target and conduct strikes as part of the joint force; and 4) Assess the result of those strikes. Sensing the environment, understanding our adversaries and operating and defending our communications and networked systems are inextricably linked to the assurance of C2.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605867N / Space & Elec War Surv/ Recon	Project (Number/Name) 1034 / TAC SAT Recon Office				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>FY 2015 Accomplishments:</b> Additional details with respect to this line item are held at a higher classification.						
<b>FY 2016 Plans:</b> Additional details with respect to this line item are held at a higher classification.						
<b>FY 2017 Base Plans:</b> Additional details with respect to this line item are held at a higher classification.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Battlespace Awareness	<b>Articles:</b>	6.202	4.237	3.627	0.000	3.627
<b>Description:</b> This is the traditional mission of the Information Dominance Corps and the constituent components of meteorology, oceanography, intelligence, cryptology, communications, networks, space and electronic warfare (EW). It includes: 1) Persistent surveillance of the maritime and information battlespace; 2) Penetrating knowledge of the capabilities and intent of our adversaries; 3) An understanding of when, where, and how our adversaries operate; and 4) Expertise within the electromagnetic spectrum. When synchronized, these skills and knowledge attributes provide the target acquisition and targeting solutions necessary to apply force, both kinetic and non-kinetic.		-	-	-	-	-
<b>FY 2015 Accomplishments:</b> Additional details with respect to this line item are held at a higher classification.						
<b>FY 2016 Plans:</b> Additional details with respect to this line item are held at a higher classification.						
<b>FY 2017 Base Plans:</b> Additional details with respect to this line item are held at a higher classification.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Integrated Fires	<b>Articles:</b>	1.512	1.630	2.313	0.000	2.313
		-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605867N / Space & Elec War Surv/ Recon	Project (Number/Name) 1034 / TAC SAT Recon Office				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Description:</b> The Navy will use its networks, cyberspace and space capabilities to exploit and attack the vulnerabilities of its adversaries to achieve non-kinetic effects (i.e., fires). Just as importantly, we will expand options for forward-deployed Navy commanders by ensuring that non-kinetic alternatives are considered alongside with kinetic solutions.						
<b>FY 2015 Accomplishments:</b> Additional details with respect to this line item are held at a higher classification.						
<b>FY 2016 Plans:</b> Additional details with respect to this line item are held at a higher classification.						
<b>FY 2017 Base Plans:</b> Additional details with respect to this line item are held at a higher classification.						
<b>FY 2017 OCO Plans:</b> N/A						
<b>C. Other Program Funding Summary (\$ in Millions)</b>		<b>Accomplishments/Planned Programs Subtotals</b>		8.325	6.519	6.500
				0.000	6.500	
<b>D. Acquisition Strategy</b> Not Applicable						
<b>E. Performance Metrics</b> Not Applicable						

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605873M / Marine Corps Program Wide Supt							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	17.449	13.627	22.247	-	22.247	17.875	20.827	21.255	21.699	Continuing	Continuing
0030: Studies & Analysis/MC	0.000	5.395	1.258	7.876	-	7.876	3.365	4.988	5.090	5.201	Continuing	Continuing
0033: OT&E Support	0.000	11.236	12.024	12.281	-	12.281	12.550	14.254	14.559	14.858	Continuing	Continuing
2330: Chem Bio Consequence Mgmt	0.000	0.818	0.345	2.090	-	2.090	1.960	1.585	1.606	1.640	Continuing	Continuing
<b>Note</b>												
Project 2930 Phase 0 Activities (Phase A) has been terminated and does not have funding beyond FY2014.												
<b>A. Mission Description and Budget Item Justification</b>												
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>B. Program Change Summary (\$ in Millions)</b>				FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total				
Previous President's Budget				17.849	13.649	22.536	-	-	22.536			
Current President's Budget				17.449	13.627	22.247	-	-	22.247			
Total Adjustments				-0.400	-0.022	-0.289	-	-	-0.289			
• Congressional General Reductions				-	-0.022							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	-							
• Congressional Directed Transfers				-	-							
• Reprogrammings				0.210	0.000							
• SBIR/STTR Transfer				-0.610	0.000							
• Rate/Misc Adjustments				0.000	0.000	-0.289	-	-	-0.289			
<b>Change Summary Explanation</b>												
The funding increase of \$8.620M from FY16 to FY17 is primarily attributable to the Marine Corps Studies and Analysis program efforts that will support 55 new studies and analyses projects directed and approved by the Commandant of the Marine Corps and Assistant Commandant of the Marine Corps.												

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)			
1319 / 6					PE 0605873M / Marine Corps Program Wide Supt				0030 / Studies & Analysis/MC			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
0030: Studies & Analysis/MC	0.000	5.395	1.258	7.876	-	7.876	3.365	4.988	5.090	5.201	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

The Marine Corps Requirements Oversight Council (MROC), has established Operations Analysis Division (OAD), as the sole operations research, analytic support, and studies management program for the Marine Corps Study System (MCSS). OAD provides Senior Military Leadership with a comprehensive understanding of operations and advanced analytic and statistical support. In compliance with Executive Order #13589 OAD's major focus is achieving greater efficiency, productivity, and innovation through 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. Division analysts are credited with innovations in analysis of amphibious operations and Irregular Warfare (IW) that have expanded state-of-the-art operations research methods across DOD. OAD quantifies resource allocation decisions pertaining to weapon systems, strategic personnel, training management, and equipment acquisition. Efforts are guided by the Commandant's Strategic Plan and Planning Guidance.

Future studies support Marine Air-Ground Task Forces (MAGTF's) and Marine Expeditionary Units (MEU's) with research analysis and modeling and simulation focused on aviation, amphibious, and ground operations enhancing the ability of the Marine Corps to increase operational, logistical and equipment efficiencies and capabilities and provide a unique, well trained, equipped and educated force.

This program element supports four specialized analytical groups within OAD: (1) Current Operations Analysis and Support Team (COAST) - responsible for providing deployed on site professional operations analysis support to: Special Purpose MAGTFs in CENTCOM and AFRICOM; (2) Analysis Branch (AB) responsible for executing a select portfolio of studies for senior leadership; (3) Mission Area Analysis (MAA) responsible for capability analysis and support to the JCIDS process; and (4) Joint External Analysis Branch (JEA), the Marine Corps' sole representative in the Joint modeling arenas.

The increase from FY16 to FY17 (\$6.618M) reflects funding to support projected operations research, modeling and simulation, analytic support, to the OPFORs, HQMC, and the Joint community, JCIDS Support and studies management. The funding will support a significant increase in studies, operations research and analyses, and modeling and simulation to support the Commandant's Planning Guidance (CPG), Defense Planning Guidance, Quadrennial Defense Review (QDR), Chairman's Joint Force Assessment, Chairman's Strategic Seminar Series Wargames, Annual Joint Staff Force Sufficiency Assessments, and POTUS. Anticipate 55+ studies to include follow on Phase II and Phase III efforts. Focus areas of concentration: Manpower/Personnel; Intelligence, Information and Networks; Plans, Policy, and Operations; Infrastructure and Readiness; Resources, Programs, and Assessments; Capability Integration; Research, Development and Acquisition; General Concept Development; and Weapons Systems analysis.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> Studies & Analysis/MC  <i>Articles:</i>	5.395	1.258	7.876	0.000	7.876

