Department of Defense
Fiscal Year (FY) 2018 Budget Estimates

May 2017

Navy

Justification Book Volume 4 of 5

Research, Development, Test & Evaluation, Navy

Budget Activity 6

The estimated cost for this report for the Department of Navy (DON) is $6,130.

The estimated total cost for supporting the DON budget justification material is approximately $1,142,960 for the 2017 fiscal year. This includes $76,659 in supplies and $1,066,301 in labor.

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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, $18,805,400,000 to remain available for obligation until September 30, 2019.

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Department of Defense
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

Appropriation	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Research, Development, Test & Eval, Navy	18,333,041	18,076,818	18,376,384	35,747	163,447		163,447
Total Research, Development, Test & Evaluation	18,333,041	18,076,818	18,376,384	35,747	163,447		163,447
Other RDT&E Budget Activities Not Included in the Research, Development, Test and Evaluation Title							
National Defense Sealift Fund	36,289						
Total Not in Research, Development, Test & Evaluation	36,289						

Department of Defense
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

Appropriation	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Research, Development, Test & Eval, Navy	18,112,565	18,539,831		18,539,831	17,675,035	130,365	17,805,400
Total Research, Development, Test & Evaluation	18,112,565	18,539,831		18,539,831	17,675,035	130,365	17,805,400
Other RDT&E Budget Activities Not Included in the Research, Development, Test and Evaluation Title							
National Defense Sealift Fund					18,622		18,622
Total Not in Research, Development, Test & Evaluation					18,622		18,622

Department of Defense
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

Summary Recap of Budget Activities	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Basic Research	648,642	542,970	542,970				
Applied Research	951,575	861,151	861,151				
Advanced Technology Development	680,933	736,988	736,988				
Advanced Component Development & Prototypes	4,929,981	4,662,867	4,707,367	41,897	77,397		77,397
System Development & Demonstration	6,236,999	6,025,655	6,112,003				
Management Support	1,286,493	853,736	918,322				
Operational Systems Development	3,598,418	3,592,934	3,697,066	36,426	128,626		128,626
Undistributed		800,517	800,517	-42,576	-42,576		-42,576
Total Research, Development, Test & Evaluation	18,333,041	18,076,818	18,376,384	35,747	163,447		163,447
Summary Recap of FYDP Programs							
Strategic Forces	162,023	196,948	196,948				
General Purpose Forces	1,328,376	1,447,043	1,514,004				
Intelligence and Communications	818,572	713,042	713,042				
Research and Development	14,468,006	13,638,282	13,833,716	41,897	77,397		77,397
Central Supply and Maintenance	27,563	52,526	52,526				
Administration and Associated Activities	569	800,517	800,517	-42,576	-42,576		-42,576
Space							
Classified Programs	1,527,932	1,228,460	1,265,631	36,426	128,626		128,626
Total Research, Development, Test & Evaluation	18,333,041	18,076,818	18,376,384	35,747	163,447		163,447

Department of Defense
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

Summary Recap of Budget Activities	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Basic Research	542,970	542,970		542,970	595,901		595,901
Applied Research	861,151	861,151		861,151	886,079		886,079
Advanced Technology Development	736,988	736,988		736,988	686,342		686,342
Advanced Component Development & Prototypes	4,704,764	4,784,764		4,784,764	4,218,714	27,710	4,246,424
System Development & Demonstration	6,025,655	6,112,003		6,112,003	6,362,102		6,362,102
Management Support	853,736	918,322		918,322	945,757		945,757
Operational Systems Development	3,629,360	3,825,692		3,825,692	3,980,140	102,655	4,082,795
Undistributed	757,941	757,941		757,941			
Total Research, Development, Test & Evaluation	18,112,565	18,539,831		18,539,831	17,675,035	130,365	17,805,400
Summary Recap of FYDP Programs							
Strategic Forces	196,948	196,948		196,948	201,735		201,735
General Purpose Forces	1,447,043	1,514,004		1,514,004	1,675,797	12,800	1,688,597
Intelligence and Communications	713,042	713,042		713,042	751,779		751,779
Research and Development	13,680,179	13,911,113		13,911,113	13,589,349	27,710	13,617,059
Central Supply and Maintenance	52,526	52,526		52,526	43,035		43,035
Administration and Associated Activities	757,941	757,941		757,941	1,749		1,749
Space					47,244		47,244
Classified Programs	1,264,886	1,394,257		1,394,257	1,364,347	89,855	1,454,202
Total Research, Development, Test & Evaluation	18,112,565	18,539,831		18,539,831	17,675,035	130,365	17,805,400

Department of Defense
FY 2018 President's Budget Request
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Total Obligational Authority
(Dollars in Thousands)

	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Summary Recap of Non-RDT&E Title FYDP Programs							
Mobility Forces	36,289						
Total Research, Development, Test & Evaluation	36,289						

Department of Defense
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Summary Recap of Non-RDT&E Title FYDP Programs							
Mobility Forces					18,622		18,622
Total Research, Development, Test & Evaluation					18,622		18,622

Department of the Navy
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

Summary Recap of Budget Activities	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Basic Research	648,642	542,970	542,970				
Applied Research	951,575	861,151	861,151				
Advanced Technology Development	680,933	736,988	736,988				
Advanced Component Development & Prototypes	4,929,981	4,662,867	4,707,367	41,897	77,397		77,397
System Development & Demonstration	6,236,999	6,025,655	6,112,003				
Management Support	1,286,493	853,736	918,322				
Operational Systems Development	3,598,418	3,592,934	3,697,066	36,426	128,626		128,626
Undistributed		800,517	800,517	-42,576	-42,576		-42,576
Total Research, Development, Test & Evaluation	18,333,041	18,076,818	18,376,384	35,747	163,447		163,447
Summary Recap of FYDP Programs							
Strategic Forces	162,023	196,948	196,948				
General Purpose Forces	1,328,376	1,447,043	1,514,004				
Intelligence and Communications	818,572	713,042	713,042				
Research and Development	14,468,006	13,638,282	13,833,716	41,897	77,397		77,397
Central Supply and Maintenance	27,563	52,526	52,526				
Administration and Associated Activities	569	800,517	800,517	-42,576	-42,576		-42,576
Space							
Classified Programs	1,527,932	1,228,460	1,265,631	36,426	128,626		128,626
Total Research, Development, Test & Evaluation	18,333,041	18,076,818	18,376,384	35,747	163,447		163,447

Department of the Navy
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

Summary Recap of Budget Activities	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Basic Research	542,970	542,970		542,970	595,901		595,901
Applied Research	861,151	861,151		861,151	886,079		886,079
Advanced Technology Development	736,988	736,988		736,988	686,342		686,342
Advanced Component Development & Prototypes	4,704,764	4,784,764		4,784,764	4,218,714	27,710	4,246,424
System Development & Demonstration	6,025,655	6,112,003		6,112,003	6,362,102		6,362,102
Management Support	853,736	918,322		918,322	945,757		945,757
Operational Systems Development	3,629,360	3,825,692		3,825,692	3,980,140	102,655	4,082,795
Undistributed	757,941	757,941		757,941			
Total Research, Development, Test & Evaluation	18,112,565	18,539,831		18,539,831	17,675,035	130,365	17,805,400
Summary Recap of FYDP Programs							
Strategic Forces	196,948	196,948		196,948	201,735		201,735
General Purpose Forces	1,447,043	1,514,004		1,514,004	1,675,797	12,800	1,688,597
Intelligence and Communications	713,042	713,042		713,042	751,779		751,779
Research and Development	13,680,179	13,911,113		13,911,113	13,589,349	27,710	13,617,059
Central Supply and Maintenance	52,526	52,526		52,526	43,035		43,035
Administration and Associated Activities	757,941	757,941		757,941	1,749		1,749
Space					47,244		47,244
Classified Programs	1,264,886	1,394,257		1,394,257	1,364,347	89,855	1,454,202
Total Research, Development, Test & Evaluation	18,112,565	18,539,831		18,539,831	17,675,035	130,365	17,805,400

Department of the Navy
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
1	0601103N	University Research Initiatives	01	140,998	101,714	101,714					U
2	0601152N	In-House Laboratory Independent Research	01	18,978	18,508	18,508					U
3	0601153N	Defense Research Sciences	01	488,666	422,748	422,748					U
	Basic	Research		648,642	542,970	542,970					
4	0602114N	Power Projection Applied Research	02	88,940	41,371	41,371					U
5	0602123N	Force Protection Applied Research	02	174,447	158,745	158,745					U
6	0602131M	Marine Corps Landing Force Technology	02	50,164	51,590	51,590					U
7	0602235N	Common Picture Applied Research	02	42,973	41,185	41,185					U
8	0602236N	Warfighter Sustainment Applied Research	02	44,092	45,467	45,467					U
9	0602271N	Electromagnetic Systems Applied Research	02	116,362	118,941	118,941					U
10	0602435N	Ocean Warfighting Environment Applied Research	02	69,703	42,618	42,618					U
11	0602651M	Joint Non-Lethal Weapons Applied Research	02	5,956	6,327	6,327					U
12	0602747N	Undersea Warfare Applied Research	02	151,844	126,313	126,313					U
13	0602750N	Future Naval Capabilities Applied Research	02	172,511	165,103	165,103					U
14	0602782N	Mine and Expeditionary Warfare Applied Research	02	34,583	33,916	33,916					U
15	0602792N	Innovative Naval Prototypes (INP) Applied Research	02								U

Department of the Navy
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

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

Line No	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Sec
1	0601103N	University Research Initiatives	01	101,714	101,714		101,714	118,130		118,130	U
2	0601152N	In-House Laboratory Independent Research	01	18,508	18,508		18,508	19,438		19,438	U
3	0601153N	Defense Research Sciences	01	422,748	422,748		422,748	458,333		458,333	U
	Basic	Research		542,970	542,970		542,970	595,901		595,901	
4	0602114N	Power Projection Applied Research	02	41,371	41,371		41,371	13,553		13,553	U
5	0602123N	Force Protection Applied Research	02	158,745	158,745		158,745	125,557		125,557	U
6	0602131M	Marine Corps Landing Force Technology	02	51,590	51,590		51,590	53,936		53,936	U
7	0602235N	Common Picture Applied Research	02	41,185	41,185		41,185	36,450		36,450	U
8	0602236N	Warfighter Sustainment Applied Research	02	45,467	45,467		45,467	48,649		48,649	U
9	0602271N	Electromagnetic Systems Applied Research	02	118,941	118,941		118,941	79,598		79,598	U
10	0602435N	Ocean Warfighting Environment Applied Research	02	42,618	42,618		42,618	42,411		42,411	U
11	0602651M	Joint Non-Lethal Weapons Applied Research	02	6,327	6,327		6,327	6,425		6,425	U
12	0602747N	Undersea Warfare Applied Research	02	126,313	126,313		126,313	56,094		56,094	U
13	0602750N	Future Naval Capabilities Applied Research	02	165,103	165,103		165,103	156,805		156,805	U
14	0602782N	Mine and Expeditionary Warfare Applied Research	02	33,916	33,916		33,916	32,733		32,733	U
15	0602792N	Innovative Naval Prototypes (INP) Applied Research	02					171,146		171,146	U

Department of the Navy
FY 2018 President's Budget Request
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Total Obligational Authority
(Dollars in Thousands)

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
16	0602861N	Science and Technology Management - ONR Field Acitivities	02								U
17	0602898N	Science and Technology Management - ONR Headquarters	02		29,575	29,575					U
	Applied Research			951,575	861,151	861,151					
18	0603114N	Power Projection Advanced Technology	03	41,957	96,406	96,406					U
19	0603123N	Force Protection Advanced Technology	03	42,333	48,438	48,438					U
20	0603271N	Electromagnetic Systems Advanced Technology	03	32,924	26,421	26,421					U
21	0603640M	USMC Advanced Technology Demonstration (ATD)	03	128,386	140,416	140,416					U
22	0603651M	Joint Non-Lethal Weapons Technology Development	03	12,374	13,117	13,117					U
23	0603673N	Future Naval Capabilities Advanced Technology Development	03	251,173	249,092	249,092					U
24	0603680N	Manufacturing Technology Program	03	54,739	56,712	56,712					U
25	0603729N	Warfighter Protection Advanced Technology	03	34,894	4,789	4,789					U
26	0603747N	Undersea Warfare Advanced Technology	03	13,251	25,880	25,880					U
27	0603758N	Navy Warfighting Experiments and Demonstrations	03	65,553	60,550	60,550					U
28	0603782N	Mine and Expeditionary Warfare Advanced Technology	03	3,349	15,167	15,167					U

Department of the Navy
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Appropriation: 1319N Research, Development, Test & Eval, Navy

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16	0602861N	Science and Technology Management - ONR Field Acitivities	02					62,722		62,722	U
17	0602898N	Science and Technology Management - ONR Headquarters	02	29,575	29,575		29,575				U
	Applied Research			861,151	861,151		861,151	886,079		886,079	
18	0603114N	Power Projection Advanced Technology	03	96,406	96,406		96,406				U
19	0603123N	Force Protection Advanced Technology	03	48,438	48,438		48,438	26,342		26,342	U
20	0603271N	Electromagnetic Systems Advanced Technology	03	26,421	26,421		26,421	9,360		9,360	U
21	0603640M	USMC Advanced Technology Demonstration (ATD)	03	140,416	140,416		140,416	154,407		154,407	U
22	0603651M	Joint Non-Lethal Weapons Technology Development	03	13,117	13,117		13,117	13,448		13,448	U
23	0603673N	Future Naval Capabilities Advanced Technology Development	03	249,092	249,092		249,092	231,772		231,772	U
24	0603680N	Manufacturing Technology Program	03	56,712	56,712		56,712	57,797		57,797	U
25	0603729N	Warfighter Protection Advanced Technology	03	4,789	4,789		4,789	4,878		4,878	U
26	0603747N	Undersea Warfare Advanced Technology	03	25,880	25,880		25,880				U
27	0603758N	Navy Warfighting Experiments and Demonstrations	03	60,550	60,550		60,550	64,889		64,889	U
28	0603782N	Mine and Expeditionary Warfare Advanced Technology	03	15,167	15,167		15,167	15,164		15,164	U

Department of the Navy
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(Dollars in Thousands)

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
29	0603801N	Innovative Naval Prototypes (INP) Advanced Technology Development	03								U
		Advanced Technology Development		680,933	736,988	736,988					
30	0603207N	Air/Ocean Tactical Applications	04	37,126	48,536	48,536					U
31	0603216N	Aviation Survivability	04	5,343	5,239	5,239					U
32	0603237N	Deployable Joint Command and Control	04	3,051							U
33	0603251N	Aircraft Systems	04	25,763	1,519	1,519					U
34	0603254N	ASW Systems Development	04	5,455	7,041	7,041					U
35	0603261N	Tactical Airborne Reconnaissance	04	8,391	3,274	3,274					U
36	0603382N	Advanced Combat Systems Technology	04	1,572	57,034	57,034					U
37	0603502N	Surface and Shallow Water Mine Countermeasures	04	88,092	165,775	165,775					U
38	0603506N	Surface Ship Torpedo Defense	04	69,803	87,066	87,066					U
39	0603512N	Carrier Systems Development	04	8,213	7,605	7,605					U
40	0603525N	PILOT FISH	04	124,194	132,068	132,068					U
41	0603527N	RETRACT LARCH	04	39,475	14,546	14,546	3,907	35,907		35,907	U
42	0603536N	RETRACT JUNIPER	04	109,786	115,435	115,435					U
43	0603542N	Radiological Control	04	709	702	702					U
44	0603553N	Surface ASW	04	1,056	1,081	1,081					U
45	0603561N	Advanced Submarine System Development	04	85,496	100,565	106,365					U

Department of the Navy
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(Dollars in Thousands)

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29	0603801N	Innovative Naval Prototypes (INP) Advanced Technology Development	03					108,285		108,285	U
		Advanced Technology Development		736,988	736,988		736,988	686,342		686,342	
30	0603207N	Air/Ocean Tactical Applications	04	48,536	48,536		48,536	48,365		48,365	U
31	0603216N	Aviation Survivability	04	5,239	5,239		5,239	5,566		5,566	U
32	0603237N	Deployable Joint Command and Control	04								U
33	0603251N	Aircraft Systems	04	1,519	1,519		1,519	695		695	U
34	0603254N	ASW Systems Development	04	7,041	7,041		7,041	7,661		7,661	U
35	0603261N	Tactical Airborne Reconnaissance	04	3,274	3,274		3,274	3,707		3,707	U
36	0603382N	Advanced Combat Systems Technology	04	57,034	57,034		57,034	61,381		61,381	U
37	0603502N	Surface and Shallow Water Mine Countermeasures	04	165,775	165,775		165,775	154,117		154,117	U
38	0603506N	Surface Ship Torpedo Defense	04	87,066	87,066		87,066	14,974		14,974	U
39	0603512N	Carrier Systems Development	04	7,605	7,605		7,605	9,296		9,296	U
40	0603525N	PILOT FISH	04	132,068	132,068		132,068	132,083		132,083	U
41	0603527N	RETRACT LARCH	04	18,453	50,453		50,453	15,407	22,000	37,407	U
42	0603536N	RETRACT JUNIPER	04	115,435	115,435		115,435	122,413		122,413	U
43	0603542N	Radiological Control	04	702	702		702	745		745	U
44	0603553N	Surface ASW	04	1,081	1,081		1,081	1,136		1,136	U
45	0603561N	Advanced Submarine System Development	04	100,565	106,365		106,365	100,955		100,955	U

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46	0603562N	Submarine Tactical Warfare Systems	04	10,172	8,782	8,782					U
47	0603563N	Ship Concept Advanced Design	04	10,446	14,590	14,590					U
48	0603564N	Ship Preliminary Design & Feasibility Studies	04	3,213	15,805	15,805					U
49	0603570N	Advanced Nuclear Power Systems	04	482,040	453,313	453,313					U
50	0603573N	Advanced Surface Machinery Systems	04	23,443	36,655	36,655					U
51	0603576N	CHALK EAGLE	04	493,472	367,016	367,016					U
52	0603581N	Littoral Combat Ship (LCS)	04	109,426	51,630	51,630					U
53	0603582N	Combat System Integration	04	32,020	23,530	26,530					U
54	0603595N	Ohio Replacement	04	947,783	700,811	700,811					U
55	0603596N	LCS Mission Modules	04	188,872	160,058	160,058					U
56	0603597N	Automated Test and Analysis	04	22,188							U
57	0603599N	Frigate Development	04	18,965	84,900	84,900					U
58	0603609N	Conventional Munitions	04	7,676	8,342	8,342					U
59	0603611M	Marine Corps Assault Vehicles	04	196,991	158,682	158,682					U
60	0603635M	Marine Corps Ground Combat/Support System	04	359	1,303	1,303					U
61	0603654N	Joint Service Explosive Ordnance Development	04	14,957	46,911	46,911		3,500		3,500	U
62	0603658N	Cooperative Engagement	04	72,472							U
63	0603713N	Ocean Engineering Technology Development	04	5,135	4,556	4,556					U

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46	0603562N	Submarine Tactical Warfare Systems	04	8,782	8,782		8,782	13,834		13,834	U
47	0603563N	Ship Concept Advanced Design	04	14,590	14,590		14,590	36,891		36,891	U
48	0603564N	Ship Preliminary Design & Feasibility Studies	04	15,805	15,805		15,805	12,012		12,012	U
49	0603570N	Advanced Nuclear Power Systems	04	453,313	453,313		453,313	329,500		329,500	U
50	0603573N	Advanced Surface Machinery Systems	04	36,655	36,655		36,655	29,953		29,953	U
51	0603576N	CHALK EAGLE	04	367,016	367,016		367,016	191,610		191,610	U
52	0603581N	Littoral Combat Ship (LCS)	04	51,630	51,630		51,630	40,991		40,991	U
53	0603582N	Combat System Integration	04	23,530	26,530		26,530	24,674		24,674	U
54	0603595N	Ohio Replacement	04	700,811	700,811		700,811	776,158		776,158	U
55	0603596N	LCS Mission Modules	04	160,058	160,058		160,058	116,871		116,871	U
56	0603597N	Automated Test and Analysis	04					8,052		8,052	U
57	0603599N	Frigate Development	04	84,900	84,900		84,900	143,450		143,450	U
58	0603609N	Conventional Munitions	04	8,342	8,342		8,342	8,909		8,909	U
59	0603611M	Marine Corps Assault Vehicles	04	158,682	158,682		158,682				U
60	0603635M	Marine Corps Ground Combat/Support System	04	1,303	1,303		1,303	1,428		1,428	U
61	0603654N	Joint Service Explosive Ordnance Development	04	46,911	50,411		50,411	53,367		53,367	U
62	0603658N	Cooperative Engagement	04								U
63	0603713N	Ocean Engineering Technology Development	04	4,556	4,556		4,556	8,212		8,212	U

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64	0603721N	Environmental Protection	04	19,286	20,343	20,343					U
65	0603724N	Navy Energy Program	04	54,911	52,479	27,479					U
66	0603725N	Facilities Improvement	04	3,726	5,458	5,458					U
67	0603734N	CHALK CORAL	04	168,960	245,860	245,860					U
68	0603739N	Navy Logistic Productivity	04	3,728	3,089	3,089					U
69	0603746N	RETRACT MAPLE	04	340,897	323,526	323,526					U
70	0603748N	LINK PLUMERIA	04	192,336	318,497	318,497					U
71	0603751N	RETRACT ELM	04	36,086	52,834	52,834					U
72	0603764N	LINK EVERGREEN	04	45,603	48,116	48,116					U
73	0603787N	Special Processes	04	16,769	13,619	13,619					U
74	0603790N	NATO Research and Development	04	8,320	9,867	9,867					U
75	0603795N	Land Attack Technology	04	887	6,015	6,015					U
76	0603851M	Joint Non-Lethal Weapons Testing	04	27,976	27,904	27,904					U
77	0603860N	Joint Precision Approach and Landing Systems - Dem/Val	04	80,313	104,144	104,144					U
78	0603925N	Directed Energy and Electric Weapon Systems	04	41,355	32,700	32,700					U
79	0604112N	Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78 - 80)	04	95,408	70,528	70,528					U
80	0604122N	Remote Minehunting System (RMS)	04	16,940	3,001	3,001					U
81	0604272N	Tactical Air Directional Infrared Countermeasures (TADIRCM)	04	18,963	34,920	34,920	37,990	37,990		37,990	U

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64	0603721N	Environmental Protection	04	20,343	20,343		20,343	20,214		20,214	U
65	0603724N	Navy Energy Program	04	52,479	27,479		27,479	50,623		50,623	U
66	0603725N	Facilities Improvement	04	5,458	5,458		5,458	2,837		2,837	U
67	0603734N	CHALK CORAL	04	245,860	245,860		245,860	245,143		245,143	U
68	0603739N	Navy Logistic Productivity	04	3,089	3,089		3,089	2,995		2,995	U
69	0603746N	RETRACT MAPLE	04	323,526	323,526		323,526	306,101		306,101	U
70	0603748N	LINK PLUMERIA	04	318,497	318,497		318,497	253,675		253,675	U
71	0603751N	RETRACT ELM	04	52,834	52,834		52,834	55,691		55,691	U
72	0603764N	LINK EVERGREEN	04	48,116	48,116		48,116	48,982		48,982	U
73	0603787N	Special Processes	04	13,619	13,619		13,619				U
74	0603790N	NATO Research and Development	04	9,867	9,867		9,867	9,099		9,099	U
75	0603795N	Land Attack Technology	04	6,015	6,015		6,015	33,568		33,568	U
76	0603851M	Joint Non-Lethal Weapons Testing	04	27,904	27,904		27,904	29,873		29,873	U
77	0603860N	Joint Precision Approach and Landing Systems - Dem/Val	04	104,144	104,144		104,144	106,391		106,391	U
78	0603925N	Directed Energy and Electric Weapon Systems	04	32,700	32,700		32,700	107,310		107,310	U
79	0604112N	Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78 - 80)	04	70,528	70,528		70,528	83,935		83,935	U
80	0604122N	Remote Minehunting System (RMS)	04	3,001	3,001		3,001				U
81	0604272N	Tactical Air Directional Infrared Countermeasures (TADIRCM)	04	72,910	72,910		72,910	46,844	5,710	52,554	U

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82	0604279N	ASE Self-Protection Optimization	04	8,995							U
83	0604286M	Marine Corps Additive Manufacturing Technology Development	04								U
84	0604292N	MH-XX	04	4,462	1,620	1,620					U
85	0604320M	Rapid Technology Capability Prototype	04								U
86	0604454N	LX (R)	04	73,392	6,354	6,354					U
87	0604536N	Advanced Undersea Prototyping	04		78,589	78,589					U
88	0604653N	Joint Counter Radio Controlled IED Electronic Warfare (JCREW)	04	3,765							U
89	0604659N	Precision Strike Weapons Development Program	04	7,621	9,910	9,910					U
90	0604707N	Space and Electronic Warfare (SEW) Architecture/Engineering Support	04	22,214	23,971	23,971					U
91	0604786N	Offensive Anti-Surface Warfare Weapon Development	04	348,708	252,409	313,109					U
92	0605812M	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	04	24,790	23,197	23,197					U
93	0303354N	ASW Systems Development - MIP	04	9,835	9,110	9,110					U
94	0304240M	Advanced Tactical Unmanned Aircraft System	04								U
95	0304270N	Electronic Warfare Development - MIP	04	580	437	437					U
		Advanced Component Development & Prototypes		4,929,981	4,662,867	4,707,367	41,897	77,397		77,397	
96	0603208N	Training System Aircraft	05	16,438	19,938	19,938					U

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82	0604279N	ASE Self-Protection Optimization	04								U
83	0604286M	Marine Corps Additive Manufacturing Technology Development	04					6,200		6,200	U
84	0604292N	MH-XX	04	1,620	1,620		1,620				U
85	0604320M	Rapid Technology Capability Prototype	04					7,055		7,055	U
86	0604454N	LX (R)	04	6,354	6,354		6,354	9,578		9,578	U
87	0604536N	Advanced Undersea Prototyping	04	78,589	78,589		78,589	66,543		66,543	U
88	0604653N	Joint Counter Radio Controlled IED Electronic Warfare (JCREW)	04								U
89	0604659N	Precision Strike Weapons Development Program	04	9,910	9,910		9,910	31,315		31,315	U
90	0604707N	Space and Electronic Warfare (SEW) Architecture/Engineering Support	04	23,971	23,971		23,971	42,851		42,851	U
91	0604786N	Offensive Anti-Surface Warfare Weapon Development	04	252,409	313,109		313,109	160,694		160,694	U
92	0605812M	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	04	23,197	23,197		23,197				U
93	0303354N	ASW Systems Development - MIP	04	9,110	9,110		9,110	8,278		8,278	U
94	0304240M	Advanced Tactical Unmanned Aircraft System	04					7,979		7,979	U
95	0304270N	Electronic Warfare Development - MIP	04	437	437		437	527		527	U
		Advanced Component Development & Prototypes		4,704,764	4,784,764		4,784,764	4,218,714	27,710	4,246,424	
96	0603208N	Training System Aircraft	05	19,938	19,938		19,938	16,945		16,945	U

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97	0604212N	Other Helo Development	05	12,070	6,268	6,268					U
98	0604214N	AV-8B Aircraft - Eng Dev	05	26,939	33,664	34,902					U
99	0604215N	Standards Development	05	48,677	1,300	1,300					U
100	0604216N	Multi-Mission Helicopter Upgrade Development	05	17,518	5,275	5,275					U
101	0604218N	Air/Ocean Equipment Engineering	05	4,406	3,875	3,875					U
102	0604221N	P-3 Modernization Program	05	1,485	1,909	1,909					U
103	0604230N	Warfare Support System	05	5,740	13,237	13,237					U
104	0604231N	Tactical Command System	05	75,508	36,323	40,323					U
105	0604234N	Advanced Hawkeye	05	211,146	363,792	363,792					U
106	0604245N	H-1 Upgrades	05	26,768	27,441	27,441					U
107	0604261N	Acoustic Search Sensors	05	30,637	34,525	34,525					U
108	0604262N	V-22A	05	74,366	174,423	189,423					U
109	0604264N	Air Crew Systems Development	05	10,201	13,577	13,577					U
110	0604269N	EA-18	05	45,384	116,761	116,761					U
111	0604270N	Electronic Warfare Development	05	22,383	48,766	92,766					U
112	0604273N	Executive Helo Development	05	490,768	338,357	338,357					U
113	0604274N	Next Generation Jammer (NGJ)	05	376,548	577,822	577,822					U
114	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	24,300	2,365	2,365					U
115	0604282N	Next Generation Jammer (NGJ) Increment II	05	12,306	52,065	52,065					U

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97	0604212N	Other Helo Development	05	6,268	6,268		6,268	26,786		26,786	U
98	0604214N	AV-8B Aircraft - Eng Dev	05	33,664	34,902		34,902	48,780		48,780	U
99	0604215N	Standards Development	05	1,300	1,300		1,300	2,722		2,722	U
100	0604216N	Multi-Mission Helicopter Upgrade Development	05	5,275	5,275		5,275	5,371		5,371	U
101	0604218N	Air/Ocean Equipment Engineering	05	3,875	3,875		3,875	782		782	U
102	0604221N	P-3 Modernization Program	05	1,909	1,909		1,909	1,361		1,361	U
103	0604230N	Warfare Support System	05	13,237	13,237		13,237	14,167		14,167	U
104	0604231N	Tactical Command System	05	36,323	40,323		40,323	55,695		55,695	U
105	0604234N	Advanced Hawkeye	05	363,792	363,792		363,792	292,535		292,535	U
106	0604245N	H-1 Upgrades	05	27,441	27,441		27,441	61,288		61,288	U
107	0604261N	Acoustic Search Sensors	05	34,525	34,525		34,525	37,167		37,167	U
108	0604262N	V-22A	05	174,423	189,423		189,423	171,386		171,386	U
109	0604264N	Air Crew Systems Development	05	13,577	13,577		13,577	13,235		13,235	U
110	0604269N	EA-18	05	116,761	116,761		116,761	173,488		173,488	U
111	0604270N	Electronic Warfare Development	05	48,766	92,766		92,766	54,055		54,055	U
112	0604273N	Executive Helo Development	05	338,357	338,357		338,357	451,938		451,938	U
113	0604274N	Next Generation Jammer (NGJ)	05	577,822	577,822		577,822	632,936		632,936	U
114	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	2,365	2,365		2,365	4,310		4,310	U
115	0604282N	Next Generation Jammer (NGJ) Increment II	05	52,065	52,065		52,065	66,686		66,686	U

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116	0604307N	Surface Combatant Combat System Engineering	05	430,450	282,764	282,764					U
117	0604311N	LPD-17 Class Systems Integration	05	730	580	580					U
118	0604329N	Small Diameter Bomb (SDB)	05	55,818	97,622	97,622					U
119	0604366N	Standard Missile Improvements	05	111,295	120,561	120,561					U
120	0604373N	Airborne MCM	05	9,399	45,622	45,622					U
121	0604376M	Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) for Aviation	05	3,281							U
122	0604378N	Naval Integrated Fire Control - Counter Air Systems Engineering	05	22,960	25,750	25,750					U
123	0604404N	Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System	05	414,376							U
124	0604501N	Advanced Above Water Sensors	05	42,796	85,868	85,868					U
125	0604503N	SSN-688 and Trident Modernization	05	106,342	117,476	117,476					U
126	0604504N	Air Control	05	55,947	47,404	47,404					U
127	0604512N	Shipboard Aviation Systems	05	117,401	112,158	112,158					U
128	0604518N	Combat Information Center Conversion	05		6,283	6,283					U
129	0604522N	Air and Missile Defense Radar (AMDR) System	05	227,051	144,395	144,395					U
130	0604558N	New Design SSN	05	150,442	113,013	113,013					U
131	0604562N	Submarine Tactical Warfare System	05	51,054	43,160	43,160					U
132	0604567N	Ship Contract Design/ Live Fire T&E	05	38,060	65,002	63,311					U

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116	0604307N	Surface Combatant Combat System Engineering	05	282,764	282,764		282,764	390,238		390,238	U
117	0604311N	LPD-17 Class Systems Integration	05	580	580		580	689		689	U
118	0604329N	Small Diameter Bomb (SDB)	05	97,622	97,622		97,622	112,846		112,846	U
119	0604366N	Standard Missile Improvements	05	120,561	120,561		120,561	158,578		158,578	U
120	0604373N	Airborne MCM	05	45,622	45,622		45,622	15,734		15,734	U
121	0604376M	Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) for Aviation	05								U
122	0604378N	Naval Integrated Fire Control - Counter Air Systems Engineering	05	25,750	25,750		25,750	25,445		25,445	U
123	0604404N	Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System	05								U
124	0604501N	Advanced Above Water Sensors	05	85,868	85,868		85,868	87,233		87,233	U
125	0604503N	SSN-688 and Trident Modernization	05	117,476	117,476		117,476	130,981		130,981	U
126	0604504N	Air Control	05	47,404	47,404		47,404	75,186		75,186	U
127	0604512N	Shipboard Aviation Systems	05	112,158	112,158		112,158	177,926		177,926	U
128	0604518N	Combat Information Center Conversion	05	6,283	6,283		6,283	8,062		8,062	U
129	0604522N	Air and Missile Defense Radar (AMDR) System	05	144,395	144,395		144,395	32,090		32,090	U
130	0604558N	New Design SSN	05	113,013	113,013		113,013	120,087		120,087	U
131	0604562N	Submarine Tactical Warfare System	05	43,160	43,160		43,160	50,850		50,850	U
132	0604567N	Ship Contract Design/ Live Fire T&E	05	65,002	63,311		63,311	67,166		67,166	U

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133	0604574N	Navy Tactical Computer Resources	05	4,053	3,098	3,098					U
134	0604580N	Virginia Payload Module (VPM)	05	162,168	97,920	97,920					U
135	0604601N	Mine Development	05	12,602	10,490	15,290					U
136	0604610N	Lightweight Torpedo Development	05	42,548	20,178	20,178					U
137	0604654N	Joint Service Explosive Ordnance Development	05	8,123	7,369	7,369					U
138	0604703N	Personnel, Training, Simulation, and Human Factors	05	7,408	4,995	18,995					U
139	0604727N	Joint Standoff Weapon Systems	05	394	412	412					U
140	0604755N	Ship Self Defense (Detect & Control)	05	145,229	134,619	134,619					U
141	0604756N	Ship Self Defense (Engage: Hard Kill)	05	93,481	114,475	114,475					U
142	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	100,153	114,211	114,211					U
143	0604761N	Intelligence Engineering	05	2,053	11,029	13,029					U
144	0604771N	Medical Development	05	24,658	9,220	9,221					U
145	0604777N	Navigation/ID System	05	32,339	42,723	42,723					U
146	0604800M	Joint Strike Fighter (JSF) - EMD	05	526,247	531,426	531,426					U
147	0604800N	Joint Strike Fighter (JSF) - EMD	05	488,703	528,716	528,716					U
148	0604810M	Joint Strike Fighter Follow On Modernization (FoM) - Marine Corps	05	20,157	74,227	74,227					U
149	0604810N	Joint Strike Fighter Follow On Modernization (FoM) - Navy	05	20,544	63,387	63,387					U