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Description:</b> The Marine Corps Studies System (MCSS), the sole responsibility of the Operations Analysis Division (OAD), Combat Development and Integration (CD&I), Marine Corps Combat Development Command (MCCDC) provides research and analysis 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. Through the MCSS, the Marine Corps nominates, approves, commences, manages and distributes the resultant analytical products. Efforts are evaluated and selected by the "quarterly calls for studies" and is targeted to a particular audience that understands current and future USMC mission requirements and the need for comprehensive analyses that meets the Commandant's Strategic Goals, saves lives, and utilizes funds efficiently. Research conducted produces comprehensive and integrated analyses aligned to Senior Leadership's requirements and decision timelines.	<b>FY 2015 Accomplishments:</b> <ul style="list-style-type: none"><li>- Continued - Efforts in the following areas of interest:<ul style="list-style-type: none"><li>* Gender Integration: Coordinated and conducted analytical support to the Marine Corps Force Integration Program (MCFIP) Women in Infantry as directed by Annex D to the Marine Corps Force Integration Campaign Plan Logistics/Combat Service Plan.</li><li>* Energy: Multi-functional area tasks which supported: continued refinement, alignment and application of Marine Air Ground Task Force (MAGTF) Power and Energy Model (MP EM) and the Operational Energy Capabilities Improvement Fund (OECIF).</li><li>* Current Operations: Total Force Structure Process (TFSP); Human Resources Development Process (HRDP); Global Force Management (GFM); Weapons Systems; Equipment Requirements and Resources; Irregular Warfare; Information Operations; Cyber Warfare; Live vs. Simulation Ground Based Training; and Intelligence, Surveillance, and Reconnaissance (ISR).</li></ul></li><li>- Completed: (examples)<ul style="list-style-type: none"><li>* CH-53K Requirements Analysis determined procurement quantity for heavy lift helicopters in response to DOD Inspection General Inquiry (IG) suggesting the USMC was procuring excess aircraft. Impact: the acquisition objective was validated preserving 44 CH-53K aircraft in the aviation program of record affecting \$22.2B of planned expenditures.</li><li>* Chemical Biological Radiological Nuclear Defense Equipment and Medicant Study produced a tool used by commodity managers to reduce USMC storage cost saving the USMC \$18M per year for chemical warfare defense equipment.</li></ul></li></ul>					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
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				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
* Guam Combat Ready Storage Point (CRSP) Analysis Study saved \$60M in MILCON by justifying cancellation of the building of a \$60M facility not needed or desired by the Operating Forces and the Installation based requirements and the actual capabilities of the facility.						
* Medium Lift Helicopter Requirements Analysis Ground Based Air Defense. Analysis examined the ability of planned medium lift force structure to meet operational demands for Major Combat Operations and forward deployed forces. Impact: detailed analysis of force structure, operational demands, and acquisition plans provided a firm analytic basis for MV-22 requirements, potentially affecting the program of record by \$1.6B						
* USMC Search and Rescue (SAR) study found that SAR is a necessary capability to maintain and a Joint SAR option should be pursued given its low cost. Impact: study found the cost difference between the lowest cost option and the most expensive option for maintaining SAR is over \$10 Million annually.						
* Ground Based Air Defense (GBAD) Weapons Systems Phase I determined the non kinetic option (High Power Microwave, High Energy Laser, and Electronic Warfare) were not as cost effective as kinetic rockets and gun systems.						
- Initiated: MCSS accepted 52 new studies which provided analysis, wargaming scenarios and modeling and simulation to address Marine Corps issues and alternatives concerning organizations, tactics, doctrine, policies, force plans, strategies, procedures, intelligence, weapon selection, systems programs and resource allocations. IT technologies and included: Digital Electronic Jammers, maneuvering Surface to-Surface Missiles, Directed Energy Weapons. Focus areas include Space, Irregular Warfare, Information Operations, Cyber warfare and evolving war fighting techniques and support operations required new exploration and development. M&S creation and enhancement are required to delineate and understand the emerging weapons capabilities as well as demand development of software techniques to implement changes. Efforts support the Commandant's Planning Guidance (CPG), Defense Planning Guidance, Quadrennial Defense Review (QDR), Chairman's Joint Force Assessment, Chairman's Strategic Seminar Series Wargames, and Annual Joint Staff Force Sufficiency Assessments.						
<b>FY 2016 Plans:</b>						
- Continue all efforts initiated in FY15 unless noted as completed below.						
- Complete: Phase I MCFIP efforts; Amphibious Ship risk assessments Phase I; MAGTF-CR Phase I						
- Initiate: The Marine Corps Studies System (MCSS) will fund study initiatives to implement the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)) strategic plan for defense basic research. This						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy			<b>Date:</b> February 2016			
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt	<b>Project (Number/Name)</b> 0030 / Studies & Analysis/MC			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total		
<p>plan defines specific and quantifiable actions to help create conditions for defense basic research investments capable of creating high-payoff, transformative breakthroughs for DoD through research, analysis, and modeling and simulation.</p> <p>Areas of concentration include: Ground Based Simulation Training; Wartime Medical Requirements; GBAD Weapons Systems Phase II, Cyber and Manpower Allocations.</p> <p><b>FY 2017 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue all efforts not completed in FY16.</li> <li>- Initiate: The increase of \$6.618M will support more than 55 new studies to include follow on Phase II and Phase III prior year efforts and areas of concentrated Manpower/Personnel; Intelligence, Information and Networks; Plans, Policy, and Operations; Infrastructure and Readiness; Resources, Programs, and Assessments; Capability Integration; Research, Development and Acquisition; General Concept Development; and Weapons Systems studies.</li> </ul> <p>The funding will increase studies, operations research and analyses, and modeling and simulation to support the Commandant's Strategic Plan (CPG), Defense Planning Guidance, Quadrennial Defense Review (QDR), Chairman's Joint Force Assessment, Chairman's Strategic Seminar Series Wargames, Annual Joint Staff Force Sufficiency Assessments, and POTUS within the Marine Corps Studies System (MCSS) specialized fields.</p> <p><b>FY 2017 OCO Plans:</b></p> <p>N/A</p>						
<b>Accomplishments/Planned Programs Subtotals</b>						5.395    1.258    7.876    0.000    7.876
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
N/A						
<b>E. Performance Metrics</b>						
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						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt	<b>Project (Number/Name)</b> 0030 / Studies & Analysis/MC
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, Joint Capabilities Integration and Development System (JCIDS), 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), Crisis Response (CR) Special Purpose Marine Air-Ground Task Forces (SPMAGTFs; CENTCOM, AFRICOM and SOUTHCOM), in addition to the Marine Expeditionary Units that are deployed around the globe and provide a continuous program of mission area analyses, formal studies, rapid response analytic efforts, and the supervision of research projects to fulfill 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) supports 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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## **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)**

	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
s:	11.236	12.024	12.281	0.000	12.281

**Title:** MCOTEA

Articles

## **FY 2015 Accomplishments:**

Continued evaluating, quantifying, and reporting the operational effectiveness, suitability, and survivability of planned acquisitions that meet warfighter capabilities and providing Milestone Decision Authority (MDAs) with a comprehensive understanding of operational risk associated with ACAT programs.