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133	0604574N	Navy Tactical Computer Resources	05	3,098	3,098		3,098	4,817		4,817	U
134	0604580N	Virginia Payload Module (VPM)	05	97,920	97,920		97,920	72,861		72,861	U
135	0604601N	Mine Development	05	10,490	15,290		15,290	25,635		25,635	U
136	0604610N	Lightweight Torpedo Development	05	20,178	20,178		20,178	28,076		28,076	U
137	0604654N	Joint Service Explosive Ordnance Development	05	7,369	7,369		7,369	7,561		7,561	U
138	0604703N	Personnel, Training, Simulation, and Human Factors	05	4,995	18,995		18,995	40,828		40,828	U
139	0604727N	Joint Standoff Weapon Systems	05	412	412		412	435		435	U
140	0604755N	Ship Self Defense (Detect & Control)	05	134,619	134,619		134,619	161,713		161,713	U
141	0604756N	Ship Self Defense (Engage: Hard Kill)	05	114,475	114,475		114,475	212,412		212,412	U
142	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	114,211	114,211		114,211	103,391		103,391	U
143	0604761N	Intelligence Engineering	05	11,029	13,029		13,029	34,855		34,855	U
144	0604771N	Medical Development	05	9,220	9,221		9,221	9,353		9,353	U
145	0604777N	Navigation/ID System	05	42,723	42,723		42,723	92,546		92,546	U
146	0604800M	Joint Strike Fighter (JSF) - EMD	05	531,426	531,426		531,426	152,934		152,934	U
147	0604800N	Joint Strike Fighter (JSF) - EMD	05	528,716	528,716		528,716	108,931		108,931	U
148	0604810M	Joint Strike Fighter Follow On Modernization (FoM) - Marine Corps	05	74,227	74,227		74,227	144,958		144,958	U
149	0604810N	Joint Strike Fighter Follow On Modernization (FoM) - Navy	05	63,387	63,387		63,387	143,855		143,855	U

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150	0605013M	Information Technology Development	05	3,915	4,856	4,856					U
151	0605013N	Information Technology Development	05	77,895	97,066	97,066					U
152	0605024N	Anti-Tamper Technology Support	05		2,500	2,500					U
153	0605212N	CH-53K RDTE	05	563,174	404,810	404,810					U
154	0605215N	Mission Planning	05		33,570	33,570					U
155	0605217N	Common Avionics	05		51,599	54,599					U
156	0605220N	Ship to Shore Connector (SSC)	05	7,734	11,088	11,088					U
157	0605327N	T-AO 205 Class	05		1,095	1,095					U
158	0605414N	Unmanned Carrier Aviation (UCA)	05		89,000	89,000					U
159	0605450N	Joint Air-to-Ground Missile (JAGM)	05	25,640	17,880	17,880					U
160	0605500N	Multi-mission Maritime Aircraft (MMA)	05	151,472	59,126	59,126					U
161	0605504N	Multi-Mission Maritime (MMA) Increment III	05	89,686	182,220	182,220					U
162	0605611M	Marine Corps Assault Vehicles System Development & Demonstration	05								U
163	0605813M	Joint Light Tactical Vehicle (JLTV) System Development & Demonstration	05								U
164	0204202N	DDG-1000	05	101,724	45,642	45,642					U
165	0303167N	Pre-Auction Spectrum Relocation***	05	131							U
166	0303267N	Auctioned Spectrum Relocation Fund***	05	108,490							U
167	0304231N	Tactical Command System - MIP	05	998	676	676					U

***Funding in this line item was transferred during the year of execution from the Spectrum Relocation Fund (SRF) in support of the Advanced Wireless Services 3 (AWS-3) auction and is associated with the reallocation or sharing of the 1755-1780 MHz and 1695-1710 MHz bands. The SRF is administered by the Office of Management and Budget (OMB), which approves SRF transfers to federal agencies on an annual basis in consultation with the National Telecommunications and Information Administration (NTIA).

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150	0605013M	Information Technology Development	05	4,856	4,856		4,856	14,865		14,865	U
151	0605013N	Information Technology Development	05	97,066	97,066		97,066	152,977		152,977	U
152	0605024N	Anti-Tamper Technology Support	05	2,500	2,500		2,500	3,410		3,410	U
153	0605212N	CH-53K RDTE	05	404,810	404,810		404,810	340,758		340,758	U
154	0605215N	Mission Planning	05	33,570	33,570		33,570	33,430		33,430	U
155	0605217N	Common Avionics	05	51,599	54,599		54,599	58,163		58,163	U
156	0605220N	Ship to Shore Connector (SSC)	05	11,088	11,088		11,088	22,410		22,410	U
157	0605327N	T-AO 205 Class	05	1,095	1,095		1,095	1,961		1,961	U
158	0605414N	Unmanned Carrier Aviation (UCA)	05	89,000	89,000		89,000	222,208		222,208	U
159	0605450N	Joint Air-to-Ground Missile (JAGM)	05	17,880	17,880		17,880	15,473		15,473	U
160	0605500N	Multi-mission Maritime Aircraft (MMA)	05	59,126	59,126		59,126	11,795		11,795	U
161	0605504N	Multi-Mission Maritime (MMA) Increment III	05	182,220	182,220		182,220	181,731		181,731	U
162	0605611M	Marine Corps Assault Vehicles System Development & Demonstration	05					178,993		178,993	U
163	0605813M	Joint Light Tactical Vehicle (JLTV) System Development & Demonstration	05					20,710		20,710	U
164	0204202N	DDG-1000	05	45,642	45,642		45,642	140,500		140,500	U
165	0303167N	Pre-Auction Spectrum Relocation***	05								U
166	0303267N	Auctioned Spectrum Relocation Fund***	05								U
167	0304231N	Tactical Command System - MIP	05	676	676		676				U

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168	0304785N	Tactical Cryptologic Systems	05	17,785	36,747	36,747					U
169	0305124N	Special Applications Program	05	26,505	35,002	35,002					U
170	0306250M	Cyber Operations Technology Development	05		4,942	4,942					U
		System Development & Demonstration		6,236,999	6,025,655	6,112,003					
171	0604256N	Threat Simulator Development	06	30,323	16,633	16,633					U
172	0604258N	Target Systems Development	06	58,730	36,662	36,662					U
173	0604759N	Major T&E Investment	06	66,538	42,109	42,109					U
174	0605126N	Joint Theater Air and Missile Defense Organization	06	6,799	2,998	2,998					U
175	0605152N	Studies and Analysis Support - Navy	06	4,141	3,931	3,931					U
176	0605154N	Center for Naval Analyses	06	45,558	46,634	46,634					U
177	0605285N	Next Generation Fighter	06	5,909	1,200	1,200					U
178	0605502N	Small Business Innovative Research	06	384,569							U
179	0605804N	Technical Information Services	06	1,328	903	903					U
180	0605853N	Management, Technical & International Support	06	77,073	87,077	87,077					U
181	0605856N	Strategic Technical Support	06	3,140	3,597	3,597					U
182	0605861N	RDT&E Science and Technology Management	06	76,872	62,811	63,000					U
183	0605863N	RDT&E Ship and Aircraft Support	06	128,715	106,093	106,093					U
184	0605864N	Test and Evaluation Support	06	351,469	349,146	413,446					U

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168	0304785N	Tactical Cryptologic Systems	05	36,747	36,747		36,747	28,311		28,311	U
169	0305124N	Special Applications Program	05	35,002	35,002		35,002				U
170	0306250M	Cyber Operations Technology Development	05	4,942	4,942		4,942	4,502		4,502	U
		System Development & Demonstration		6,025,655	6,112,003		6,112,003	6,362,102		6,362,102	
171	0604256N	Threat Simulator Development	06	16,633	16,633		16,633	91,819		91,819	U
172	0604258N	Target Systems Development	06	36,662	36,662		36,662	23,053		23,053	U
173	0604759N	Major T&E Investment	06	42,109	42,109		42,109	52,634		52,634	U
174	0605126N	Joint Theater Air and Missile Defense Organization	06	2,998	2,998		2,998	141		141	U
175	0605152N	Studies and Analysis Support - Navy	06	3,931	3,931		3,931	3,917		3,917	U
176	0605154N	Center for Naval Analyses	06	46,634	46,634		46,634	50,432		50,432	U
177	0605285N	Next Generation Fighter	06	1,200	1,200		1,200				U
178	0605502N	Small Business Innovative Research	06								U
179	0605804N	Technical Information Services	06	903	903		903	782		782	U
180	0605853N	Management, Technical & International Support	06	87,077	87,077		87,077	94,562		94,562	U
181	0605856N	Strategic Technical Support	06	3,597	3,597		3,597	4,313		4,313	U
182	0605861N	RDT&E Science and Technology Management	06	62,811	63,000		63,000	1,104		1,104	U
183	0605863N	RDT&E Ship and Aircraft Support	06	106,093	106,093		106,093	105,666		105,666	U
184	0605864N	Test and Evaluation Support	06	349,146	413,446		413,446	373,667		373,667	U

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185	0605865N	Operational Test and Evaluation Capability	06	17,796	18,160	18,199					U
186	0605866N	Navy Space and Electronic Warfare (SEW) Support	06	6,316	9,658	9,658					U
187	0605867N	SEW Surveillance/Reconnaissance Support	06	6,519	6,500	6,500					U
188	0605873M	Marine Corps Program Wide Support	06	14,129	22,247	22,247					U
189	0605898N	Management HQ - R&D	06		16,254	16,312					U
190	0606355N	Warfare Innovation Management	06		21,123	21,123					U
191	0902498N	Management Headquarters (Departmental Support Activities)	06								U
192	0909980N	Judgment Fund Reimbursement	06	398							U
193	0909999N	Financing for Cancelled Account Adjustments	06	171							U
194	1206867N	SEW Surveillance/Reconnaissance Support	06								U
		Management Support		1,286,493	853,736	918,322					
196	0607658N	Cooperative Engagement Capability (CEC)	07		84,501	84,501					U
197	0607700N	Deployable Joint Command and Control	07		2,970	2,970					U
198	0101221N	Strategic Sub & Weapons System Support	07	96,078	136,556	136,556					U
199	0101224N	SSBN Security Technology Program	07	45,166	33,845	33,845					U
200	0101226N	Submarine Acoustic Warfare Development	07	4,658	9,329	9,329					U

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185	0605865N	Operational Test and Evaluation Capability	06	18,160	18,199		18,199	20,298		20,298	U
186	0605866N	Navy Space and Electronic Warfare (SEW) Support	06	9,658	9,658		9,658	17,341		17,341	U
187	0605867N	SEW Surveillance/Reconnaissance Support	06	6,500	6,500		6,500				U
188	0605873M	Marine Corps Program Wide Support	06	22,247	22,247		22,247	21,751		21,751	U
189	0605898N	Management HQ - R&D	06	16,254	16,312		16,312	44,279		44,279	U
190	0606355N	Warfare Innovation Management	06	21,123	21,123		21,123	28,841		28,841	U
191	0902498N	Management Headquarters (Departmental Support Activities)	06					1,749		1,749	U
192	0909980N	Judgment Fund Reimbursement	06								U
193	0909999N	Financing for Cancelled Account Adjustments	06								U
194	1206867N	SEW Surveillance/Reconnaissance Support	06					9,408		9,408	U
		Management Support		853,736	918,322		918,322	945,757		945,757	
196	0607658N	Cooperative Engagement Capability (CEC)	07	84,501	84,501		84,501	92,571		92,571	U
197	0607700N	Deployable Joint Command and Control	07	2,970	2,970		2,970	3,137		3,137	U
198	0101221N	Strategic Sub & Weapons System Support	07	136,556	136,556		136,556	135,219		135,219	U
199	0101224N	SSBN Security Technology Program	07	33,845	33,845		33,845	36,242		36,242	U
200	0101226N	Submarine Acoustic Warfare Development	07	9,329	9,329		9,329	12,053		12,053	U

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201	0101402N	Navy Strategic Communications	07	16,121	17,218	17,218					U
202	0203761N	Rapid Technology Transition (RTT)	07	7,626							U
203	0204136N	F/A-18 Squadrons	07	132,905	189,125	189,125					U
204	0204163N	Fleet Telecommunications (Tactical)	07	39,548	48,225	48,225					U
205	0204228N	Surface Support	07	28,210	21,156	21,156					U
206	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	26,650	71,355	91,355					U
207	0204311N	Integrated Surveillance System	07	76,204	58,542	58,542					U
208	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	11,330	13,929	13,929					U
209	0204460M	Ground/Air Task Oriented Radar (G/ ATOR)	07	61,348	83,538	83,538					U
210	0204571N	Consolidated Training Systems Development	07	32,902	38,593	38,593					U
211	0204574N	Cryptologic Direct Support	07	1,915	1,122	1,122					U
212	0204575N	Electronic Warfare (EW) Readiness Support	07	44,727	99,998	99,998					U
213	0205601N	HARM Improvement	07	28,063	48,635	48,635					U
214	0205604N	Tactical Data Links	07	138,549	124,785	124,785					U
215	0205620N	Surface ASW Combat System Integration	07	23,685	24,583	24,583					U
216	0205632N	MK-48 ADCAP	07	47,496	39,134	39,134					U
217	0205633N	Aviation Improvements	07	103,685	120,861	120,861					U

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201	0101402N	Navy Strategic Communications	07	17,218	17,218		17,218	18,221		18,221	U
202	0203761N	Rapid Technology Transition (RTT)	07								U
203	0204136N	F/A-18 Squadrons	07	189,125	189,125		189,125	224,470		224,470	U
204	0204163N	Fleet Telecommunications (Tactical)	07	48,225	48,225		48,225	33,525		33,525	U
205	0204228N	Surface Support	07	21,156	21,156		21,156	24,829		24,829	U
206	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	71,355	91,355		91,355	133,617		133,617	U
207	0204311N	Integrated Surveillance System	07	58,542	58,542		58,542	38,972	11,600	50,572	U
208	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	13,929	13,929		13,929	3,940		3,940	U
209	0204460M	Ground/Air Task Oriented Radar (G/ATOR)	07	83,538	83,538		83,538	54,645		54,645	U
210	0204571N	Consolidated Training Systems Development	07	38,593	38,593		38,593	66,518		66,518	U
211	0204574N	Cryptologic Direct Support	07	1,122	1,122		1,122	1,155	1,200	2,355	U
212	0204575N	Electronic Warfare (EW) Readiness Support	07	99,998	99,998		99,998	51,040		51,040	U
213	0205601N	HARM Improvement	07	48,635	48,635		48,635	87,989		87,989	U
214	0205604N	Tactical Data Links	07	124,785	124,785		124,785	89,852		89,852	U
215	0205620N	Surface ASW Combat System Integration	07	24,583	24,583		24,583	29,351		29,351	U
216	0205632N	MK-48 ADCAP	07	39,134	39,134		39,134	68,553		68,553	U
217	0205633N	Aviation Improvements	07	120,861	120,861		120,861	119,099		119,099	U

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Total Obligational Authority
(Dollars in Thousands)

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
218	0205675N	Operational Nuclear Power Systems	07	101,323	101,786	101,786					U
219	0206313M	Marine Corps Communications Systems	07	84,017	82,159	118,146					U
220	0206335M	Common Aviation Command and Control System (CAC2S)	07	13,959	11,850	11,850					U
221	0206623M	Marine Corps Ground Combat/ Supporting Arms Systems	07	55,058	47,877	51,835					U
222	0206624M	Marine Corps Combat Services Support	07	23,423	13,194	13,194					U
223	0206625M	USMC Intelligence/Electronic Warfare Systems (MIP)	07	13,373	17,171	24,187					U
224	0206629M	Amphibious Assault Vehicle	07	41,363	38,020	38,020					U
225	0207161N	Tactical AIM Missiles	07	59,053	56,285	56,285					U
226	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	30,240	40,350	40,350					U
227	0219902M	Global Combat Support System - Marine Corps (GCSS-MC)	07		9,128	9,128					U
231	0303109N	Satellite Communications (SPACE)	07	45,946	37,372	37,372					U
232	0303138N	Consolidated Afloat Network Enterprise Services (CANES)	07	21,522	23,541	23,541					U
233	0303140N	Information Systems Security Program	07	29,491	38,510	38,510					U
235	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	599							U
236	0305192N	Military Intelligence Program (MIP) Activities	07	6,207	6,019	6,019					U
237	0305204N	Tactical Unmanned Aerial Vehicles	07	8,550	8,436	8,436					U

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Total Obligational Authority
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Line No	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Sec
218	0205675N	Operational Nuclear Power Systems	07	101,786	101,786		101,786	127,445		127,445	U
219	0206313M	Marine Corps Communications Systems	07	82,159	118,146		118,146	123,825		123,825	U
220	0206335M	Common Aviation Command and Control System (CAC2S)	07	11,850	11,850		11,850	7,343		7,343	U
221	0206623M	Marine Corps Ground Combat/ Supporting Arms Systems	07	47,877	51,835		51,835	66,009		66,009	U
222	0206624M	Marine Corps Combat Services Support	07	13,194	13,194		13,194	25,258		25,258	U
223	0206625M	USMC Intelligence/Electronic Warfare Systems (MIP)	07	17,171	24,187		24,187	30,886		30,886	U
224	0206629M	Amphibious Assault Vehicle	07	38,020	38,020		38,020	58,728		58,728	U
225	0207161N	Tactical AIM Missiles	07	56,285	56,285		56,285	42,884		42,884	U
226	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	40,350	40,350		40,350	25,364		25,364	U
227	0219902M	Global Combat Support System - Marine Corps (GCSS-MC)	07	9,128	9,128		9,128				U
231	0303109N	Satellite Communications (SPACE)	07	37,372	37,372		37,372				U
232	0303138N	Consolidated Afloat Network Enterprise Services (CANES)	07	23,541	23,541		23,541	24,271		24,271	U
233	0303140N	Information Systems Security Program	07	38,510	38,510		38,510	50,269		50,269	U
235	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07								U
236	0305192N	Military Intelligence Program (MIP) Activities	07	6,019	6,019		6,019	6,352		6,352	U
237	0305204N	Tactical Unmanned Aerial Vehicles	07	8,436	8,436		8,436	7,770		7,770	U