## **FY 2016 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.

## **FY 2017 Base Plans:**

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016							
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									
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total					
Continue with evaluating, quantifying and reporting on 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.											
<b>FY 2017 OCO Plans:</b> N/A		Accomplishments/Planned Programs Subtotals	11.236	12.024	12.281	0.000					
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
N/A											
<u>Remarks</u>											
<b>D. Acquisition Strategy</b>											
N/A											
<b>E. Performance Metrics</b>											
N/A											

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
2330: Chem Bio Consequence Mgmt	0.000	0.818	0.345	2.090	-	2.090	1.960	1.585	1.606	1.640	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 increase in funding from FY16 to FY17 (\$1.745M) reflects the increase of additional testing efforts required to maintain chemical and safety standards.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> FIRS: Reconnaissance Mission Area.					0.332	0.007	0.830	0.000	0.830
				<b>Articles:</b>	-	-	-	-	-
<b>FY 2015 Accomplishments:</b>									
- Continued verification testing for personal protective, detection, identification, and decontamination material solutions.									
- Completed Non-Destructive Chemical, Biological Analysis enabling effective Personal Protective Equipment Decontamination strategies.									
- Completed development of the Dismounted Reconnaissance Sets, Kits, and Outfits (DR SKO) for computer based training.									
<b>FY 2016 Plans:</b>									
- Continue verification testing for personal protective, detection, identification, and decontamination material solutions.									
<b>FY 2017 Base Plans:</b>									

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy				<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt	<b>Project (Number/Name)</b> 2330 / Chem Bio Consequence Mgmt		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
- Continue verification testing for personal protective, detection, identification, and decontamination material solutions - Initiate Unified Command Suite Block II (UCSb2) and Common Analytical Laboratory System - Field Confirmatory Integrated System (CALS FC-IS) naval systems integration.					
<b>FY 2017 OCO Plans:</b> N/A					
<b>Title:</b> FIRS: Force Protection Mission Area	<b>Articles:</b>	0.486	0.338	1.260	0.000
<b>FY 2015 Accomplishments:</b> - Continued verification testing of the new positive/negative pressure adaptable mask (M55). - Completed interface testing of commercially available Self-Contained Breathing Apparatus (SCBA). - Completed interface testing of new NFPA Class ensemble. - Completed verification and interface testing of new chemical, biological sock. - Completed battery analysis for Gas Chromatograph Mass Spectrometer (GCMS)/Sample Desorption Module (SDM).		-	-	-	-
<b>FY 2016 Plans:</b> - Complete verification testing of the new positive/negative pressure adaptable mask (M55).					
<b>FY 2017 Base Plans:</b> - Initiate Verification and Validation (V&V) testing for various chemical technologies and the Explosive Ordnance Disposal Bomb Suit. - Initiate V&V testing for Tritium Leak Detector.					
<b>FY 2017 OCO Plans:</b> N/A					
<b>Accomplishments/Planned Programs Subtotals</b>		0.818	0.345	2.090	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>					2.090
N/A					
<b>Remarks</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt	<b>Project (Number/Name)</b> 2330 / Chem Bio Consequence Mgmt
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> N/A		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0605898N I (U)MANAGEMENT HQ - R&D							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	16.254	-	16.254	16.493	16.726	16.959	17.218	Continuing	Continuing
0223: Sub Combat System Improvement (ADV)	0.000	0.000	0.000	0.144	-	0.144	0.147	0.150	0.153	0.146	Continuing	Continuing
1447: Surf Combatant Combat System Imp	0.000	0.000	0.000	0.169	-	0.169	0.172	0.174	0.178	0.181	Continuing	Continuing
3159: Naval Integrated Fire Control-Counter Air SE&I	0.000	0.000	0.000	0.169	-	0.169	0.172	0.174	0.178	0.181	Continuing	Continuing
3186: Air and Missile Defense Radar	0.000	0.000	0.000	0.508	-	0.508	0.515	0.523	0.532	0.542	Continuing	Continuing
3216: Tactical Support Center-Integration	0.000	0.000	0.000	0.025	-	0.025	0.026	0.027	0.027	0.028	Continuing	Continuing
3316: Advanced Offboard EW	0.000	0.000	0.000	0.677	-	0.677	0.689	0.697	0.710	0.722	Continuing	Continuing
3345: ONR Management Headquarters	0.000	0.000	0.000	14.562	-	14.562	14.772	14.981	15.181	15.418	Continuing	Continuing

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

The Management HQ - R&D program funds management headquarter civilian personnel salaries at the Office of Naval Research (ONR). These personnel support the management of the Naval Science and Technology (S&T) programs. This program also funds management headquarter contractor support for the Integrated Warfare Systems (IWS) Program Executive Office.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 6: RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605898N / (U)MANAGEMENT HQ - R&D				
<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	16.254	-	16.254
Total Adjustments	0.000	0.000	16.254	-	16.254
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	16.254	-	16.254

**Change Summary Explanation**

The increase in funding from FY 2016 to FY 2017 reflects transfer of management headquarters funding from several program elements.

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605898N / (U)MANAGEMENT HQ - R&D					Project (Number/Name) 0223 / Sub Combat System Improvement (ADV)			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0223: Sub Combat System Improvement (ADV)	0.000	0.000	0.000	0.144	-	0.144	0.147	0.150	0.153	0.146	Continuing	Continuing	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-			

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

This project provides management headquarters contractor support to the Integrated Warfare Systems (IWS) Program Executive Office (PEO). This work supports Navy Acoustic Superiority and Technology Insertion Initiatives through the application of advanced development and testing of sensors and sensor processing systems supporting tactical control systems improvements. This addresses technology challenges to improve tactical control in littoral and open ocean environments for a variety of operational missions

The increase from FY16 to FY17 reflects a transfer of contractor support funding from PE 0603561N Advanced Submarine System Development.

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

FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
0.000	0.000	0.144	0.000	0.144
<b>Title:</b> Management Headquarters Personnel  <b>FY 2015 Accomplishments:</b> N/A  <b>FY 2016 Plans:</b> N/A  <b>FY 2017 Base Plans:</b> - Continue Advanced Processing Build (APB) development, integration, land-based testing, at-sea testing, and establishment of tactical scenarios. - Continue Flank Array development including beamforming and signal processing improvements to maximize Low Frequency Active (LFA) capability, tactical/combat system updates to perform target localization and data analysis of the at-sea test of LVA-2 array. - Continue embedded sensor and open architecture telemetry development. Complete open architecture component development.				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>				
0.000				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605898N / (U)MANAGEMENT HQ - R&D	<b>Project (Number/Name)</b> 0223 / Sub Combat System Improvement (ADV)
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b>		
N/A		
<b>E. Performance Metrics</b>		
This program funds management headquarter contractor support. Performance is measured by attaining the administrative and financial tasks necessary to support program office management.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016					
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 6					PE 0605898N / (U)MANAGEMENT HQ - R&D				1447 / Surf Combatant Combat System Imp							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost				
1447: Surf Combatant Combat System Imp	0.000	0.000	0.000	0.169	-	0.169	0.172	0.174	0.178	0.181	Continuing	Continuing				
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-						
<b>A. Mission Description and Budget Item Justification</b>																
This project provides management headquarters contractor support to the Integrated Warfare System (IWS) Program Executive Office (PEO). This work supports Cruiser and Destroyer AEGIS Combat System (ACS) upgrades and integrates new equipment and systems to pace the threat and capture advances in technology.																
The increase from FY16 to FY17 reflects a transfer of contractor support funding from PE 0604307N AEGIS Combatant Combat System Engineering.																
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<i>Title:</i> Management Headquarter Personnel											<i>Articles:</i>	0.000	0.000	0.169	0.000	0.169
<i>FY 2015 Accomplishments:</i> N/A												-	-	-	-	
<i>FY 2016 Plans:</i> N/A																
<i>FY 2017 Base Plans:</i> -Support Cruiser and Destroyer AEGIS Combat System (ACS) upgrades and integrate new equipment and systems to pace the threat and capture advances in technology.																
<i>FY 2017 OCO Plans:</i> N/A																
<b>Accomplishments/Planned Programs Subtotals</b>											0.000	0.000	0.169	0.000	0.169	
<b>C. Other Program Funding Summary (\$ in Millions)</b>																
N/A																
<b>Remarks</b>																
<b>D. Acquisition Strategy</b>																
N/A																