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238	0305205N	UAS Integration and Interoperability	07	42,202	36,509	36,509					U
239	0305208M	Distributed Common Ground/Surface Systems	07	1,105	2,100	2,100					U
240	0305208N	Distributed Common Ground/Surface Systems	07	23,149	44,571	44,571					U
241	0305220N	MQ-4C Triton	07	237,118	111,729	111,729					U
242	0305231N	MQ-8 UAV	07	52,770	26,518	26,518					U
243	0305232M	RQ-11 UAV	07	635	418	418					U
244	0305233N	RQ-7 UAV	07	688	716	716					U
245	0305234N	Small (Level 0) Tactical UAS (STUASL0)	07	4,647	5,071	5,071					U
246	0305239M	RQ-21A	07	6,251	9,497	9,497					U
247	0305241N	Multi-Intelligence Sensor Development	07	39,645	77,965	77,965					U
248	0305242M	Unmanned Aerial Systems (UAS) Payloads (MIP)	07	9,246	11,181	11,181					U
249	0305421N	RQ-4 Modernization	07	119,892	181,266	181,266					U
250	0308601N	Modeling and Simulation Support	07	4,585	4,709	4,709					U
251	0702207N	Depot Maintenance (Non-IF)	07	23,401	49,322	49,322					U
252	0708730N	Maritime Technology (MARITECH)	07	4,162	3,204	3,204					U
253	1203109N	Satellite Communications (SPACE)	07								U
9999	9999999999	Classified Programs		1,527,932	1,228,460	1,265,631	36,426	128,626		128,626	U
		Operational Systems Development		3,598,418	3,592,934	3,697,066					

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Line No	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Sec
238	0305205N	UAS Integration and Interoperability	07	36,509	36,509		36,509	39,736		39,736	U
239	0305208M	Distributed Common Ground/Surface Systems	07	2,100	2,100		2,100	12,867		12,867	U
240	0305208N	Distributed Common Ground/Surface Systems	07	44,571	44,571		44,571	46,150		46,150	U
241	0305220N	MQ-4C Triton	07	111,729	111,729		111,729	84,115		84,115	U
242	0305231N	MQ-8 UAV	07	26,518	26,518		26,518	62,656		62,656	U
243	0305232M	RQ-11 UAV	07	418	418		418	2,022		2,022	U
244	0305233N	RQ-7 UAV	07	716	716		716				U
245	0305234N	Small (Level 0) Tactical UAS (STUASL0)	07	5,071	5,071		5,071	4,835		4,835	U
246	0305239M	RQ-21A	07	9,497	9,497		9,497	8,899		8,899	U
247	0305241N	Multi-Intelligence Sensor Development	07	77,965	77,965		77,965	99,020		99,020	U
248	0305242M	Unmanned Aerial Systems (UAS) Payloads (MIP)	07	11,181	11,181		11,181	18,578		18,578	U
249	0305421N	RQ-4 Modernization	07	181,266	181,266		181,266	229,404		229,404	U
250	0308601N	Modeling and Simulation Support	07	4,709	4,709		4,709	5,238		5,238	U
251	0702207N	Depot Maintenance (Non-IF)	07	49,322	49,322		49,322	38,227		38,227	U
252	0708730N	Maritime Technology (MARITECH)	07	3,204	3,204		3,204	4,808		4,808	U
253	1203109N	Satellite Communications (SPACE)	07					37,836		37,836	U
9999	9999999999	Classified Programs		1,264,886	1,394,257		1,394,257	1,364,347	89,855	1,454,202	U
		Operational Systems Development		3,629,360	3,825,692		3,825,692	3,980,140	102,655	4,082,795	

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
254	0901560N	Continuing Resolution Programs	20		800,517	800,517	-42,576	-42,576		-42,576	U
		Undistributed			800,517	800,517	-42,576	-42,576		-42,576	
Total Research, Development, Test & Eval, Navy				18,333,041	18,076,818	18,376,384	35,747	163,447		163,447	

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(Dollars in Thousands)

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

Line No	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Sec
254	0901560N	Continuing Resolution Programs	20	757,941	757,941		757,941				U
		Undistributed		757,941	757,941		757,941				
Total Research, Development, Test & Eval, Navy				18,112,565	18,539,831		18,539,831	17,675,035	130,365	17,805,400	

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Non RDT&E Title
(Dollars in Thousands)

Summary Recap of Budget Activities	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Research and Development	36,289						
Total Research, Development, Test & Evaluation	36,289						

Summary Recap of Non-RDT&E Title FYDP Programs

Mobility Forces	36,289
Total Research, Development, Test & Evaluation	36,289

Department of the Navy
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Non RDT&E Title
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Summary Recap of Budget Activities	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Research and Development					18,622		18,622
Total Research, Development, Test & Evaluation					18,622		18,622

Summary Recap of Non-RDT&E Title FYDP Programs

Mobility Forces					18,622		18,622
Total Research, Development, Test & Evaluation					18,622		18,622

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Non RDT&E Title
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Appropriation: 4557N National Defense Sealift Fund

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
1	0408042N	National Defense Sealift Fund	04	36,289							U
		Research and Development		36,289							
Total National Defense Sealift Fund				36,289							

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Appropriation: 4557N National Defense Sealift Fund

Line No	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Sec
1	0408042N	National Defense Sealift Fund	04					18,622		18,622	U
		Research and Development						18,622		18,622	
Total National Defense Sealift Fund								18,622		18,622	

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P-3 Modernization Program	0604221N	102	05	Volume 3 - 101
Personnel, Trng, Sim, & Human Factors	0604703N	138	05	Volume 3 - 823
Power Proj Applied Research	0602114N	4	02	Volume 1 - 93

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Power Projection Advanced Technology	0603114N	18	03	Volume 1 - 333
RDT&E Science & Tech Mgmt	0605861N	182	06	Volume 4 - 185
RDT&E Ship & Aircraft Support	0605863N	183	06	Volume 4 - 197
RQ-11 UAV	0305232M	243	07	Volume 5 - 905
RQ-7 UAV	0305233N	244	07	Volume 5 - 911
Radiological Control	0603542N	43	04	Volume 2 - 245
Rapid Technology Capability Prototype	0604320M	85	04	Volume 2 - 839
Rapid Technology Transition (RTT)	0203761N	202	07	Volume 5 - 81
SEW Architecture/Eng Support	0604707N	90	04	Volume 2 - 883
SSBN Security Tech Program	0101224N	199	07	Volume 5 - 47
SSN-688 & Trident Modernization	0604503N	125	05	Volume 3 - 573
Satellite Communications (Space)	0303109N	231	07	Volume 5 - 753
Ship Concept Advanced Design	0603563N	47	04	Volume 2 - 323
Ship Contract Design/ Live Fire T&E	0604567N	132	05	Volume 3 - 733
Ship Prel Design & Feasibility Studies	0603564N	48	04	Volume 2 - 351
Ship Self Def (Detect & Cntrl)	0604755N	140	05	Volume 3 - 845
Ship Self Def (Engage: Hard Kill)	0604756N	141	05	Volume 3 - 889
Ship Self Def (Engage: Soft Kill/EW)	0604757N	142	05	Volume 3 - 923
Shipboard Aviation Systems	0604512N	127	05	Volume 3 - 657

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Small Business Innovative Research	0605502N	178	06	Volume 4 - 61
Small Diameter Bomb (SDB)	0604329N	118	05	Volume 3 - 441
Space & Elec War Surv/Recon	0605867N	187	06	Volume 4 - 253
Standard Missile Improvements	0604366N	119	05	Volume 3 - 459
Standards Development	0604215N	99	05	Volume 3 - 59
Strategic Sub & Wpns Sys Supt	0101221N	198	07	Volume 5 - 25
Strategic Technical Support	0605856N	181	06	Volume 4 - 177
Studies & Analysis Supt - Navy	0605152N	175	06	Volume 4 - 39
Submarine Acoustic War Dev	0101226N	200	07	Volume 5 - 49
Submarine Tactical Warfare Sys	0603562N	46	04	Volume 2 - 315
Submarine Tactical Warfare System	0604562N	131	05	Volume 3 - 717
Surface & Shallow Water MCM	0603502N	37	04	Volume 2 - 155
Surface ASW	0603553N	44	04	Volume 2 - 259
Surface ASW Cmbt Sys Integr	0205620N	215	07	Volume 5 - 347
Surface Combatant Cmbt Sys Eng	0604307N	116	05	Volume 3 - 405
Surface Ship Torpedo Defense	0603506N	38	04	Volume 2 - 215
Surface Support	0204228N	205	07	Volume 5 - 145
Tact Air Dir Infrared CM (TADIRCM)	0604272N	81	04	Volume 2 - 811
Tactical Aim Missiles	0207161N	225	07	Volume 5 - 723

Program Element Title	Program Element Number	Line #	BA	Page
Tactical Airborne Reconnaissance	0603261N	35	04	Volume 2 - 93
Tactical Command System	0604231N	104	05	Volume 3 - 119
Tactical Command System - MIP	0304231N	167	05	Volume 3 - 1439
Tactical Cryptologic Systems	0304785N	168	05	Volume 3 - 1443
Tactical Data Links	0205604N	214	07	Volume 5 - 305
Tactical Unmanned Aer Vehicles	0305204N	237	07	Volume 5 - 829
Target Systems Development	0604258N	172	06	Volume 4 - 15
Technical Information Services	0605804N	179	06	Volume 4 - 101
Test & Evaluation Support	0605864N	184	06	Volume 4 - 209
Threat Simulator Development	0604256N	171	06	Volume 4 - 1
Tomahawk Mssn Planning Ctr	0204229N	206	07	Volume 5 - 159
Training System Aircraft	0603208N	96	05	Volume 3 - 1
USMC Intelligence/Electronics Warfare Sys	0206625M	223	07	Volume 5 - 671
Undersea Warfare Advanced Tech	0603747N	26	03	Volume 1 - 461
Undersea Warfare Applied Res	0602747N	12	02	Volume 1 - 243
University Research Initiatives	0601103N	1	01	Volume 1 - 1
V-22A	0604262N	108	05	Volume 3 - 245
Warfare Support System	0604230N	103	05	Volume 3 - 105
Warfighter Protection Adv Tech	0603729N	25	03	Volume 1 - 455

Program Element Title	Program Element Number	Line #	BA	Page
Warfighter Sustainment Applied Res	0602236N	8	02	Volume 1 - 179

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0604256N *I Threat Simulator Development*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	30.323	16.633	91.819	-	91.819	98.492	71.748	32.620	32.533	Continuing	Continuing
0602: *Eletronics W/F Env Simulation (ECHO)*	0.000	20.975	3.462	76.886	-	76.886	83.044	56.403	17.052	16.666	Continuing	Continuing
0672: *Effect Nav E/W (ENEWS)*	0.000	9.348	13.171	14.933	-	14.933	15.448	15.345	15.568	15.867	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 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**
Previous President's Budget	30.769	16.633	28.494	-	28.494
Current President's Budget	30.323	16.633	91.819	-	91.819
Total Adjustments	-0.446	0.000	63.325	-	63.325
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.446	0.000			
• Program Adjustments	0.000	0.000	5.705	-	5.705
• Rate/Misc Adjustments	0.000	0.000	57.620	-	57.620

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604256N *I Threat Simulator Development*

Change Summary Explanation

The funding increase from FY 2017 to FY 2018 supports upgrades to the Naval Air Warfare Center land and sea ranges to close capability gaps identified during the operational test (OT) planning for the Joint Strike Fighter (JSF) by Director, Operational Test and Evaluation (DOT&E). The gaps exist in several categories including threat density, type of threat and representation of specific threat systems and, if not mitigated, will prevent an effective OT for JSF. The requested funding will procure 12 systems, in four categories, that increase the threat density, threat type and specific threat representation and upgrade an additional two systems to provide a higher fidelity representation of several threat types. Additionally, funding supports the initiation of site preparation and integration for radar signal emulators and the requirement to purchase additional materials for the open air radio frequency beam measurement capability.

The funding increase in the ENEWS program from FY17 to FY18 reflects the addition of one hardware simulator to the Effectiveness of Navy Electronic Warfare Systems (ENEWS) hardware simulators to support the Surface Electronic Warfare Improvement Program (SEWIP) Block 3.

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604256N / *Threat Simulator Development*	Project (Number/Name) 0602 / *Eletronics W/F Env Simulation (ECHO)*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0602: *Eletronics W/F Env Simulation (ECHO)*	0.000	20.975	3.462	76.886	-	76.886	83.044	56.403	17.052	16.666	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: ACQUISITION AND MEASUREMENT CAPABILITIES	2.398	0.250	66.062	0.000	66.062
Articles:	-	-	-	-	-
Description: Provide the test community with the modern threat acquisition systems and effectiveness measurement systems necessary for Test and Evaluation of airborne alert, Situation Awareness, targeting systems and airborne response systems.					
Funding decreases from FY16 to FY17 due to the completion of the open-loop threat simulators.					
The funding increase from FY 2017 to FY 2018 supports upgrades to the Naval Air Warfare Center land and sea ranges to close capability gaps identified during the operational test (OT) planning for the Joint Strike Fighter					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604256N / *Threat Simulator Development*	**Project (Number/Name)** 0602 / *Eletronics W/F Env Simulation (ECHO)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
(JSF) by Director, Operational Test and Evaluation (DOT&E). The gaps exist in several categories including threat density, type of threat and representation of specific threat systems and, if not mitigated, will prevent an effective OT for JSF. The requested funding will procure 12 systems, in four categories, that increase the threat density, threat type and specific threat representation and upgrade an additional two systems to provide a higher fidelity representation of several threat types. Additionally, funding supports the initiation of site preparation and integration for radar signal emulators and the requirement to purchase additional materials for the open air radio frequency beam measurement capability. ***FY 2016 Accomplishments:*** - Continue the development of an open air radio frequency beam measurement capability. - Complete the upgrade of open-loop threat simulators at Electronic Combat Range. - Complete the upgrade of open air radio frequency signal density enhancement systems. ***FY 2017 Plans:*** - Continue the development of an open air radio frequency beam measurement capability. ***FY 2018 Base Plans:*** - Continue development of an open air radio frequency beam measurement capability - Initiate upgrades to the Naval Air Warfare Center ranges to support operational testing (OT) of the Joint Strike Fighter (JSF) - Initiate the site preparation and integration of radar signal emulators at the Electronic Combat Range - Initiate the development of a threat signal augmentation capability. - Initiate the procurement of three L-Band radar signal emulators for Naval Air Warfare Center Weapons Division (NAWCWD). - Initiate and complete the upgrade of two S-Band radar signal emulators for NAWCWD. - Initiate the procurement of three passive radar systems for NAWCWD. - Initiate the procurement of three early warning radar systems for NAWCWD. ***FY 2018 OCO Plans:*** N/A					
Title: REQUIREMENTS AND VALIDATION	0.893	0.627	0.775	0.000	0.775
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604256N / *Threat Simulator Development*	**Project (Number/Name)** 0602 / *Eletronics W/F Env Simulation (ECHO)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Description: Validate and track intel updates of the threat systems necessary for the operation and continuous improvement of Navy laboratories and ranges which provide engineering support, testing and analysis to the developers, integrators, testers and users of systems and technologies that counter or penetrate air defenses. ***FY 2016 Accomplishments:*** - 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. ***FY 2017 Plans:*** - 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. ***FY 2018 Base Plans:*** - 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. ***FY 2018 OCO Plans:*** N/A					
Title: ENGAGEMENT CAPABILITIES	17.684	2.585	10.049	0.000	10.049
Articles:	-	-	-	-	-
Description: Provide the test community with the modern threat engagement systems necessary for Test and Evaluation of airborne alert, Situation Awareness, targeting systems and airborne response systems. Funding decreases from FY16 to FY17 because the major purchase of materials for the development of a closed-loop threat surface to air missile system simulator is complete. Funding increases from FY17 to FY18 due to the factory acceptance test, site integration and test of the closed-loop threat surface to air missile system and the purchase of additional parts for the conversion of a threat system. ***FY 2016 Accomplishments:***					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604256N / *Threat Simulator Development*	**Project (Number/Name)** 0602 / *Eletronics W/F Env Simulation (ECHO)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- 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. ***FY 2017 Plans:*** - 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 Electronic Combat Range (ECR). ***FY 2018 Base Plans:*** - 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. - Continue the integration of a threat engagement system at ECR. - Initiate the development of a naval based threat radar closed-loop simulator for installation in laboratories at Naval Air Warfare Center Weapons Division (NAWCWD) and Naval Air Warfare Center Aircraft Division (NAWCAD) and designed for open air range implementation. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	20.975	3.462	76.886	0.000	76.886

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not Applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604256N / *Threat Simulator Development*	**Project (Number/Name)** 0602 / *Eletronics W/F Env Simulation (ECHO)*

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0672: *Effect Nav E/W (ENEWS)*	0.000	9.348	13.171	14.933	-	14.933	15.448	15.345	15.568	15.867	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 Electronic Warfare for Navy ships in simulated real-world engagement situations. The project primarily supports the introduction of modern, effective shipboard and off-board Electronic Warfare systems, and tactics for the Surface Navy. The heavy use of Effectiveness of Navy Electronic Warfare Systems resources by Naval Sea Systems Command, Operational Test and Evaluation (OT&E) Force, Special Operations, and other Electronic Warfare Research, Development, Test and Evaluation (T&E) agencies speaks to the overall importance of this project. The project provides support for Electronic Warfare system design, Engineering Test (ET), Development Test (DT), Operational Test (OT), and the development of utilization tactics. In the past Effectiveness of Navy Electronic Warfare Systems 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 Effectiveness of Navy Electronic Warfare Systems modeling tool that was developed to support Testing and Evaluation. Simulation Display has been adopted by most Department of Defense (DoD) Testing and Evaluation and training ranges to provide visualization of Testing and Evaluation and training scenarios. One of the primary threats to surface ships is Anti-Ship Capable Missile systems. The Effectiveness of Navy Electronic Warfare Systems Project is unique in that it is the only project within the Department of Defense dedicated to developing and providing realistic Anti-Ship Capable Missile assets to test and evaluate the effectiveness of shipboard Electronic Warfare systems and tactics against these type threats. The Effectiveness of Navy Electronic Warfare Systems Project is a critical part of the Office of the Secretary of Defense Test Resource Master Plan. This plan employs many of the Effectiveness of Navy Electronic Warfare Systems assets for planning, analysis, testing, and verification of shipboard and off-board Electronic Warfare systems techniques and tactics. As part of its normal activities, Effectiveness of Navy Electronic Warfare Systems provides Development Test and Evaluation (DT&E), Operational Test and Evaluation (OT&E), and Follow-on Operational Test and Evaluation (FOT&E) support to the surface Navy for all ship classes. Development Test, Operational Test and Follow-on Operational Test and Evaluation 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 InfraRed signature and radar cross section measurement of DDG-51, LPD-17, DD-21 and Patrol Craft class ships, High Power Microwave program, and other ship self-defense initiatives, including Test and Evaluation of Future Naval Capability process. In addition, Effectiveness of Navy Electronic Warfare Systems assets are regularly employed to test the effectiveness of North Atlantic Treaty Organization (NATO) ships' Electronic Warfare systems in joint allied exercises. Effectiveness of Navy Electronic Warfare Systems assets also support Joint Electronic Warfare exercises that are conducted with Rim of the Pacific (RIMPAC) nations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: CLASSIFIED PROGRAM	3.161	8.100	8.200	0.000	8.200
Articles:	-	-	-	-	-
Description: Details about this program are classified.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Details about this program and any changes are classified. ***FY 2016 Accomplishments:*** - 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. ***FY 2017 Plans:*** - Details are of a higher classification. ***FY 2018 Base Plans:*** - Details are of a higher classification. ***FY 2018 OCO Plans:*** N/A					
Title: HARDWARE SIMULATION SYSTEMS ***Articles:*** ***Description:*** Maintain and perform Hardware and Software Upgrades to the inventory of Effectiveness of Navy Electronic Warfare Systems flyable and shore based Anti-Ship Capable Missile (ASCM) Electro-Optic/ Infrared (EO/IR), Visible and Radio Frequency (RF) Simulators. Perform characterization of Infrared and Radio Frequency 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 decrease between FY 2016 and FY 2017 is due to the completion of a simulator capability upgrade. The increase between FY 2017 and FY 2018 is due to the addition of one hardware simulator to the Effectiveness of Navy Electronic Warfare Systems inventory and the requirement for Effectiveness of Navy Electronic Warfare Systems hardware simulators to support the Surface Electronic Warfare Improvement Program (SEWIP) Block 3. These requirements include Operational Assessment (OA) and Factory Qualification	3.336 -	2.201 -	3.564 -	0.000 -	3.564 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Tests (FQT) in FY 2018 and preparing hardware simulators to support Developmental Testing (DT) and First Article Qualification Test (FAQT) scheduled for FY 2019. ***FY 2016 Accomplishments:*** - Initiated hardware and software upgrades for the Anti-ship Cruise Missile (ASCM) signal processor in the loop (ASPIL) - Initiated software upgrades for the MEIR 3, MIKE 3, TOWSIM Electro-Optical (EO) and NU VICTOR 1 SIP simulators - Continued annual maintenance of Effectiveness of Navy Electronic Warfare Systems simulators to support flight/shore based tests. - Continued hardware upgrades to the SUMMIT Simulator. - Continued software upgrades to the VICTOR Standard Instrumentation Pod (SIP). - Continued hardware upgrades to the FOXTROT 3 TOWSIM(IOTA). ***FY 2017 Plans:*** Continue all efforts of FY 2016. - Complete software upgrades for ASPIL - 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. ***FY 2018 Base Plans:*** - Continue all efforts of FY 2017 less those noted as completed above. - Continue to maintain and perform hardware and software upgrades to the inventory of Effectiveness of Navy Electronic Warfare Systems flyable and shore based Anti-Ship Capable Missile (ASCM) Electro-Optic/Infrared (EO/IR), Visible and Radio Frequency (RF) Simulators and simulator control panels. - Complete software upgrade for the FOXTROT 1 Sim 1 simulator					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Initiate hardware upgrades for the EPSILON, FOXTROT 1 (ground based) and FOXTROT 1 SIP simulators - Initiate software upgrades for the FOXTROT 1 (ground based), FOXTROT SIP simulators - Maintain and upgrade 21 hardware simulators, 5 programmable simulators and the Antenna Test Rig to support the SEWIP Block 3 and AOEW effectiveness evaluations. ***FY 2018 OCO Plans:*** N/A					
Title: SIMULATION CHARACTERIZATION, VERIFICATION AND REQUIREMENTS ***Articles:*** ***Description:*** Provides for the documentation of Anti-Ship Capable Missile (ASMC) threat simulators. Develops reports that contain detailed descriptions and parametric data of the Anti-Ship Capable Missile threat simulators and compares the simulator's parametric data to the actual threat's parametric data. Provide technical management functions in support of the Effectiveness of Navy Electronic Warfare Systems project; engineering and technical support requirements for the Anti-Ship Capable Missile 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 Effectiveness of Navy Electronic Warfare Systems oversight activities. Beginning in FY 2015 the simulator validation effort was terminated and no more validation reports will be published. Effectiveness of Navy Electronic Warfare Systems will continue to develop simulator documentation reports that will include a simulator description with a comparison to the threat it represents. Formerly know as "SIMULATION VALIDATION AND REQUIREMENTS" is now titled "SIMULATION CHARACTERIZATION, VERIFICATION AND REQUIREMENTS" effective FY 2017. The increase between FY 2017 and FY 2018 is due to the scheduled characterization of two hardware simulators in FY 2018. ***FY 2016 Accomplishments:*** - Initiated and complete update of the FY 2016 Effectiveness of Navy Electronic Warfare Systems Program Management Plan. - Initiated and complete FY 2016 monthly reports, performance based management and analysis, financial execution reporting and assessment.	0.521 -	0.596 -	0.691 -	0.000 -	0.691 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Initiated and complete all FY 2016 Planning, Programming and Budgeting Systems submissions. - Initiated BETA hardware simulator documentation report. - Initiated and complete the LAMBDA simulator characterization assessment. - Continued LAMBDA simulator hardware validation report. ***FY 2017 Plans:*** - Continue all efforts of FY 2016 less those noted completed above. - Initiate and complete the FY 2017 ENEWS Program Management Plan. - Initiate and complete the FY 2017 monthly reports, performance based management and analysis, financial execution reporting and assessment. - Initiate and complete all FY 2017 Planning, Programming and Budgeting Systems submissions. - Initiate and complete the BETA simulator characterization assessment. - Complete the BETA hardware simulator documentation report. ***FY 2018 Base Plans:*** - Continue all efforts of FY 2017 less those noted as completed above. - Continue to develop reports that compare the parametric data of the Anti-Ship Capable Missile (ASCM) threat simulators to the parametric data of the actual threat and provide technical management functions in support of the Effectiveness of Navy Electronic Warfare Systems project. - Initiate and complete the FY 2018 ENEWS Program Management Plan. - Initiate and complete FY 2018 status reviews, performance based management and analysis, financial execution reporting and assessment. - Initiate and complete all FY 2018 Planning, Programming and Budgeting Systems (PPBS) submissions - Initiate characterization assessment and hardware simulator documentation report for upgraded OMEGA simulator. ***FY 2018 OCO Plans:*** N/A					
Title: SUPPORT AND COMPUTERS SIMULATION SYSTEMS	2.330	2.274	2.478	0.000	2.478
Articles:	-	-	-	-	-
Description: Perform maintenance and intelligence upgrades to Electro-Optic/Infrared, Digital, and Radio Frequency Laboratory Simulation Testing facilities and flight support equipment based on existing and emerging					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
complex threat systems. Development of Testing & Evaluation scenarios and environmental modeling to support electronic support (ES) and electronic attack (EA) testing; modify Anti-ship Cruise Missile (ASCM) threat simulators based on the latest intelligence data obtained from threat databases. ***FY 2016 Accomplishments:*** - Initiated target models to support Surface Electronic Warfare Improvement Program Block 3 and Advanced Offboard Electronic Warfare (AOEW) effectiveness assessments. - Initiated update to the Scenario and Environmental Model used to support open and closed loop simulations. - Continued maintenance and upgrades to shore-based test facilities and mobile test vans as required to conduct testing in support of Surface Electronic Warfare Improvement Program, Nulka and multi-function Electronic Warfare 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 infrared / radio frequency Effectiveness of Navy Electronic Warfare Systems simulators. - Continued upgrades and user friendly enhancements to the Simulation Display (SIMDIS) toolset - Continued development of LIMA III and LIMA IV digital models - Continued digital model upgrades to support Surface Electronic Warfare Improvement Program (SEWIP) Block 3 test and evaluation. - Continued simulator upgrades to support Surface Electronic Warfare Improvement Program (SEWIP) Block 3 test and evaluation. ***FY 2017 Plans:*** - 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. ***FY 2018 Base Plans:*** - Continue all efforts of FY 2017					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Continue to perform maintenance and intelligence upgrades to Electro-Optic/Infrared, Digital, and Radio Frequency Laboratory Simulation testing facilities and flight support equipment and provide electronic support (ES) and electronic attack (EA) test support. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	9.348	13.171	14.933	0.000	14.933

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Performance metrics are discussed within each project (R2a).

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604258N / *Target Systems Development*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	58.730	36.662	23.053	-	23.053	26.504	24.731	23.160	23.186	Continuing	Continuing
0609: *Aerial Target System Dev*	0.000	33.151	11.310	6.345	-	6.345	9.765	7.963	7.261	7.460	Continuing	Continuing
0610: *Wpn Sys T&E Trng Dev/ Proc*	0.000	24.343	24.094	15.415	-	15.415	15.412	15.411	14.509	14.307	Continuing	Continuing
0612: *Surface Targets Development*	0.000	1.236	1.258	1.293	-	1.293	1.327	1.357	1.390	1.419	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element funds the development of Aerial Target Systems, Unmanned Aerial Vehicle targets, Sea Surface Target Systems, Target Control systems, and associated Target Mission Support Systems, Target Threat Simulation Program and Target Augmentation and Auxiliary Systems required to simulate 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 while ensuring the Navy continues to develop threat simulations of emerging threat 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	71.152	36.662	1.296	-	1.296
Current President's Budget	58.730	36.662	23.053	-	23.053
Total Adjustments	-12.422	0.000	21.757	-	21.757
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-11.015	0.000			
• SBIR/STTR Transfer	-1.407	0.000			
• Program Adjustments	0.000	0.000	21.900	-	21.900
• Rate/Misc Adjustments	0.000	0.000	-0.143	-	-0.143

Change Summary Explanation

The FY 2018 funding request was reduced by $2.000 million to account for the availability of prior year execution balances.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604258N / *Target Systems Development*

In FY 2018, Aerial Target System Development was increased by $8.400M to fund the Supersonic and Subsonic Target platforms, Target Threat Simulation Program and Target Mission Support Systems program. This increase restores the non-MSST related RDT&E funding for those other programs.

FY 2018 was increased by another $15.500M to fund the QF-16 program.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / *Target Systems Development*	Project (Number/Name) 0609 / *Aerial Target System Dev*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0609: *Aerial Target System Dev*	0.000	33.151	11.310	6.345	-	6.345	9.765	7.963	7.261	7.460	Continuing	Continuing
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, threat aircraft or threat Unmanned Aerial Vehicles. 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 and auxiliary payloads 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) program. Supersonic targets represent supersonic anti-ship cruise missile threats. The design and development of GQM-163A 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. Critical live-fire Test and Evaluation events are supported for AEGIS, DDG-1000, LHA-6, CVN-78, LCS, and LSD-41/49 (SM-6, SM-2, RAM, SSDS, and ESSM). GQM-163A is a non-recoverable supersonic sea skimming aerial target, capable of speeds in excess of Mach 2.5 and cruise altitudes from 13.0 to 66 ft. The GQM-163A has also demonstrated a capability to perform a higher altitude diving threat profile. Funding was also provided for closing out the GQM-173A (MSST) program. MSST was a supersonic development effort that was terminated on September 25, 2015. Remaining funds are planned to cover settlement costs.

- Subsonic Targets: BQM-177A Subsonic Aerial Target (SSAT) development primarily represents subsonic anti-ship cruise missile threats, replacing legacy BQM-74E 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 SSAT provides critical live-fire test and evaluation events for AEGIS, SM-6, SM-2, RAM, and ESSM.

- Target Threat Simulation Program (TTSP), Target Mission Support Systems(TMSS), and Target Control and Target Augmentation and Auxiliary Systems (TC/TA/AS) development: The TTSP provides the payload equipment required to electronically enhance aerial 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 TMSS including but not limited to: scalar scorers, scoring ground station, telemetry antennas, radar and locator beacons, identification, friend or foe, and associated test sets. 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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604258N / *Target Systems Development*	**Project (Number/Name)** 0609 / *Aerial Target System Dev*

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 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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Supersonic Targets	6.111	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-

Description: 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 keep pace with emerging threat requirements such as development of updated flight profiles and vehicle signatures. Funds also support development of required improvements in the current infrastructure of the launch capability to accommodate the increased number of simultaneously launched targets from two to four.

Funding will also support final termination settlement of the GQM-173 MSST development effort.

FY 2016 Accomplishments:
Commenced 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. Continued 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. Commenced Radome and Radar Altimeter design and development efforts, Orbital Front End System space allocation studies for SSST, and other Engineering Change Proposals (ECPs) and improvements as required to replicate emerging threats.

FY 2017 Plans:
N/A

FY 2018 Base Plans:
N/A

FY 2018 OCO Plans:

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604258N / *Target Systems Development*	**Project (Number/Name)** 0609 / *Aerial Target System Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Title: Subsonic Targets	16.904	5.571	0.613	0.000	0.613
Articles:	-	-	-	-	-

Description: The BQM-177A Subsonic Aerial Target (SSAT) represents subsonic anti-ship cruise missile threats in direct support of the Test & Evaluation of major combat weapons systems programs and fleet training. The BQM-177A SSAT provides dynamic, high-subsonic, sea-skimming, anti-ship cruise missile threat emulation for testing of USN ship defensive weapon systems and other surface-to-air systems and will replace current BQM-74E subsonic targets with increased capabilities featuring increased speed, longer range, lower cruise altitudes and greater maneuverability.

FY 2016 Accomplishments:
Completed contractor led testing for qualification of BQM-177A SSAT system and continued Rocket Assisted Take Off (RATO)/Jet Assisted Take Off (JATO) qualification test and evaluation efforts. Continued to conduct design reviews and completed flight tests to validate integrity of target and address deficiencies when discovered including radome redesign efforts and component qualification testing. Provided government program management, engineering, test, training and logistics support and contract support services towards accomplishment of engineering, manufacturing and developmental efforts.

FY 2017 Plans:
Completed Milestone C/procurement decision and award the Low Rate Initial Production (LRIP) 1 contract to support an Initial Operational Capability (IOC) decision planned for FY 2018. Continue Navy led flight testing. Continue to review final design documents and perform required target characteristic testing to support key performance parameters and attributes. Provide government program management, engineering, training, test and logistics support and contract support services towards the completion of the engineering, manufacturing, and developmental efforts including but not limited to engineering and system verification reviews, initial shipboard suitability testing, radome redesign, RATO/JATO qualification efforts, and component qualification testing.

FY 2018 Base Plans:
Complete Navy led flight testing. Provide government program management, engineering, test and logistics support and contract support services towards IOC and FRP decisions. Support additional RATO/JATO qualification efforts as required for safety of operations. Continue engineering, and manufacturing, training, logistics and test efforts of the BQM-177A SSAT for transition to LRIP2 and FRP. Continue training and logistics

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604258N / *Target Systems Development*	**Project (Number/Name)** 0609 / *Aerial Target System Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
requirements towards Full Operational Capability including shipboard qualification and operations. Continue initial shipboard suitability testing and qualification efforts. Complete system validation and verification efforts and conduct production verification flight tests. Conduct Physical Configuration Audit for baseline configuration and support initial efforts for incorporating Engineering Change Proposals in the baseline design configuration. ***FY 2018 OCO Plans:*** N/A					
Title: Target Threat Simulation Program (TTSP), Target Mission Support Systems (TMSS), Target Control (TC) and Target Augmentation and Auxiliary Systems (TA/AS) ***Articles:*** ***Description:*** Continue to support the development of Target Control (TC) systems and TA/AS capable of supporting Test and Evaluation (T&E) and fleet training activities to ensure emerging threat simulation requirements are met. Target Control Systems (TCS) involves the improved command and control systems capable of controlling multiple targets simultaneously while delivering adequate fidelity of T&E telemetry data. The TMSS program provides target control, scoring, location, and navigation of air, land and seaborne targets for fleet training and weapons systems test and evaluation. Continue to support design, development and qualification of TMSS including but not limited to the current and next generation TC systems, 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 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 2016 Accomplishments:*** Continued development, prototype, and integration of threat electronic attack & active emitter simulators to ensure the fleet met emerging threat simulation requirements. Gathered and exploited threat intelligence. 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	10.136 -	5.739 -	5.732 -	0.000 -	5.732 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604258N / *Target Systems Development*	**Project (Number/Name)** 0609 / *Aerial Target System Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
operation of anti-ship cruise missile defense systems. Support the development and qualification of Target Mission Support Systems (TMSS) including but not limited to frequency upgrades, DSQ-50A Scalar Scorer, TCS Ground Control Station SW, & the GSQ-106C. ***FY 2017 Plans:*** Continue development, prototype, and integration of threat electronic attack & active emitter simulators to ensure the fleet meets emerging threat simulation equirements. Gather and exploit threat intelligence. Continue to support design, development and qualification of various TMSS including but not limited to TCS Radio Frequency Subsystem, the legacy frequency upgrade, DSQ-50A Scalar Scorer, AN/DPN-90 Radar Beacon, & the GSQ-106C. ***FY 2018 Base Plans:*** Continue development, prototype and integration of threat electronic attack & active emitter simulators to ensure the fleet meets emerging threat requirements. Gather and exploit threat intelligence. Continue to support the design, development and qualification of various TMSS equipment, such as the TCS Radio Frequency Subsystem (SNTC BLK 3). Begin development of the SNTC BLK 3a Ground Control Station with associated hardware and software upgrades. Continue development of the replacement DSQ-50A Scalar Scorer and its associated Ground Telemetry Station, as well as the replacement AN/DPN-90 Radar Beacon. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	33.151	11.310	6.345	0.000	6.345

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• WPN 2280: *Aerial Targets*	40.462	137.484	124.757	-	124.757	128.404	131.952	212.543	162.769	Continuing	Continuing

Remarks

D. Acquisition Strategy

Supersonics: The GQM-163A Supersonic Sea-Skimming Target (SSST) is an Acquisition Category II program. Development strategy includes the continued development of the Quad Launch capability. The SSST program will also commence the development and design efforts for a new Radome and Radar Altimeter and other Engineering Change Proposals as required to emulate emerging threat systems. These development efforts will continue to be rolled into the production baseline. Production efforts are expected to continue at higher quantities in order to meet projected MDAP T&E requirements.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604258N / *Target Systems Development*	**Project (Number/Name)** 0609 / *Aerial Target System Dev*

Congress was notified on September 25, 2015 that the Department of the Navy made the decision to terminate the Multi-Stage Supersonic Target (MSST) development program. Termination settlement efforts are ongoing with DCMA.