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy	<b>Date:</b> February 2016	
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605898N / (U)MANAGEMENT HQ - R&D	<b>Project (Number/Name)</b> 1447 / Surf Combatant Combat System Imp
<b>E. Performance Metrics</b> This PE funds contractor support for management headquarter contractors. Performance is measured by attaining the administrative and financial tasks necessary to support program office management.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016					
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 6					PE 0605898N / (U)MANAGEMENT HQ - R&D				3159 / Naval Integrated Fire Control-Counter Air SE&I							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost				
3159: Naval Integrated Fire Control-Counter Air SE&I	0.000	0.000	0.000	0.169	-	0.169	0.172	0.174	0.178	0.181	Continuing	Continuing				
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-						
<b>A. Mission Description and Budget Item Justification</b>																
This project provides management headquarters contractor support to the Integrated Warfare System (IWS) Program Executive Office (PEO). This work supports Naval Integrated Fire Control - Counter Air (NIFC-CA) project. Through this support technological advances are being developed enabling PEO IWS to extend the Naval Theater Air and Missile Defense battlespace out to the maximum kinematic range of our weapons.																
The increase from FY16 to FY17 reflects a transfer of contractor support funding from PE 0604378N Navy Integrated Fire Control-Counter Air System Engineering.																
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<i>Title:</i> Management Headquarter Personnel											<i>Articles:</i>	0.000	0.000	0.169	0.000	0.169
<i>FY 2015 Accomplishments:</i> N/A												-	-	-	-	
<i>FY 2016 Plans:</i> N/A																
<i>FY 2017 Base Plans:</i> -Support the Navy's research and development efforts for NIFC-CA's System Engineering, Integration and Test (SEI&T) project. -Provide system engineering to upgrade the White Sands Missile Range (WSMR) Desert Ship complex to an AEGIS Advanced Capability Build (ACB)																
<i>FY 2017 OCO Plans:</i> N/A																
<b>Accomplishments/Planned Programs Subtotals</b>											0.000	0.000	0.169	0.000	0.169	
<b>C. Other Program Funding Summary (\$ in Millions)</b>																
N/A																

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605898N / (U)MANAGEMENT HQ - R&D	<b>Project (Number/Name)</b> 3159 / Naval Integrated Fire Control-Counter Air SE&I
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> This PE funds contractor support for management headquarter contractors. Performance is measured by attaining the administrative and financial tasks necessary to support program office management.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016				
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)						
1319 / 6					PE 0605898N / (U)MANAGEMENT HQ - R&D				3186 / Air and Missile Defense Radar						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
3186: Air and Missile Defense Radar	0.000	0.000	0.000	0.508	-	0.508	0.515	0.523	0.532	0.542	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>															
This project provides management headquarters contractor support to the Integrated Warfare System (IWS) Program Executive Office (PEO). Through this support, technological advances are being developed, enabling PEO IWS to deliver "Enterprise" solutions for Naval Warfare Systems that operate seamlessly and effectively within the Fleet and Joint Forces.															
The increase from FY16 to FY17 reflects a transfer of contractor support funding from PE 0604522N Air and Missile Defense Radar (AMDR) System.															
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> Management Headquarter Personnel  <i>Articles:</i>											0.000	0.000	0.508	0.000	0.508
<i>FY 2015 Accomplishments:</i> N/A											-	-	-	-	-
<i>FY 2016 Plans:</i> N/A															
<i>FY 2017 Base Plans:</i> - Continue developing the AMDR suite to fulfill Integrated Air and Missile Defense requirements for multiple ship classes. - Effort provides for the development of an active phased array radar with required capabilities to address the evolving threat.															
<i>FY 2017 OCO Plans:</i> N/A															
<b>Accomplishments/Planned Programs Subtotals</b>											0.000	0.000	0.508	0.000	0.508
<b>C. Other Program Funding Summary (\$ in Millions)</b>															
N/A															

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605898N / (U)MANAGEMENT HQ - R&D	<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> This PE funds contractor support for management headquarter contractors. Performance is measured by attaining the administrative and financial tasks necessary to support program office management.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016				
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)						
1319 / 6					PE 0605898N / (U)MANAGEMENT HQ - R&D				3216 / <i>Tactical Support Center-Integration</i>						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost			
3216: <i>Tactical Support Center-Integration</i>	0.000	0.000	0.000	0.025	-	0.025	0.026	0.027	0.027	0.028	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>															
This project provides management headquarters contractor support to the Integrated Warfare System (IWS) Program Executive Office (PEO). This supports AN/SQQ-34 Aircraft Carrier Tactical Support Center (CV-TSC) fulfillment of Anti-Submarine Warfare (ASW) and Surface Warfare (SUW) coordination functions utilizing data received from multiple sources to assess the threat and assist the Tactical Action Officer (TAO) and Composite Warfare Commander (CWC) in effectively applying available resources to support CVN self-defense. This supports CV-TSC functionality updates being implemented through an evolutionary acquisition approach, providing phased incremental builds that are developed, tested, certified and fielded															
The increase from FY16 to FY17 reflects a transfer of contractor support funding from PE 0603512N Carrier Systems Development.															
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<i>Title:</i> Management Headquarter Personnel											0.000	0.000	0.025	0.000	0.025
<i>Articles:</i>											-	-	-	-	
<i>FY 2015 Accomplishments:</i>															
N/A															
<i>FY 2016 Plans:</i>															
N/A															
<i>FY 2017 Base Plans:</i>															
- Continue CV-TSC Development/Integration including development of software builds and systems engineering efforts, conduct of incremental requirements, design, and test reviews.															
<i>FY 2017 OCO Plans:</i>															
N/A															
<b>Accomplishments/Planned Programs Subtotals</b>											0.000	0.000	0.025	0.000	0.025
<b>C. Other Program Funding Summary (\$ in Millions)</b>															
N/A															

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605898N / (U)MANAGEMENT HQ - R&D	<b>Project (Number/Name)</b> 3216 / <i>Tactical Support Center-Integration</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> This PE funds contractor support for management headquarter contractors. Performance is measured by attaining the administrative and financial tasks necessary to support program office management.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016					
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605898N I (U)MANAGEMENT HQ - R&D				Project (Number/Name) 3316 I Advanced Offboard EW							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost				
3316: Advanced Offboard EW		0.000	0.000	0.000	0.677	-	0.677	0.689	0.697	0.710	0.722	Continuing	Continuing			
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-					
<b>A. Mission Description and Budget Item Justification</b>																
This project provides management headquarters contractor support to the Integrated Warfare System (IWS) Program Executive Office (PEO). Through this support, technological advances are being developed, enabling PEO IWS to deliver "Enterprise" solutions for Naval Warfare Systems that operate seamlessly and effectively within the Fleet and Joint Forces.																
The increase from FY16 to FY17 reflects a transfer of contractor support funding from PE 0604757N Ship Self Defense (Engage: Soft Kill/EW).																
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<i>Title:</i> Management Headquarters Personnel											<i>Articles:</i>	0.000	0.000	0.677	0.000	0.677
<i>FY 2015 Accomplishments:</i> N/A												-	-	-	-	
<i>FY 2016 Plans:</i> N/A																
<i>FY 2017 Base Plans:</i> -Advanced Offboard EW (AOEW) program continues the development of long duration off-board decoys integrated with onboard systems for EW coordination. -Rapid Response Effort (RRE) provides an initial, limited decoy capability to the Fleet and a Decoy Development Effort (DDE).																
<i>FY 2017 OCO Plans:</i> N/A																
<b>Accomplishments/Planned Programs Subtotals</b>											0.000	0.000	0.677	0.000	0.677	
<b>C. Other Program Funding Summary (\$ in Millions)</b>																
N/A																
<b>Remarks</b>																

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605898N / (U)MANAGEMENT HQ - R&D	<b>Project (Number/Name)</b> 3316 / Advanced Offboard EW
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> This PE funds contractor support for management headquarter contractors. Performance is measured by attaining the administrative and financial tasks necessary to support program office management.		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016					
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605898N I (U)MANAGEMENT HQ - R&D					Project (Number/Name) 3345 I ONR Management Headquarters						
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost				
3345: ONR Management Headquarters	0.000	0.000	0.000	14.562	-	14.562	14.772	14.981	15.181	15.418	Continuing	Continuing				
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-						
<b>A. Mission Description and Budget Item Justification</b>																
This project funds the Office of Naval Research (ONR) management headquarters civilian personnel salaries supporting the management of the Naval Science and Technology (S&T) programs. Through this support, the S&T enterprise pursues the technological advances that enable the Fleet's ability to operate from a position of technological superiority.																
The increase from FY16 to FY17 reflects a transfer of management headquarters salaries from PE 0605861N RDT&E Science and Technology Management.																
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	
<i>Title:</i> Management Headquarters Personnel											<i>Articles:</i>	0.000	0.000	14.562	0.000	14.562
<i>FY 2015 Accomplishments:</i> N/A												-	-	-	-	
<i>FY 2016 Plans:</i> N/A																
<i>FY 2017 Base Plans:</i> - This project provides for basic costs of ONR management headquarter personnel salary in support of the ONR S&T Program. Specifically, it pays the salaries of management headquarter personnel who support 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. - Continue to reduce auditability challenges to meet the mandate. - Initiate sustainment phase to maintain the audit readiness.																
<i>FY 2017 OCO Plans:</i> N/A																
<b>Accomplishments/Planned Programs Subtotals</b>											0.000	0.000	14.562	0.000	14.562	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605898N / (U)MANAGEMENT HQ - R&D	<b>Project (Number/Name)</b> 3345 / ONR Management Headquarters
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b>		
N/A		
<b>E. Performance Metrics</b>		
This PE funds ONR management headquarters civilian personnel salaries, program performance is measured by attaining financial benchmarks for planned obligations vs. actual obligations and planned expenditures vs. actual expenditures.		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0606355N / (U)Warfare Innovation Management							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	21.123	-	21.123	34.938	13.629	13.917	14.195	Continuing	Continuing
3319: Fleet Experimentation	0.000	0.000	0.000	18.954	-	18.954	32.659	11.308	11.544	11.775	Continuing	Continuing
3320: TRIDENT Warrior	0.000	0.000	0.000	2.169	-	2.169	2.279	2.321	2.373	2.420	Continuing	Continuing

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

This Program Element (PE) contains two projects: Fleet Experimentation (FLEX), and Trident Warrior (TW).

FLEX Project 3319: Advances/augments operational and tactical warfighter capabilities through the experimentation of high payoff initiatives, technologies and concepts, Fleet Concepts of Operations (CONOPS), doctrine, and new tactics, techniques and procedures (TTP). The objective of FLEX is to produce recommended changes in doctrine, organization, training, materiel, leadership development, personnel, facilities, and policy (DOTMLPF-P) actions.

TW Project 3320: TW enables early delivery of capabilities to the warfighter via Fleet-directed Trident Warrior operational events with an emphasis on USFF/CPF directed focus areas.

FLEX was transferred from 0604707N to 0606355N from Fy2017 forward. This is not a new start.

Trident Warrior (TW) was transferred from 0604231N to 0606355N from FY17 forward. This is not a new start.

Classified Project Expeditionary Submarine Fiber Optic Cable (SFOC) Communications added for FY2017 and FY2018 execution. Request new Project number.

The Expeditionary Submarine Fiber Optic Cable (SFOC) Communications is developing and experimenting innovative concepts designed to validate both material and non-material methodologies to provide resilient command and control within the maritime domain. The project focus is to demonstrate capabilities that leverage existing DOD investments and infrastructure using non-traditional means to move data and information. The key deliverable will be a demonstration using maritime assets, experimental methodologies, and current backhaul architecture to validate C2 data movement in the maritime domain. Continue the development and refinement of advanced networking and communication capabilities in a maritime environment that promote C2 interoperability in Satellite Communications (SATCOM) - Restricted and SATCOM - Denied environments, and support the defeat Anti-Access Area Denial (A2/AD). Solutions will address higher bandwidth technologies across the Radio Frequency (RF) and Optical spectrum.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2017 Navy</b>					<b>Date:</b> February 2016
<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b> PE 0606355N / (U)Warfare Innovation Management				
<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	21.123	-	21.123
Total Adjustments	0.000	0.000	21.123	-	21.123
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	13.694	-	13.694
• Rate/Misc Adjustments	0.000	0.000	7.429	-	7.429
<b>Change Summary Explanation</b>					
Technical: Not applicable.					
Schedule: Not applicable.					

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016	
Appropriation/Budget Activity					R-1 Program Element (Number/Name)				Project (Number/Name)			
1319 / 6					PE 0606355N / (U)Warfare Innovation Management				3319 / Fleet Experimentation			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3319: Fleet Experimentation	0.000	0.000	0.000	18.954	-	18.954	32.659	11.308	11.544	11.775	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

1. The Fleet Experimentation (FLEX) program examines the doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) solutions to identified warfighter capability gaps within the FYDP. The FLEX program considers warfighting gaps identified in: Integrated Prioritized Capability Lists (IPCL) generated by Warfighting Development Centers (WDC); USFF/CPF's Integrated Priorities Letter (IPL) delivered annually to the CNO; USFF/CPF's Commanders' FLEX Guidance; and Navy and Joint Urgent Operational Needs Statements. In addition, FLEX addresses innovative concepts, and tactics, techniques, and procedures (TTP), and Fleet Concepts of Operation (CONOPS) that collectively mitigate Fleet-identified warfighting capability gaps as defined by Commander, U.S. Fleet Forces' (CUSFF)/Commander, Pacific Fleet's (CPF) annual FLEX guidance. Through experimentation activities such as workshops, system or seminar war games, live at-sea events, and experimentation campaigns, the FLEX program examines potential materiel and non-materiel tangible solutions that will enhance the Fleet's ability to execute assigned missions. FLEX events and campaigns are comprised of all facets of experimentation including design, planning, systems engineering and integration, execution, data collection, analysis, assessment, and the delivery of tangible products to the fleet. While Naval-centric, FLEX efforts include joint, coalition, Science and Technology (S&T), academia, and industry partners.

Experimentation is vital to continuously improving naval warfighting capabilities. As such, the FLEX program directly supports four of the five elements outlined in the Secretary of the Navy's Innovation Vision: Build the Naval Innovation Network, Improve the Use of DON Information, Accelerate Emerging Operational Capabilities to the Fleet, and Develop Game-Changing Warfighting Concepts.