Subsonics: The BQM-177A Subsonic Aerial Target program is an Acquisition Category IVM program. It is currently undergoing developmental testing with Critical Design Review, Test Readiness Review / Flight Readiness Review completed in FY16 and Milestone C completed in 1st Quarter FY17. A Low Rate Initial Production (LRIP) 1 option contract is scheduled to be awarded in 3rd Quarter FY17. IOC is scheduled for 4th Quarter FY18. After exercising a second prenegotiated option for LRIP 2 in FY18, the program will transition to Full Rate Production in FY19.

Target Threat Simulation Program (TTSP), Target Mission Support Systems (TMSS), Target Control, and Target Augmentation and Auxiliary Systems: TTSP will continue to award contracts to support the development of electronic attack & threat radar simulations, ensuring the fleet requirement for simulations of emerging threats is met. Additional contracts will be awarded to support the development and design of TMSS upgrades, including but not limited to the current and next generation Target Control Systems, Scalar Scorers, Scoring Ground Station, Telemetry Antennas, Radar and Locator Beacons, Identification Friend or Foe and associated test sets.

E. Performance Metrics

EFFORT	PERFORMANCE REQUIREMENT	OBJECTIVE	THRESHOLD	TEST RESULT
BQM-177 EMD	Maximum Speed at Low Altitude [Mach(M) at feet (ft) above wave crest at WMO Sea State conditions]	0.95 M @ 6.6 ft @ Sea State 5	0.90 M @ 10.0 ft @ Sea State 3	TBD

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / *Target Systems Development*	Project (Number/Name) 0610 / *Wpn Sys T&E Trng Dev/Proc*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0610: *Wpn Sys T&E Trng Dev/ Proc*	0.000	24.343	24.094	15.415	-	15.415	15.412	15.411	14.509	14.307	Continuing	Continuing
Quantity of RDT&E Articles	2	5	5	3	-	3	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: QF-16 Full-Scale Aerial Target (FSAT)	24.343	24.094	15.415	0.000	15.415
Articles:	5	5	3	-	3
Description: The QF-16 FSAT is being developed as a 4th generation, full scale, threat representative target providing a replacement for the FSAT/QF-4 and are maintained and operated by the Air Force. The QF-16 FSAT 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 envelopes. The QF-16 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.					
FY 2016 Accomplishments: Procure five (5) QF-16 FSAT test assets; Conducted regeneration of engines and airframes and drone conversion of QF-16 FSAT aircraft retrieved from Davis Monthan AFB storage.					
FY 2017 Plans: Procure five (5) QF-16 FSAT test assets; Conducted regeneration of engines and airframes and drone conversion of QF-16 FSAT aircraft retrieved from Davis Monthan AFB storage. Investigate ability to conduct QF-16 operations at the Navy's west coast Sea Test Range.					
FY 2018 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604258N / *Target Systems Development*	**Project (Number/Name)** 0610 / *Wpn Sys T&E Trng Dev/Proc*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Procure three (3) QF-16 FSAT test assets; Conducted regeneration of engines and airframes and drone conversion of QF-16 FSAT aircraft retrieved from Davis Monthan AFB storage. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	24.343	24.094	15.415	0.000	15.415

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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, which is led by the USAF. Milestone C was achieved in 1st Quarter FY14. IOC was achieved in 4th Quarter FY16 & FOC is planned for 4th Quarter FY17. RDT&E funding was provided to procure the QF-16s because they are used/expended to satisfy RDT&E requirements.

E. Performance Metrics

EFFORT	PERFORMANCE REQUIREMENT	OBJECTIVE	THRESHOLD	TEST RESULT
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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0604258N / *Target Systems Development*	Project (Number/Name) 0612 / *Surface Targets Development*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0612: *Surface Targets Development*	0.000	1.236	1.258	1.293	-	1.293	1.327	1.357	1.390	1.419	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Surface Targets Development	1.236	1.258	1.293	0.000	1.293
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

Developed predictive models for response of Low Cost Modular Target (LCMT) and Polyethylene Tow Target (PETT) behind weaving tow vessels. Developed stability-in-sea-state analysis tool to customize configurations of LCMT. Conducted test and evaluation of basic swarm formation algorithms with High Speed Maneuverable Surface Target (HSMST). Developed advanced target swarm formation controls with real-time group reassignments. Developed enhanced precision for real-time scoring banner on seaborne targets. Developed real-time display of weapon system lethality utilizing human target system (Humannequin). Developed improved target navigation control tools for Portable Command and Control Unit (PCCU). Researched and developed "float away" camera mount to preserve video data even when a seaborne target sinks.

FY 2017 Plans:

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 radar cross section and infrared signatures. Develop graphical user interface (GUI) for target formation control during swarm training and test and evaluation exercises. Integrate and test surface 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 tow targets at higher speeds. Develop advanced radar and infrared signature enhancement

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604258N / *Target Systems Development*	**Project (Number/Name)** 0612 / *Surface Targets Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
for powered targets. Research performance and capabilities of a Polyethylene Tow Target propelled with electric power. ***FY 2018 Base Plans:*** Develop improved post-exercise analysis and playback capabilities. Develop configurations of Low Cost Modular Target (LCMT) to support testing of Long Range Anti-Ship Missile (LRASM) and Joint Standoff Weapon (JSOW). Develop improvements to target formation control. Develop chaff countermeasure launch controller for seaborne targets. Develop high fidelity control with feedback for target emitters and cameras. Develop advanced radar and infrared signature enhancement for powered seaborne targets. Develop ballast augmentation system for Ship Deployable Seaborne Target (SDST). Develop improved seaborne target steering systems. Monitor developments in Command and Control and support developments for System for Naval Target Control (SNTC) applicable to seaborne targets. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.236	1.258	1.293	0.000	1.293

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• OPN/5429: *ASW SE*	14.593	22.319	10.571	-	10.571	10.809	11.032	11.263	11.490	0.000	92.077

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604759N *I Major T&E Investment*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	66.538	42.109	52.634	-	52.634	52.694	45.232	50.696	44.838	Continuing	Continuing
2195: *T & E Investment*	0.000	66.538	42.109	52.634	-	52.634	52.694	45.232	50.696	44.838	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project corrects major deficiencies, improves Test & Evaluation (T&E) capabilities, and increases T&E support effectiveness at Navy Major Range and Test Facility Base. The T&E Investment project provides improved test capabilities at the following test facilities: the Naval Undersea Warfare Center Division Newport Atlantic Undersea Test and Evaluation Center, Andros Island, Bahamas; the Nanoose and Dabob ranges of the Naval Undersea Warfare Center Division Keyport, Keyport, WA; the Sea Range, Land 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. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	61.234	42.109	42.969	-	42.969
Current President's Budget	66.538	42.109	52.634	-	52.634
Total Adjustments	5.304	0.000	9.665	-	9.665
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	5.987	0.000			
• SBIR/STTR Transfer	-0.683	0.000			
• Program Adjustments	0.000	0.000	9.668	-	9.668
• Rate/Misc Adjustments	0.000	0.000	-0.003	-	-0.003

Change Summary Explanation

The funding increase from FY 2017 to FY 2018 supports material procurements for the replacement of in-water sensors at AUTEC, additional equipment purchases for the Range Support aircraft, and the purchase of Radio Frequency (RF) signal generation and distribution equipment.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0604759N *I Major T&E Investment*

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2195: *T & E Investment*	0.000	66.538	42.109	52.634	-	52.634	52.694	45.232	50.696	44.838	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: UNDERSEA RANGE INVESTMENTS	6.546	6.255	8.624	0.000	8.624
Articles:	-	-	-	-	-
Description: This effort funds the modernization, upgrades, and new test and evaluation capabilities required at the Navy's Major Range Test Facility Base undersea ranges, to include AUTEC, Andros Island, Bahamas and the Nanoose and Dabob ranges of the Naval Undersea Warfare Center Division Keyport, Keyport, WA. Funding increases from FY17 to FY18 due to material procurements for the replacement of in-water sensors at AUTEC.					
FY 2016 Accomplishments: - 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.					
FY 2017 Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604759N / *Major T&E Investment*	**Project (Number/Name)** 2195 / *T & E Investment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- 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 Atlantic Undersea Test and Evaluation Center (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. ***FY 2018 Base Plans:*** - Continue the minor upgrade and modernization of test capabilities at AUTEC, Nanoose and Dabob. - Continue replacement of in-water sensors at AUTEC. - Continue replace of range tracking radar at AUTEC. - Continue range radar obsolescence project at Nanoose and Dabob. - Continue tracking system modernization at Nanoose and Dabob. - Continue recovery system improvement at Nanoose and Dabob. - Continue operating system upgrade at Nanoose and Dabob. - Complete range craft service life extension at Nanoose and Dabob. - Complete launch system modernization at Nanoose and Dabob. ***FY 2018 OCO Plans:*** N/A					
Title: OPEN AIR RANGE INVESTMENTS	58.592	33.141	38.610	0.000	38.610
Articles:	-	-	-	-	-
Description: This effort funds the modernization and upgrades of existing capabilities and the development of new T&E capabilities required at the Navy's Major Range Test Facility Base open air ranges at the Naval Air Warfare Center Aircraft Division (NAWCAD), Patuxent River, MD, Naval Air Warfare Center Weapons Division (NAWCWD), Point Mugu, CA and China Lake, CA and Pacific Missile Range Facility (PMRF), Kauai, HI. Funding decreases from FY16 to FY17 due to FY16 BTR funding for fiber connection from Wallops Island to NAWCAD, and the completion of the quad launcher, telemetry antenna servo upgrades at NAWCWD and the completion of the telemetry system at PMRF.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604759N / *Major T&E Investment*	**Project (Number/Name)** 2195 / *T & E Investment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Funding increases from FY17 to FY18 due to additional equipment purchases for the Range Support Aircraft.					
FY 2016 Accomplishments: - 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 procurement of new aircraft position tracking system. - Continue the modernization of the imaging radar at PMRF. - Complete Sea Range telemetry antenna servo upgrades. - Continue target vessel modernization at NAWCWD. - Continue procurement of Range Support Aircraft. - Complete the upgrade to the airborne separation video system at NAWCAD. - Complete the modernization of the Kineto Tracking Mounts at NAWCAD. - Complete the modernization of the telemetry system at PMRF. - Complete the purchase of secure network system for the aircraft prototyping facility. - Complete the modernization of the moving target scoring system at NAWCWD. - Complete video microwave link replacement at NAWCWD. - Initiate and complete the installation and instrumentation of a quad launcher at NAWCWD. - Initiate the upgrade of the telemetry processing system at NAWCAD. - Initiate the purchase and installation of communication, IT and video equipment in P-155 at NAWCAD. - Initiate the modernization of the Land Range telemetry receivers at NAWCWD. - Initiate a study for the replacement of the FOCUS cable at NAWCWD. - Initiate the completion of the fiber connection from Wallops Island to NAWCAD.					
FY 2017 Plans: - Continue the minor upgrade and modernization of test capabilities at NAWCAD, NAWCWD and PMRF. - Continue procurement of new aircraft position tracking system. - Complete the modernization of the imaging radar at PMRF. - Continue target vessel modernization at NAWCWD. - Continue procurement of Range Support Aircraft. - Complete the upgrade of the telemetry processing system at NAWCAD. - Complete the purchase and installation of communication, IT and video equipment in P-155 at NAWCAD. - Complete the modernization of the Land Range telemetry receivers at NAWCWD. - Complete a study for the replacement of the FOCUS cable at NAWCWD.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604759N / *Major T&E Investment*	**Project (Number/Name)** 2195 / *T & E Investment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Initiate the modernization of the InfraRed measurement capability at NAWCAD. - Initiate the modernization of the video tracking mounts at PMRF. - Initiate the modernization of the telemetry antenna controllers and data processors at Pacific Missile Range Facility (PMRF). - Initiate the modernization of the Land Range timing and instrumentation control system at Naval Air Warfare Center Weapons Division (NAWCWD). - Initiate the modernization of the Land Range and Sea Range voice switch at NAWCWD. ***FY 2018 Base Plans:*** - Continue the minor upgrade and modernization of test capabilities at Naval Air Warfare Center Aircraft Division (NAWCAD), NAWCWD and PMRF. - Continue procurement of Range Support Aircraft (RSA). - Continue the modernization of the telemetry antenna controllers and data processors at PMRF. - Continue the modernization of the imaging radar at PMRF. - Complete procurement of new aircraft position tracking system. - Complete target vessel modernization at NAWCWD. - Complete the upgrade of the telemetry processing system at NAWCAD. - Complete the modernization of the InfraRed measurement capability at NAWCAD. - Complete the modernization of the video tracking mounts at PMRF. - Complete the modernization of the Land Range timing and instrumentation control system at NAWCWD. - Complete the modernization of the Land Range and Sea Range voice switch at NAWCWD. - Initiate the acquisition of tactical data link capability at NAWCAD. - Initiate the upgrade of the avionic data processing and display system at NAWCAD. - Initiate modernization of the imaging radar mechanical assemblies at PMRF. - Initiate the acquisition of new Infrared and Ultraviolet measurement capability at NAWCAD. - Initiate the development of Environmental Impact Statements at NAWCAD and NAWCWD. - Initiate the replacement of the FOCUS cable at NAWCWD. - Initiate the development and integration of Telemetry and optics equipment on the RSA. - Initiate the site preparation and integration of radars and emitters at NAWCWD. ***FY 2018 OCO Plans:*** N/A					
Title: TEST FACILITIES INVESTMENTS	1.400	2.713	5.400	0.000	5.400
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604759N / *Major T&E Investment*	**Project (Number/Name)** 2195 / *T & E Investment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Description: This effort funds the modernization and upgrades of existing capabilities and the development of new Test & 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. Funding increases from FY16 to FY17 due to equipment purchases for the Helicopter Propulsion Data Acquisition system. Funding increases from FY17 to FY18 due the purchase of Radio Frequency (RF) signal generation and distribution equipment. ***FY 2016 Accomplishments:*** - Continue the minor upgrade and modernization of test capabilities at NAWCAD and NAWCWD. - Continue the upgrade to general instrumentation and equipment. - Continue the modernization of the helicopter propulsion data acquisition system. ***FY 2017 Plans:*** - Continue the minor upgrade and modernization of test capabilities at NAWCAD and NAWCWD. - Continue the upgrade to general instrumentation and equipment. - Continue the modernization of the helicopter propulsion data acquisition system. ***FY 2018 Base Plans:*** - Continue the minor upgrade and modernization of test capabilities at NAWCAD and NAWCWD. - Continue the upgrade to general instrumentation and equipment. - Continue the modernization of the helicopter propulsion data acquisition system. - Initiate the procurement of time precision RF signal generation and distribution equipment. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	66.538	42.109	52.634	0.000	52.634

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0604759N / *Major T&E Investment*	**Project (Number/Name)** 2195 / *T & E Investment*

D. Acquisition Strategy

Not Applicable.

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605126N *I (U)Joint Theater Air and Missile Defense Org*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	6.799	2.998	0.141	-	0.141	0.048	0.000	0.000	0.000	0.000	9.986
3307: *Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)*	0.000	6.799	2.998	0.141	-	0.141	0.048	0.000	0.000	0.000	0.000	9.986

A. Mission Description and Budget Item Justification

Maritime Integrated Air and Missile Defense (IAMD) Planning System (MIPS) is an automated air and missile defense planning tool that supports the Joint Force Maritime Component Commander at the Operational Level of War (OLW) 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, incorporating the Naval Positioning Assessment Tool (NPAT) to assist in aviation asset placement, bottom contours will be added to refine the areas of ship positioning during the planning process, and adding the Cooperative Engagement Capability (CEC) stationing planning capability.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	6.995	2.998	0.140	-	0.140
Current President's Budget	6.799	2.998	0.141	-	0.141
Total Adjustments	-0.196	0.000	0.001	-	0.001
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.196	0.000			
• Rate/Misc Adjustments	0.000	0.000	0.001	-	0.001

Change Summary Explanation

FY 2016 funding request was reduced by $0.196M for Fund and Rate adjustments.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605126N / *(U)Joint Theater Air and Missile Defense Org*	Project (Number/Name) 3307 / *Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3307: *Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)*	0.000	6.799	2.998	0.141	-	0.141	0.048	0.000	0.000	0.000	0.000	9.986
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Maritime Integrated Air and Missile Defense (IAMD) Planning System (MIPS) is an automated air and missile defense planning tool that supports the Joint Force Maritime Component Commander at the Operational Level of War (OLW) 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, incorporating the Naval Positioning Assessment Tool (NPAT) to assist in aviation asset placement, bottom contours will be added to refine the areas of ship positioning during the planning process, and adding the Cooperative Engagement Capability (CEC) stationing planning capability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Systems Engineering	6.799	2.998	0.141	0.000	0.141
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Funding increased from FY2015 supported the development of the MIPS competitive contract and commenced development of Phase 2, Increment I update to MIPS includes development of Cooperative Engagement Capability (CEC) stationing, Bottom Contours, and NIFC-CA planning capability by performing the following: - Received required Government Furnished Information (GFI) to update the MIPS modeling to consider bottom contours, incorporate CEC capability in planning and NIFC-CA requirements. - Allocated the requirements for Bottom Contours, CEC Stationing, and NIFC-CA to the MIPS system elements and determined the areas impacted and requiring development.					
FY 2017 Plans: - Conduct Preliminary Design Review (PDR) to ensure the development and risks were properly managed. - Initiate and complete the development of technical detailed design. - Conduct Critical Design Review (CDR) to ensure the development and risks are properly managed.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605126N / *(U)Joint Theater Air and Missile Defense Org*	**Project (Number/Name)** 3307 / *Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Conduct Test Readiness Review (TRR) to ensure the development and risks are properly managed. - Test and Evaluation Master Plan (TEMP) Approval. ***FY 2018 Base Plans:*** - Conduct acceptance testing, Development Test (DT) and perform testing planning for Initial Operational Test & Evaluation (IOT&E) in FY2018. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	6.799	2.998	0.141	0.000	0.141

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

ACAT III designation granted February 2011.
The MIPS Capabilities Development Document (CDD) signed and approved 4QTRFY2016.