2. Request a new Project Number for Expeditionary SFOC Communications (Classified Project)

The Expeditionary Submarine Fiber Optic Cable (SFOC) Communications is developing and experimenting innovative concepts designed to validate both material and non-material methodologies to provide resilient command and control within the maritime domain. The project focus is to demonstrate capabilities that leverage existing DOD investments and infrastructure using non-traditional means to move data and information. The key deliverable will be a demonstration using maritime assets, experimental methodologies, and current backhaul architecture to validate C2 data movement in the maritime domain. Continue the development and refinement of advanced networking and communication capabilities in a maritime environment that promote C2 interoperability in Satellite Communications (SATCOM) - Restricted and SATCOM - Denied environments, and support the defeat Anti-Access Area Denial (A2/AD). Solutions will address higher bandwidth technologies across the Radio Frequency (RF) and Optical spectrum.

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

Title: Fleet Experimentation	Articles:	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
		0.000	0.000	11.410	0.000	11.410
		-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
		FY 2015	FY 2016	FY 2017 Base
				FY 2017 OCO
				FY 2017 Total
<p><b>Description:</b> FLEX is a USFF/CPF collaborative effort to address fleet prioritized capability gaps, led by USFF N8/N9, supported by Navy Warfare Development Command (NWDC), and coordinated with Naval Component Commands (NCC)/Numbered Fleets, Type Commanders (TYCOM), Systems Commands (SYSCOM), OPNAV, Services, Coalition, and Science &amp; Technology (S&amp;T) community. The Fleet Experimentation program objective is to produce recommended changes in doctrine, organization, training, materiel, leadership development, personnel, facilities, and policy (DOTMLPF-P) actions. Deliverables are focused on operational and tactical warfighting capability in the near term (within the Future Years Defense Program), and prioritized by the Commander, U.S. Fleet Forces (USFF)/Commander, Pacific Fleet (CPF) Fleet Experimentation annual guidance. NWDC plans and executes USFF/CPF approved multi-year Fleet experimentation campaigns and final reports. USFF/CPF staff manage the follow-on DOTMLPF-P actions with OPNAV, SYSCOMs, TYCOMs and Warfighter Development Center (WDC) staffs to establish or enhance warfighting capability in Integrated Air and Missile Defense (IAMD), Amphibious Warfare (AMW), Surface Warfare (SUW), Strike Warfare (STW), Anti-Submarine Warfare(ASW),Expeditionary Warfare (EXW), Information Dominance (ID), Mine Warfare (MIW) and Anti-Terrorism/Force Protection (AT/FP).</p> <p>FLEX supports Operational/Tactical venues to experiment, demonstrate, assess warfighting CONOPS development, concepts, doctrine/training development, techniques and procedures (TTPs), and technologies Multi-year experiment campaigns focus on warfighting capability per CPF/CUSFFC guidance to evaluate and transition to DOTMLPF-Policy change recommendations.</p> <p>Trident Warrior is the component of FLEX that specifically targets C4I systems.</p> <p><b>FY 2015 Accomplishments:</b></p> <p>FLEX Project 3319 was previously funded under PE 0604707N</p> <p>The FY15 Execution Plan (ExPlan) was based on five USFF/CPF directed focus areas, to include, in very broad terms, Electromagnetic Maneuver Warfare, Joint Assured Access, Integration and Interoperability, Unmanned Systems, and New Platform Introduction. The status of the FY15 ExPlan is as follows:</p> <ol style="list-style-type: none"><li>1. Navy Integrated Fire Control-Counter Air (NIFC-CA) War Game #2</li></ol> <p>FLEX provided for the technical, operational, and subject matter expertise support for the application of modeling and simulation techniques to stimulate operator-in-the-loop wargaming.</p> <p>The wargaming facilitates the investigation of command and control flow and decision-making for force positioning and integration/interoperability of Naval Integrated Fire Control-Counter Air employment.</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / (U)Warfare Innovation Management	Project (Number/Name) 3319 / Fleet Experimentation				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
A Joint Engagement Zone was used to inform the development and refinement of Concepts of Operations; Tactics, Techniques and Procedures; and Operational Taskings and Training. It also helped capture insights for future experimentation, analysis, and capability requirements for the NIFC-CA campaign.						
2. Electromagnetic Maneuver Warfare (EMW) Experimentation Campaign. The overall EMW campaign include: NEMESIS War Game EMW At-Sea Experiment NORTHERN EDGE 2015 EMW At Sea Experiment  FLEX provided funds for technical and Subject Matter Expertise (SME) support for EMW-related doctrine, blue emitter vulnerability assessment, focused collection reports and briefing documents related to EMW.  FLEX provided funds for a Center for Naval Analysis SME support for the development of the EMW experimentation plan.  Deliverables: Experimentation Plan for EMW and post event analysis report  3. Undersea Domain Operating Concept (UDOC) Experimentation Campaign Individual components of the FY15 UDOC campaign included: Undersea Innovation War Game Non-Traditional Theater ASW War Game UDOC 2015 FLEX provided funds to SCORE (Southern California Off-Shore Range) for range tracking, data collection, operations monitoring and safety services during UDOC experimentation event. Funds provided for installation and operation of antenna for telemetry transmission; temporary installs for Roll-on/Roll-off passive acoustic Anti-Submarine Warfare (ASW) capability onboard two VMX-22 Osprey aircraft; three MK-30 unmanned underwater vehicle (UUV) targets to support at-sea data collection effort.  4. Alternative Platforms with Payloads (APPS) Seminar War Game FLEX provided funds for subject matter expertise to define platforms, identify payloads, and enablers to integrate platform and mission payload.						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / (U)Warfare Innovation Management	Project (Number/Name) 3319 / Fleet Experimentation				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
5. Joint High Speed Vessel (now Expeditionary Fast Transport (T-EPF)) At Sea Experiment Campaign FLEX funds: - Provided for the shipment of PUMA and associated equipment, onload and set-up of equipment, and air operations for Phase 2 of T-EPF execution - Certification and Accreditation - Supported installation and operation of an air/surface radar in order to provide persistence surveillance capability aboard a JHSV - Provided funds to Naval Ordnance Safety and Security Activity for the battery safety evaluation package. - Provided funds for retrieval boat support - Provided funds for the engineering support, system testing and post-installation support for Littoral Surveillance System (LSS), Scan Eagle, and PUMA. - Range planning and site support for JHSV Southern Partnership Station 2015 Phase 1.						
6. Rail Gun Seminar War Game FLEX provided funds for the subject matter expertise to evaluate platforms and weapons systems related to Rail Gun employment.						
7. TRIDENT WARRIOR 2015 (TW 15) FLEX funds provided: - Technical support for the installation, integration, and operation of experimental technologies onboard selected vessels and at shore sites. - Shipyard diagrams for PANDARRA NET (PANNET) - Certification and accreditation for both GENSER and SCI ICOP (Intelligence Carry-on Program) experiment - Application Integration (AI) process and Integrated Support Engineering Agent (ISEA) support for technologies installed aboard USN afloat platforms - Installation and removal of TW15 technologies, and restoration of ship ISNS and ADNS configs upon completion of experiment event. - Site survey, system engineering, and planning yard diagrams - Integration of Maritime Domain awareness fusion correlator - Funds provided for Integrated Testing Facility (ITF) laboratory for Assured Compliance Assessment Solution (ACAS) testing in a classified environment						
8. Netted Sensors At Sea Experiment FLEX funds provided for Tactical Targeting Network) radios support to include:						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / (U)Warfare Innovation Management	Project (Number/Name) 3319 / Fleet Experimentation				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Site support for air platforms and installation and Integration of TTNT radios - E-2 system test laboratory support - Analysis report for E-2D as related to Netted Sensors - Ground and flight testing - Classified laboratory support - Certification and Accreditation						
<b>Deliverables:</b> - Data collection plan used to develop aircraft orbits - Network diagrams and accreditation boundary diagrams - Analysis report						
<b>FY 2016 Plans:</b> FLEX Project 3319 was previously funded under PE 0604707N  The FY16 FLEX ExPlan is based on four USFF/CPF directed focus areas to include, Multi-mission Electromagnetic Maneuver Warfare, Naval Integrated Fires, Full Spectrum Mine Warfare, and Unmanned Systems. Additionally, FLEX will support the introduction of new platform capabilities. FLEX ExPlan for FY 2016 includes the following events:  1. Naval Integrated Fires (NIF) Campaign 3 Non-Kinetic War Game - Project 3319 will continue to provide funds for Modeling and Simulation support, and wargame execution  2. Electromagnetic Maneuver Warfare Experiment Campaign Project 3319 will continue to provide funds for series of events to include: - Fleet Battle Experiment - EMW Technical War Game (Spectral Tsunami 16-1) - KRYSTAL SPHINX Funds will be provided for technical and engineering, analysis, certification and accreditation, range and target support for efforts related to EMW.  3. Logistics Force Assured C2 War Game Project 3319 will continue to provide funds for subject matter expertise in support of the Logistics Force Assured C2 wargame.						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / (U)Warfare Innovation Management	Project (Number/Name) 3319 / Fleet Experimentation				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
4. Trident Warrior 2016 At-Sea Experiment Project 3319 will continue to provide funds for Certification and Accreditation, range, targets, technical and engineering support, installation and de-installation of experiment technologies onboard selected vessels and at shore sites.						
5. Project 3319 will continue to provide funds for technical and subject matter expertise throughout the experiment planning, execution, and analysis process for the following FLEX events/campaigns: - Unmanned System Series of Events - T-EPF At-Sea Experiment - Navy Tactical Data Network At-Sea Experiment - Undersea Domain Operating Concept (UDOC) Experimentation Campaign - Undersea Innovation Seminar War Game - Theater Undersea Warfare (TUSW) Command and Control (C2) Seminar War Game - UDOC At-Sea Experiment  -Strike Weapon Evaluations -Mine Warfare (MIW) Innovation War Game -MIW At-Sea Experiment -Netted Sensor System War Game						
<b>FY 2017 Base Plans:</b> Although FY17 focus areas have not officially been selected, the FLEX program is designed to be campaign-based with the focus areas carrying forward year-to-year (with potentially slight modifications based on current posture, gaps, and threats). The FY16 ExPlan was based on four USFF/CPF directed focus areas to include, Multi-mission Electromagnetic Maneuver Warfare, Naval Integrated Fires, Full Spectrum Mine Warfare, and Unmanned Systems. In addition to the four named areas, FLEX will also be leveraged to support new platform introduction capabilities. FY17 experimentation will be executed following the prior named FY16 focus areas and as laid out in the draft FLEX ExPlan for FY 2017 as follows: 1. EMW Experiment Campaign: - Fleet Battle Experiment EMW (FBX EWM 17) - Navy Tactical Data Network At-Sea Experiment (Phase Two) - Real Time Spectrum Operations (RTSO) Speed to Fleet At-Sea Experiment						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016		
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N I (U)Warfare Innovation Management	Project (Number/Name) 3319 I Fleet Experimentation				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
2. Naval Integrated Fires (NIF) Campaign Focus: Execute Kinetic Wargame FY17.						
3. Undersea Warfare Vision 2025 Experimentation Campaign to include: - Undersea Innovation Seminar War Game - USW Vision 2025 At-Sea Experiment - Non-Traditional Theater Anti-Submarine Warfare (ASW) At-Sea Experiment						
4. Trident Warrior 2017 At-Sea Experiment						
5. Mine Warfare (MIW) Innovation War Game MIW At-Sea Experiment						
6. Unmanned Systems Experimentation						
7. LCS Manned/Unmanned Aviation Integrated Operations At-Sea Experiment						
<b>FY 2017 OCO Plans:</b> N/A						
<b>Title:</b> Expeditionary SFOC Communications	<b>Articles:</b>	0.000	0.000	7.544	0.000	7.544
<b>Description:</b> Request a new Project Number for this Classified Project: Expeditionary SFOC Communications		-	-	-	-	-
The Expeditionary Submarine Fiber Optic Cable (SFOC) Communications project is developing and experimenting innovative concepts designed to validate both material and non-material methodologies to provide resilient command and control within the maritime domain. The project focus is to demonstrate capabilities that leverage existing DOD investments and infrastructure using non-traditional means to move data and information. The key deliverable will be a demonstration using maritime assets, experimental methodologies, and current backhaul architecture to validate C2 data movement in the maritime domain. Continue the development and refinement of advanced networking and communication capabilities in a maritime environment that promote C2 interoperability in Satellite Communications (SATCOM) - Restricted and SATCOM - Denied environments,						