Contracts:
MIPS RDT&E FY15-FY17

E. Performance Metrics

FY16:
- Continued development of first increment NIFC-CA planning capability, Bottom Contours, and CEC stationing model updates.
- Continued to conduct DT and Operational Test (OT) resulting in actual fielded the Cued engagement, Long Range Surveillance and Tracking (LRS&T) planning capability.
- Continued Technical Information Meetings (TIMs) as needed to explore and resolve emergent design and requirement issues.

FY17:
- Complete system development and prepare for IOT&E occurring in FY2018.

FY18:
- Perform independent government testing including IOT&E.

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605152N / *Studies & Analysis Supt - Navy*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	4.141	3.931	3.917	-	3.917	4.037	4.046	4.097	4.177	Continuing	Continuing
2092: *Naval Warfare Studies*	0.000	0.729	0.683	0.776	-	0.776	0.795	0.816	0.832	0.848	Continuing	Continuing
2097: *Manpower Personnel & Training*	0.000	0.311	0.555	0.472	-	0.472	0.568	0.549	0.518	0.528	Continuing	Continuing
3310: *Naval Aviation Developmental Planning*	0.000	3.101	2.693	2.669	-	2.669	2.674	2.681	2.747	2.801	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

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

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	4.011	3.931	4.033	-	4.033
Current President's Budget	4.141	3.931	3.917	-	3.917
Total Adjustments	0.130	0.000	-0.116	-	-0.116
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.190	0.000			
• SBIR/STTR Transfer	-0.059	0.000			
• Program Adjustments	0.000	0.000	-0.110	-	-0.110
• Rate/Misc Adjustments	-0.001	0.000	-0.006	-	-0.006

Change Summary Explanation

Technical: Not applicable.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605152N / *Studies & Analysis Supt - Navy*

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2092: *Naval Warfare Studies*	0.000	0.729	0.683	0.776	-	0.776	0.795	0.816	0.832	0.848	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Resource Allocation Model (RAM)	0.729	0.683	0.776	0.000	0.776
Articles:	-	-	-	-	-
FY 2016 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 2017 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.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Develop techniques that optimize the usage of the Warfare Capability Baseline Kill Chain data and enable capability trade-offs based on sound algorithmic or mathematical analysis. ***FY 2018 Base Plans:*** Continue establishing the Resource Allocation Model (RAM) to provide an analytic portfolio management methodology to aid Navy leadership with investment decision support. Provide an assessment process that fosters informed, understandable, repeatable investment decisions with consistent, pedigreed, and retrievable information. Assess programs of record and their proposed modifications on their capability to contribute to future warfighting requirements. Develop techniques that optimize the usage of the Warfare Capability Baseline Kill Chain data and enable capability trade-offs based on sound algorithmic or mathematical analysis. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.729	0.683	0.776	0.000	0.776

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2097: *Manpower Personnel & Training*	0.000	0.311	0.555	0.472	-	0.472	0.568	0.549	0.518	0.528	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Manpower Personnel & Training	0.311	0.555	0.472	0.000	0.472
Articles:	4	5	5	-	5
Description: The FY18 funding request was reduced by -$0.106 million to account for the availability of prior year balances.					
FY 2016 Accomplishments: - Assessed Econometric Modeling System and updating elasticities. - Assessed Special and Incentive Pay policies. - Assessed and evaluated retention, accession and training trade-offs. - Assessed economic factors and relationships to MPTE business lines ISO forecasting and responses.					
FY 2017 Plans: - 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.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605152N / *Studies & Analysis Supt - Navy*	**Project (Number/Name)** 2097 / *Manpower Personnel & Training*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Resume assessing factors, thresholds and mitigation strategies to avoid a Hollow Force. ***FY 2018 Base Plans:*** - Continue assessing Special and Incentive Pay policies. - Continue assessing Econometric Modeling System and updating elasticity - Continue assessing and evaluating retention, accession and training trade-offs. - Continue assessing economic factors and relationships to MPTE business lines ISO forecasting and responses. - Continue assessing factors, thresholds and mitigation strategies to avoid a Hollow Force. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.311	0.555	0.472	0.000	0.472

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3310: *Naval Aviation Developmental Planning*	0.000	3.101	2.693	2.669	-	2.669	2.674	2.681	2.747	2.801	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Naval Aviation Developmental Planning	3.101	2.693	2.669	0.000	2.669
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

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 air warfare portfolio. Update decision support toolset to facilitate internal air warfare 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. 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 2017 Plans:

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 air warfare portfolio. Update decision support toolset to facilitate internal air warfare 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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
analyses of alternatives on fighter, adversary, and rotary-wing aircraft to reduce total cost of all studies. 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 2018 Base Plans:*** 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 air warfare portfolio. Update decision support toolset to facilitate internal air warfare 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 studies. 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 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	3.101	2.693	2.669	0.000	2.669

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605154N *I Center For Naval Analyses*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	45.558	46.634	50.432	-	50.432	51.799	52.853	53.873	54.898	Continuing	Continuing
0031: *MCOAG*	0.000	5.489	5.989	6.212	-	6.212	6.359	6.489	6.629	6.760	Continuing	Continuing
0148: *Center For Naval Analyses (CNA)*	0.000	40.069	40.645	44.220	-	44.220	45.440	46.364	47.244	48.138	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	47.071	46.634	49.937	-	49.937
Current President's Budget	45.558	46.634	50.432	-	50.432
Total Adjustments	-1.513	0.000	0.495	-	0.495
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.182	0.000			
• SBIR/STTR Transfer	-1.694	0.000			
• Rate/Misc Adjustments	-0.001	0.000	0.495	-	0.495

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.

The increase in FY 2018 reflects increased investment in the areas of offensive and defensive cyber operation; increasing efforts supporting Electromagnetic Maneuver Warfare; and increased support and analysis on behalf of the Navy and Marine Corps special operations communities.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605154N *I Center For Naval Analyses*

Technical: N/A

Schedule: N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0031: *MCOAG*	0.000	5.489	5.989	6.212	-	6.212	6.359	6.489	6.629	6.760	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: MARINE CORPS OPERATIONS AND ANALYSIS GROUP	5.489	5.989	6.212	0.000	6.212
Articles:	-	-	-	-	-
FY 2016 Accomplishments: - 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 for 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605154N / *Center For Naval Analyses*	**Project (Number/Name)** 0031 / *MCOAG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 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. - Continued high priority study and analysis projects approved in FY15 Marine Corps Studies System Master Plan (MCSSMP). - Continued research analysis, and survey support efforts associated with development and implantation of the Marine Forces Integration Plan (MCFIP) Women in Infantry. - Initiated high priority study and analysis projects approved in FY16 Marine Corps Studies System Master Plan (MCSSMP). ***FY 2017 Plans:*** - Continue all efforts of FY16 - Initiate high priority study and analysis projects approved in FY17 Marine Corps Studies System Master Plan (MCSSMP). ***FY 2018 Base Plans:*** - Continue all efforts of FY17 - Initiate high priority study and analysis projects approved in FY18 Marine Corps Studies System Master Plan (MCSSMP). ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	5.489	5.989	6.212	0.000	6.212

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This project supports the Marine Corps portion of the Department of Navy, CNA Center for Naval Analysis Research Program, and is managed as an element of the Marine Corps Studies System. This program provides the Marine Corps with independent and objective research and analysis of specific issues/topics appropriately performed by a Federally Funded Research and Development Center (FFRDC). Marine Corps Division analysts work at CNA headquarters and, through CNA's Field

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605154N / *Center For Naval Analyses*	**Project (Number/Name)** 0031 / *MCOAG*

representative Program, serve at commands worldwide, including: Marine Forces Command, Marine Forces Pacific, Marine Special Operations Command, the three Marine Expeditionary Forces, Marine Aviation Weapons and Tactics Squadron One (MAWTS-1), and in Iraq, providing on-site analysis to deployed Marine forces there. CNA also assigns analysts to support the Deputy Commandants and their staffs as well as other Marine Corps organizations such as the Marine Corps Warfighting Lab, Marine Corps Systems Command, and the Commander, Marine Forces Reserve.

The program areas are linked to the Marine Corps Advocacy (prepotency), which are: (1) Logistics and Infrastructure; (2) Manpower and Training; (3) Research, Development and Acquisition; (4) Operations and Plans; (5) Programs and Resources; (6) Aviation; (7) Combat Development and Integration; and (8) Intelligence, Surveillance and Reconnaissance. Scientific Analyst support provides six scientific analysts for the following six focus areas: Deputy Commandant (DC), Plans, Policies and Operations; DC Aviation; DC Installation and Logistics; DC Programs and Resources; DC Manpower Reserve Affairs; and Director, Manpower Plans (MP) - Manpower and Reserve Affairs (M&RA).

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

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

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0148: *Center For Naval Analyses (CNA)*	0.000	40.069	40.645	44.220	-	44.220	45.440	46.364	47.244	48.138	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: CENTER FOR NAVAL ANALYSES, NAVY	40.069	40.645	44.220	0.000	44.220
Articles:	-	-	-	-	-
Description: Funding in this project supports integrated research for the Department of Navy (DoN) and other DoD components across a broad range of issues including the development and evaluation of tactics, operations testing of new systems, assessment of current capabilities, logistics and readiness, work-force management, space and space-related activities, cyber operations, cost and operational program analysis, assessment of advanced technology, force planning, and strategies implications of political-military developments. The funding increase in FY 2018 reflects increased investment in the areas of offensive and defensive cyber operation; increasing efforts supporting Electromagnetic Maneuver Warfare; and increased support and analysis on behalf of the Navy and Marine Corps special operations communities.					
FY 2016 Accomplishments: CNA conducted over 400 individual analytic efforts in FY 2016. 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 (OT&E)					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
activities including OPTEVFOR and DOT&E, SYSCOMs, Office of the Secretary of Defense, Defense agencies and the Defense Intelligence Community. Examples of recently completed or ongoing efforts that parallel the general topics mentioned in the preceding section include: - Offensive and defensive cyber operations - Electro-magnetic warfare - Support to the Navy and Marine Corps special operations communities - Great power dynamics with a special emphasis on China and Russia - Increased field representative support in the Warfighting Development Commands - Adversary analytics to better understand implications of Iran, North Korea, Russia, and other state actor's actions on USN strategy and operations - Navy future force architecture, related capabilities, and implications for CONOPs and acquisition strategy - China's military reorganization and its impact on USN as well partner nations in the Pacific and other AORs future - Recruiting and retaining the force of the future - Understanding and addressing new and every-changing threats from non-state actors - Improving the interoperability of Navy systems and greater use of the systems-of-systems concept - Implementing and assessing the effectiveness of new distributed lethality concepts - Applications and potential of big data to better understand and address complex operational and logistical challenges facing the USN - Cyber considerations into Operational Test & Evaluation (OT&E) of new Navy systems and better understanding how to best man the cyber force of the future - Recruiting and re-training the force of the future - Understanding and addressing new and every-changing threats from non-state actors - Improving and interoperability of Navy systems and greater use of the systems-of-systems concept - Implementing and assessing the effectiveness of new distributed lethality concepts - New applications for unmanned systems					
FY 2017 Plans: - Continue all efforts of FY 2016 in support of the following CNO 2017 priorities: - Maintaining maritime superiority for the future - Applying maritime power today					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Navy strategy and policy - Strategic Workforce planning and management - Operating the Navy more efficiently and effectively - Balancing current and future readiness - Understanding great power dynamics ***FY 2018 Base Plans:*** - Continue topic based efforts of FY 2017. - Increase work in offensive and defensive cyber operations - Increase work in Electromagnetic Maneuver Warfare (EMW) - Increase support to the Navy and Marine Corps special operations communities - Increase work based on the 7 CNO approved FY 2017 priorities and FY 2018 revisions based on Navy emerging priorities and requirements ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	40.069	40.645	44.220	0.000	44.220

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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)*

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).

D) Navy-CNA Integration Board. DON 3-stars and CNA leadership meet quarterly to review the annual research program, discuss priorities and related implications for current and future work, and address issues impacting CNA's ability to execute its mission as an FFRDC. CNA research highlights are also briefed and discussed. The board meetings are chaired by the Director, Navy Staff.

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605285N *I (U)Next Generation Fighter*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	5.909	1.200	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.109
2937: *Next Generation Fighter*	0.000	5.909	1.200	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.109

A. Mission Description and Budget Item Justification

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

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

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	5.000	1.200	0.000	-	0.000
Current President's Budget	5.909	1.200	0.000	-	0.000
Total Adjustments	0.909	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.981	0.000			
• SBIR/STTR Transfer	-0.072	0.000			
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2937: *Next Generation Fighter*	0.000	5.909	1.200	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.109
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Next Generation Air Dominance Analysis	5.909	1.200	0.000	0.000	0.000
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

Conduct an Analysis of Alternatives (AoA) to establish cost and capability tradespaces described by the capability requirements described in the Next Generation Air Dominance (NGAD) 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 Plans:

Continue an AoA to establish cost and capability tradespaces described by the capability requirements described in the 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 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.

FY 2018 Base Plans:

N/A

FY 2018 OCO Plans:

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Accomplishments/Planned Programs Subtotals	5.909	1.200	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605502N *I Small Business Innovative Research*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	384.569	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	384.569
1812: *NAVAIR SBIR Program*	0.000	112.595	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	112.595
1813: *SPAWAR SBIR Program*	0.000	9.415	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.415
1814: *NAVSEA SBIR Program*	0.000	76.031	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	76.031
1824: *USMC SBIR Program*	0.000	12.262	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.262
1862: *SSPO SBIR Program*	0.000	4.982	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.982
1863: *NAVSUP SBIR Program*	0.000	1.800	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.800
1864: *ONR SBIR Program*	0.000	77.477	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	77.477
1865: *SBIR ADMIN - ONR*	0.000	4.641	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.641
2016: *NAVFAC SBIR Program*	0.000	2.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.000
2204: *Small Business Tech Transfer Program*	0.000	30.307	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	30.307
2240: *SBIR ADMIN - USMC*	0.000	0.637	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.637
2241: *SBIR ADMIN - SPAWAR*	0.000	0.505	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.505
2242: *SBIR ADMIN - NAVSEA*	0.000	5.154	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.154
2243: *SBIR ADMIN - NAVAIR*	0.000	5.462	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.462
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	0.259	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.259
2813: *NSMA SBIR Program*	0.000	10.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.000
2814: *SBIR ADMIN - NSMA*	0.000	0.560	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.560
3201: *SBIR CRP - NAVAIR*	0.000	1.173	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.173
3202: *SBIR CRP - SPAWAR*	0.000	0.098	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.098
3203: *SBIR CRP - NAVSEA*	0.000	0.789	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.789
3204: *SBIR CRP - USMC*	0.000	0.128	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.128
3205: *SBIR CRP - ONR*	0.000	1.005	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.005

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy													Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605502N *I Small Business Innovative Research*								
3213: *NAVAIR STTR Program*	0.000	17.598	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	17.598
3344: *SBIR Trial Admin Program*	0.000	9.581	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.581

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 Research and Development (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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	384.569	0.000	0.000	-	0.000
Total Adjustments	384.569	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.034	0.000			
• SBIR/STTR Transfer	384.601	0.000			
• Rate/Misc Adjustments	0.002	0.000	0.000	-	0.000

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1812: *NAVAIR SBIR Program*	0.000	112.595	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	112.595
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 Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NAVAIR SBIR PROGRAM	112.595	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

Phase 1 and Phase II's awarded based on Broad Agency Announcements (BAAs) 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 Commercialization:
In Phase III the ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts are 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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 and our Naval warfighters. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	112.595	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1813: *SPAWAR SBIR Program*	0.000	9.415	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.415
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 Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SPAWAR SBIR Program	9.415	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Phase 1 and Phase II's awarded based on Broad Agency Announcements (BAAs) 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 Commercialization: In Phase III the ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts are 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 1813 / *SPAWAR SBIR Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 and our Naval warfighters. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	9.415	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1814: *NAVSEA SBIR Program*	0.000	76.031	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	76.031
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 Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NAVSEA SBIR PROGRAM	76.031	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

Phase 1 and Phase II's awarded based on Broad Agency Announcements (BAAs) 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 Commercialization:
In Phase III the ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts are 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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 1814 / *NAVSEA SBIR Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 and our Naval warfighters. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	76.031	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 1824 / *USMC SBIR Program*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1824: *USMC SBIR Program*	0.000	12.262	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.262
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 Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: USMC SBIR Program	12.262	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Phase 1 and Phase II's awarded based on Broad Agency Announcements (BAAs) 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 Commercialization: In Phase III the ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts are 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 1824 / *USMC SBIR Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 and our Naval warfighters. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	12.262	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1862: *SSPO SBIR Program*	0.000	4.982	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.982
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 Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SSPO SBIR Program	4.982	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