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
		FY 2015	FY 2016	FY 2017 Base
				FY 2017 OCO
				FY 2017 Total
1319 / 6	PE 0606355N / (U)Warfare Innovation Management			
and support the defeat Anti-Access Area Denial (A2/AD). Solutions will address higher bandwidth technologies across the Radio Frequency (RF) and Optical spectrum.				
D. Acquisition Strategy:				
Expeditionary SFOC Communications is a non-acquisition program that promotes DoD interoperability to achieve resilient C2 data flows by facilitating maritime architectures in both processes and communications systems, including emerging capabilities, to counter growing high-end asymmetric threats, and is a key enabler of the Combatant Commanders C2 functionality.				
E. Performance Metrics:				
Expeditionary SFOC Communications will employ laboratory testing and at-sea demonstrations to assess specific technologies, operational concepts, and integrated Doctrine, Organization, Training, Material, Leadership, Personnel and Facilities (DOTMLPF) solutions pertaining to C2 communications and other aspects of Information Dominance (ID). These assessments will report on identified capability gaps, link capability gaps to technology/DOTMLPF gaps, identify technologies and DOTMLPF solutions considered ready for deployment, transition to a program of record to enhance war fighting capability and enhance interoperability.				
<b>FY 2015 Accomplishments:</b>				
Classified project. Identified previous work done within OSD channels				
<b>FY 2016 Plans:</b>				
Identified previous work done within OSD channels, and will leverage lessons learned. Validated contractor work key for the successful implementation of concept SFOC.				
<b>FY 2017 Base Plans:</b>				
- Acquire maritime vessel as test article IAW objectives - Modify vessel as required to meet demonstration objectives - Determine demonstration location - Identify Government Furnished Equipment required for successful demonstration				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0606355N / (U)Warfare Innovation Management	<b>Project (Number/Name)</b> 3319 / Fleet Experimentation	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				
FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
- Continue the development and refinement of advance networking and communication capabilities in a maritime environment that promote C2 interoperability in Satellite Communications (SATCOM) - Restricted and SATCOM - Denied environments, and support the defeat of Anti-Access Area Denial (A2/AD).				
<b>FY 2017 OCO Plans:</b> N/A				
<b>Accomplishments/Planned Programs Subtotals</b>		0.000	0.000	18.954
<b>C. Other Program Funding Summary (\$ in Millions)</b>		0.000	0.000	18.954
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> FLEX is a non-acquisition program.				
<b>E. Performance Metrics</b> Fleet Experimentation MOP: FLEX supports approximately 100 experimental initiatives annually address fleet identified capability gaps. The majority of this funding is applied toward acquiring intellectual capital in emerging technical areas through contracts providing engineering expertise, experiment design, execution and analysis support, range support, certification and accreditation of technical capabilities, targets, and supporting air assets, and it is also used to acquire engineering and integration costs associated with conducting campaign-based experiments. Fleet Experimentation MOE: - CNO/CUSFF/CPF directed experiment for emerging future capability - Mitigate critical capability gaps - Inform Doctrine TTP, and training - Inform Fleet Platform Wholeness or Warfighter CONOPS validation - Impact to Fleet Warfighting within the FYDP				

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0606355N / (U)Warfare Innovation Management				Project (Number/Name) 3320 / TRIDENT Warrior				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
3320: TRIDENT Warrior		0.000	0.000	0.000	2.169	-	2.169	2.279	2.321	2.373	2.420	Continuing	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		

**Note**  
Trident Warrior (TW) was transferred from 0604231N to 0606355N from FY17 forward.

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

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<b>Title:</b> Trident Warrior  <b>FY 2015 Accomplishments:</b> Trident Warrior was previously funded under PE 0604231N  <b>FY 2016 Plans:</b> Trident Warrior was previously funded under PE 0604231N  <b>FY 2017 Base Plans:</b> <ul style="list-style-type: none"> <li>- Conduct analysis of Trident Warrior (TW)16 executed experiments in order to determine recommended next steps for Naval Warfare Development Command (NWDC).</li> <li>- In accordance with standardized procedures derived from experimentation best practices, coordinate TW participant efforts with specific goal identification, risk identification, and experiment plans to include data requirements and collection.</li> <li>- Coordinate TW participant efforts to achieve required installation and security certifications, accreditations and approvals.</li> <li>- Provide subject matter experts (SMEs) for core ship services during the experimentation period.</li> <li>- Provide independent experts to coordinate the establishment of, and compliance with, experiment plans and to lead analysis effort and provide unbiased assessment to decision makers for initiatives designated by NWDC.</li> </ul>	0.000	0.000	2.169	0.000	2.169

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy				Date: February 2016
<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0606355N / (U)Warfare Innovation Management	<b>Project (Number/Name)</b> 3320 / TRIDENT Warrior		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>
<ul style="list-style-type: none"><li>- Provide results to government sponsors to support the program's Planning, Programming, Budgeting, and Execution Process (PPBE) and engineering recommendations.</li><li>- Plan and execute TW 17 operational events to accelerate the transition of Information Dominance (ID) capability to the Fleet.</li><li>- Solicit participation, both commercial and government, for TW 18 and recommend inclusion of technologies responsive to identified Naval Capability Gaps.</li><li>- Provide subject matter expertise, analysis, and recommendations in order help select technologies for participation in numbers supportable within resources.</li></ul>				<b>FY 2017 OCO</b>
<b>FY 2017 OCO Plans:</b> N/A				<b>FY 2017 Total</b>
<b>Accomplishments/Planned Programs Subtotals</b>		0.000	0.000	2.169
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		0.000	0.000	2.169
<b>Remarks</b>				
<b>D. Acquisition Strategy</b> N/A				
<b>E. Performance Metrics</b> Confirmation of Fleet and Joint Interoperability with technology candidates, Information Assurance Certification and Accreditation, and alignment with United States Fleet Forces (USFF) Commander's Guidance, and Systems Command (SYSCOM) Chief Engineer (CHENG) as well as related Program Executive Office (PEO) objectives and projected architectures.				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)								
1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					PE 0909980N / Judgment Fund Reimbursement								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
Total Program Element	0.000	0.000	0.353	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.353	
0000: UNDIST	0.000	0.000	0.353	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.353	
<b>A. Mission Description and Budget Item Justification</b>													
Judgment Fund claim.													
<b>B. Program Change Summary (\$ in Millions)</b>					FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total				
Previous President's Budget					0.000	0.000	0.000	-	0.000				
Current President's Budget					0.000	0.353	0.000	-	0.000				
Total Adjustments					0.000	0.353	0.000	-	0.000				
<ul style="list-style-type: none"> <li>• Congressional General Reductions</li> <li>• Congressional Directed Reductions</li> <li>• Congressional Rescissions</li> <li>• Congressional Adds</li> <li>• Congressional Directed Transfers</li> <li>• Reprogrammings</li> <li>• SBIR/STTR Transfer</li> </ul>					-	-	-	-	-				
					0.000	0.353	0.000	-	0.000				
<b>Change Summary Explanation</b>													
Technical: Not applicable.													
Schedule: Not applicable.													

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0909980N / Judgment Fund Reimbursement				Project (Number/Name) 0000 / UNDIST				
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
0000: UNDIST		0.000	0.000	0.353	0.000	-	0.000	0.000	0.000	0.000	0.000	0.353	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Budget Item Justification</b>													
Judgment Fund claim													
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>													
Title: New Accomplishment/Planned Program Entry													
Articles:													
FY 2015 Accomplishments:													
N/A													
FY 2016 Plans:													
N/A													
FY 2017 Base Plans:													
N/A													
FY 2017 OCO Plans:													
N/A													
Accomplishments/Planned Programs Subtotals										0.000	0.353	0.000	0.000
										0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>													
N/A													
<b>Remarks</b>													
<b>D. Acquisition Strategy</b>													
N/A													
<b>E. Performance Metrics</b>													
N/A													

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy											Date: February 2016		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					R-1 Program Element (Number/Name) PE 0909999N / Cancelled Account Adjustments								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost	
Total Program Element	0.000	0.137	0.002	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.139	
0000: UNDIST	0.000	0.137	0.002	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.139	

**A. Mission Description and Budget Item Justification**  
Funding is to reimburse the Department of the Treasury for cancelled account liabilities.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.137	0.002	0.000	-	0.000
Total Adjustments	0.137	0.002	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.137	0.002			
• SBIR/STTR Transfer	-	-			

**Change Summary Explanation**  
Technical: Not applicable.  
Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy											Date: February 2016						
<b>Appropriation/Budget Activity</b> 1319 / 6				<b>R-1 Program Element (Number/Name)</b> PE 090999N / Cancelled Account Adjustments					<b>Project (Number/Name)</b> 0000 / UNDIST								
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost					
0000: UNDIST		0.000	0.137	0.002	0.000	-	0.000	0.000	0.000	0.000	0.000	0.139					
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-							
<b>A. Mission Description and Budget Item Justification</b>																	
Not applicable.																	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>																	
Title: Cancelled Account Adjustments	Articles:					FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total							
						0.137	0.002	0.000	0.000	0.000							
						-	-	-	-	-							
<b>FY 2015 Accomplishments:</b>																	
Funding is to reimburse Department of the Treasury for cancelled account liabilities.																	
<b>FY 2016 Plans:</b>																	
N/A																	
<b>FY 2017 Base Plans:</b>																	
N/A																	
<b>FY 2017 OCO Plans:</b>																	
N/A																	
<b>Accomplishments/Planned Programs Subtotals</b>								0.137	0.002	0.000	0.000	0.000					
<b>C. Other Program Funding Summary (\$ in Millions)</b>																	
N/A																	
<b>Remarks</b>																	
<b>D. Acquisition Strategy</b>																	
N/A																	
<b>E. Performance Metrics</b>																	
N/A																	