Phase 1 and Phase II's awarded based on Broad Agency Announcements (BAAs) 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 Commercialization:
In Phase III the ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts are 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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 1862 / *SSPO SBIR Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 and our Naval warfighters. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.982	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1863: *NAVSUP SBIR Program*	0.000	1.800	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.800
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 Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NAVSUP SBIR Program	1.800	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

Phase 1 and Phase II's awarded based on Broad Agency Announcements (BAAs) 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 Commercialization:
In Phase III the ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts are 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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 1863 / *NAVSUP SBIR Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 and our Naval warfighters. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.800	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 1864 / *ONR SBIR Program*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1864: *ONR SBIR Program*	0.000	77.477	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	77.477
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 Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: ONR SBIR Program	77.477	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Phase 1 and Phase II's awarded based on Broad Agency Announcements (BAAs) 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 Commercialization: In Phase III the ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts are 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 1864 / *ONR SBIR Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 and our Naval warfighters. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	77.477	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 1865 / *SBIR ADMIN - ONR*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1865: *SBIR ADMIN - ONR*	0.000	4.641	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.641
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SBIR Administration	4.641	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	4.641	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2016: *NAVFAC SBIR Program*	0.000	2.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NAVFAC SBIR Program	2.000	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

Phase 1 and Phase II's awarded based on Broad Agency Announcements (BAAs) 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 Commercialization:
In Phase III the ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts are 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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 2016 / *NAVFAC SBIR Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 and our Naval warfighters. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.000	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2204: *Small Business Tech Transfer Program*	0.000	30.307	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	30.307
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Technology Transfer (STTR) program requires each Federal agency that has an extramural budget for Research and Development (R&D) in excess of $1,000,000,000 to set aside 0.45% for STTR in FY 2016. This funds cooperative R&D between small businesses and research institutions. The program goals are to create vehicles from moving ideas from research institutions to market; enable researchers to pursue commercial application of technologies; and bridge funding gap between basic research and commercial product.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Small Business Tech Transfer Program	30.307	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns. Phase II Technology Development: 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. Phase III Commercialization: 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 STTR program. Although no government STTR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's STTR effort into products, tools or services that benefit the Navy acquisition community.					
FY 2017 Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	30.307	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 2240 / *SBIR ADMIN - USMC*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2240: *SBIR ADMIN - USMC*	0.000	0.637	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.637
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: USMC SBIR Administration	0.637	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.637	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 2241 / *SBIR ADMIN - SPAWAR*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2241: *SBIR ADMIN - SPAWAR*	0.000	0.505	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.505
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SPAWAR SBIR Administration	0.505	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.505	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2242: *SBIR ADMIN - NAVSEA*	0.000	5.154	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.154
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NAVSEA SBIR Administration	5.154	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	5.154	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2243: *SBIR ADMIN - NAVAIR*	0.000	5.462	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.462
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NAVAIR SBIR Administration	5.462	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	5.462	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	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	0.000	0.050
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NAVFAC SBIR Administration	0.050	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.050	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	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	0.000	0.060
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NAVSUP SBIR Administration	0.060	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR..					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.060	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 2248 / *SBIR ADMIN - SSPO*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2248: *SBIR ADMIN - SSPO*	0.000	0.259	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.259
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SSPO SBIR Administration	0.259	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.259	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 2813 / *NSMA SBIR Program*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2813: *NSMA SBIR Program*	0.000	10.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) program requires each Federal agency that has an extramural budget for Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NSMA SBIR PROGRAM	10.000	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Phase 1 and Phase II's awarded based on Broad Agency Announcements (BAAs) 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 Commercialization: In Phase III the ultimate goal of the SBIR program is to grow small businesses and meet war-fighter requirements. Phase III contracts are 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 2813 / *NSMA SBIR Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 and our Naval warfighters. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	10.000	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 2814 / *SBIR ADMIN - NSMA*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2814: *SBIR ADMIN - NSMA*	0.000	0.560	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.560
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SBIR ADMIN - NSMA	0.560	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Small Business Innovative Research (SBIR) Administration. Manage the program, technical efforts and award contracts related to SBIR.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.560	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 3201 / *SBIR CRP - NAVAIR*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3201: *SBIR CRP - NAVAIR*	0.000	1.173	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.173
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public law No. 109-163 allowed up to 1% of the SBIR to be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The pilot program transitioned to the Commercialization Readiness Program (CRP). CRP is part of the SBIR and STTR Reauthorization Act of 2012 (P. L. 112-81, Section 5001).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Commercialization Readiness Program (CRP) - NAVAIR	1.173	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Manage the Commercialization Readiness Program (CRP).					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.173	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 3202 / *SBIR CRP - SPAWAR*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3202: *SBIR CRP - SPAWAR*	0.000	0.098	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.098
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public law No. 109-163 allowed up to 1% of the SBIR to be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The pilot program transitioned to the Commercialization Readiness Program (CRP). CRP is part of the SBIR and STTR Reauthorization Act of 2012 (P. L. 112-81, Section 5001).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SBIR Commercialization Readiness Program (CRP) SPAWAR	0.098	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Managed the Commercialization Readiness Program (CRP).					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.098	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 3203 / *SBIR CRP - NAVSEA*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3203: *SBIR CRP - NAVSEA*	0.000	0.789	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.789
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public law No. 109-163 allowed up to 1% of the SBIR to be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The pilot program transitioned to the Commercialization Readiness Program (CRP). CRP is part of the SBIR and STTR Reauthorization Act of 2012 (P. L. 112-81, Section 5001).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SBIR Commercialization Readiness Program (CRP) NAVSEA	0.789	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Manage the Commercialization Readiness Program (CRP).					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.789	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 3204 / *SBIR CRP - USMC*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3204: *SBIR CRP - USMC*	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		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public law No. 109-163 allowed up to 1% of the SBIR to be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The pilot program transitioned to the Commercialization Readiness Program (CRP). CRP is part of the SBIR and STTR Reauthorization Act of 2012 (P. L. 112-81, Section 5001).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SBIR Commercialization Readiness Program (CRP) MARINE CORPS	0.128	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Manage the Commercialization Readiness Program (CRP).					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.128	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 3205 / *SBIR CRP - ONR*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3205: *SBIR CRP - ONR*	0.000	1.005	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.005
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Section 252 of the 2006 NDAA Public law No. 109-163 allowed up to 1% of the SBIR to be used to fund the administrative costs of the Commercialization Pilot Program (CPP). The pilot program transitioned to the Commercialization Readiness Program (CRP). CRP is part of the SBIR and STTR Reauthorization Act of 2012 (P. L. 112-81, Section 5001).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SBIR Commercialization Readiness Program (CRP) ONR	1.005	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Manage the Commercialization Readiness Program (CRP).					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.005	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3213: *NAVAIR STTR Program*	0.000	17.598	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	17.598
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Technology Transfer (STTR) program requires each Federal agency that has an extramural budget for Research and Development (R&D) in excess of $1,000,000,000 to set aside 0.45% for STTR in FY 2016. This funds cooperative R&D between small businesses and research institutions. The program goals are to create vehicles from moving ideas from research institutions to market; enable researchers to pursue commercial application of technologies; and bridge funding gap between basic research and commercial product.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NAVAIR STTR Program	17.598	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Phase I Feasibility: Phase I awards determined the scientific and technical merit and feasibility of the proposed effort and quality of performance by the small business concerns. Phase II Technology Development: 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. Phase III Commercialization: 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 STTR program. Although no government STTR funds are involved, phase III funding can come from the government and/or private sector. The target is to transition a company's STTR effort into products, tools or services that benefit the Navy acquisition community.					
FY 2017 Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 3213 / *NAVAIR STTR Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	17.598	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605502N / *Small Business Innovative Research*	Project (Number/Name) 3344 / *SBIR Trial Admin Program*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3344: *SBIR Trial Admin Program*	0.000	9.581	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.581
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 Research and Development (R&D) in excess of $100,000,000 to set aside 3% for SBIR in FY 2016. This funds R&D at small businesses. The program goals are to stimulate technological innovation; increase small business participation in federally funded R&D; foster participation by minority and disadvantaged firms in technological innovation; and increase private sector commercialization of federal R&D.

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SBIR Trial Admin Program	9.581	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: -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).					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	9.581	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605502N / *Small Business Innovative Research*	**Project (Number/Name)** 3344 / *SBIR Trial Admin Program*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

None

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605804N / *Technical Information Services*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	1.328	0.903	0.782	-	0.782	1.074	1.063	1.012	1.022	Continuing	Continuing
0835: *Tech Info System*	0.000	0.902	0.903	0.782	-	0.782	1.074	1.063	1.012	1.022	Continuing	Continuing
2296: *Federal Lab Consortium*	0.000	0.426	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.426

A. Mission Description and Budget Item Justification

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

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.925	0.903	0.955	-	0.955
Current President's Budget	1.328	0.903	0.782	-	0.782
Total Adjustments	0.403	0.000	-0.173	-	-0.173
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	0.403	0.000			
• Program Adjustments	0.000	0.000	-0.006	-	-0.006
• Rate/Misc Adjustments	0.000	0.000	-0.167	-	-0.167

Change Summary Explanation

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0835: *Tech Info System*	0.000	0.902	0.903	0.782	-	0.782	1.074	1.063	1.012	1.022	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: TECHNICAL INFORMATION SERVICES	0.902	0.903	0.782	0.000	0.782
Articles:	-	-	-	-	-

Description: Technical Information Services supports the spin-in and spin-out of research and development performed by Navy laboratories and industry. This program develops the tools and provides management oversight of the DON Domestic Technology Transfer (T2) Program. The Navy plans on initiating two new pilot programs per year with the objective of increasing the visibility and transfer of the Navy developed technologies.

FY 2016 Accomplishments:
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 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.

FY 2017 Plans:
Continue all efforts of FY 2016.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605804N / *Technical Information Services*	**Project (Number/Name)** 0835 / *Tech Info System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Initiate the following effort: - Two new pilot programs per year to support Technology Transfer (T2) efforts at Navy Office of Research and Technology Application (ORTA) activities across laboratories. ***FY 2018 Base Plans:*** Continue all efforts of FY 2017 as appropriate. Revise and update Technology Transfer mechanisms (e.g., CRADAs. PIAs, and EPAs templates, NDTTIS database, online training) and Policy Guidance. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.902	0.903	0.782	0.000	0.782

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605804N / *Technical Information Services*	Project (Number/Name) 2296 / *Federal Lab Consortium*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2296: *Federal Lab Consortium*	0.000	0.426	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.426
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Federal Lab Consortium	0.426	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: 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.					
FY 2016 Accomplishments: Funding disseminated judiciously in accordance with the Federal Technology Transfer Act of 1986 (P.L. 99-502, 20 October 1986, as amended).					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.426	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605804N / *Technical Information Services*	**Project (Number/Name)** 2296 / *Federal Lab Consortium*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605853N *I Management, Technical & Intl Supt*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	77.073	87.077	94.562	-	94.562	97.597	98.567	99.272	100.670	Continuing	Continuing
0149: *International Coop RDT&E*	0.000	2.784	3.557	3.000	-	3.000	3.806	3.781	3.652	3.725	Continuing	Continuing
1767: *Naval War Col Strategic Studies Supt*	0.000	4.367	4.139	4.434	-	4.434	4.575	4.675	4.769	4.860	Continuing	Continuing
2098: *Navy Postgraduate School (NPS) Studies Support*	0.000	8.602	13.261	13.122	-	13.122	11.894	11.840	12.218	12.332	Continuing	Continuing
2221.: *JT Mission Assessment Studies*	0.000	16.641	20.863	24.889	-	24.889	28.682	28.434	27.702	28.006	Continuing	Continuing
2801: *Anti-Tamper*	0.000	1.374	1.389	1.385	-	1.385	1.389	1.414	1.444	1.474	Continuing	Continuing
3024: *Financial Auditability and Audit Readiness (FIAR)*	0.000	0.000	0.142	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.142
3027: *Defense Critical Infrastructure Program*	0.000	5.590	4.808	6.431	-	6.431	6.963	6.980	7.131	7.274	Continuing	Continuing
3039: *CHENG*	0.000	6.031	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.031
3312: *MTMD-Maritime Theater Missile Defense Forum*	0.000	0.000	8.570	7.776	-	7.776	7.944	8.156	8.434	8.599	Continuing	Continuing
3330: *Naval Research Laboratory (NRL) Facilities Modernization*	0.000	13.798	15.424	18.279	-	18.279	17.361	17.986	18.322	18.493	Continuing	Continuing
3363: *PACOM Initiative*	0.000	13.207	14.924	15.246	-	15.246	14.983	15.301	15.600	15.907	Continuing	Continuing
9999: *Congressional Adds*	0.000	4.679	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.679

A. Mission Description and Budget Item Justification

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

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605853N *I Management, Technical & Intl Supt*

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

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.

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

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

MTMD - Maritime Theater Missile Defense Forum:

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:

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605853N *I Management, Technical & Intl Supt*

(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. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	83.024	87.077	97.266	-	97.266
Current President's Budget	77.073	87.077	94.562	-	94.562
Total Adjustments	-5.951	0.000	-2.704	-	-2.704
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.250	0.000			
• SBIR/STTR Transfer	-1.702	0.000			
• Program Adjustments	0.000	0.000	-4.375	-	-4.375
• Rate/Misc Adjustments	0.001	0.000	1.671	-	1.671

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2016	FY 2017
Project: 9999: *Congressional Adds*		
Congressional Add: *Printed Circuit Board Executive Agent*	4.679	0.000
Congressional Add Subtotals for Project: 9999	4.679	0.000
Congressional Add Totals for all Projects	4.679	0.000

Change Summary Explanation

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.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605853N *I Management, Technical & Intl Supt*

The FY 2018 funding request was reduced by -$3.8 million to account for the availability of prior year execution balances.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0149: *International Coop RDT&E*	0.000	2.784	3.557	3.000	-	3.000	3.806	3.781	3.652	3.725	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: International Coop RDT&E	2.784	3.557	3.000	0.000	3.000
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
FY 2016 Accomplishments: -Continue to support Maritime Theater Missile Defense (MTMD) Forum. 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). -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 Expenditionary 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 Expenditionary 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). -Exeuction of Commnication and Information Warfare Working Group (CIWWG). -Execution of Amphibious Operations Working Group (AOWG) -Execution of Unmanned Warrior 2016 Demonstration. * FY 2016 Below Threshold Reprogramming (BTR) action approved to increase funding $200K to support the Unmanned Warrior 2016 Demonstration with the United Kingdom.					
FY 2017 Plans: -Continue all efforts of FY16 -Continue to support Maritime Theater Missile Defense (MTMD) Forum. The multi-lateral forum (9 Maritime Partner countries and the US Navy) entered into four international agreements (Battle Management Command,					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 Expenditionary 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 Expenditionary 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). -Exeuction of Commnication and Information Warfare Working Group (CIWWG). -Execution of Amphibious Operations Working Group (AOWG) -Execution of Unmanned Warrior 2016 Demonstration.					
FY 2018 Base Plans: -Continue all efforts of FY16/FY17 -Continue to support Maritime Theater Missile Defense (MTMD) Forum. 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.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-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 Expenditionary 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 Expenditionary 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). -Exeuction of Commnication and Information Warfare Working Group (CIWWG). -Execution of Amphibious Operations Working Group (AOWG) ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.784	3.557	3.000	0.000	3.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

The Navy International Cooperative RDT&E project supports the implementation of many international cooperative program activities throughout the Department of the Navy (DoN) RDT&E communities. The project funds DoN participation in NATO and OSD lead Armaments Cooperation as well as DoN lead international cooperation

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

that promotes coalition interoperability and set standards with international partners. The focused activities under this project maximize the DoN's efforts by leveraging international technologies and funding to fill capabilities gaps, gain access to foreign research and testing data, and avoid duplication of research and development efforts. The performance goals and metrics are, in cooperation with Maritime Partner nations, to set and harmonize requirements, utilize respective technologies, encourage financial contributions and facilities use, and support forums and work that reduce DoN funding requirements.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1767: *Naval War Col Strategic Studies Supt*	0.000	4.367	4.139	4.434	-	4.434	4.575	4.675	4.769	4.860	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Strategic Studies	1.340	1.344	0.512	0.000	0.512
Articles:	-	-	-	-	-
Description: Naval War College (NWC) conducts research in strategic studies in response to tasking from the Secretary of the Navy (SECNAV), Chief of Naval Operation (CNO), Fleet Commanders, numbered Fleet Commanders, and Combatant Commanders. NWC also hosts the activities of the CNO's Strategic Studies Group (SSG). The CNO SSG is a select group of senior naval officers handpicked by the CNO, who report to him in the development of revolutionary warfighting and operational concepts, such as Sea Strike and FORCEnet.					
FY 2016 Accomplishments: - Conduct research and analysis projects and provide supporting events for OPNAV, the numbered Fleets, Navy Component Commanders, and the Combatant Commanders. - Continue to support the OPNAV Staff on operational and strategic level of war tasked research projects. - CNO SSG tasking from the CNO to SSG XXXV to generate revolutionary operating and warfighting concepts for future Navy and maritime operations. Following up on CNO and OPNAV actions resulting from SSG XXXIV Final Report. - Conduct research into the Chinese Maritime capabilities and affairs in order to enhance understanding of global developments and provide studies and advice for the CNO and the fleet. - Conduct research in support of the refresh to the Navy's Strategy "Cooperative Strategy for the 21st Century".					
FY 2017 Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Conduct research and analysis projects and provide supporting events for OPNAV, the numbered Fleets, Navy Component Commanders, and the Combatant Commanders. - Continue to support the OPNAV Staff on tasked research projects. - 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. - 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. ***FY 2018 Base Plans:*** - Conduct research and analysis projects and provide d supporting events for OPNAV, the numbered Fleets, Navy Component Commanders, and the Combatant Commanders. - Continued to support the OPNAV Staff on tasked research projects. - 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. ***FY 2018 OCO Plans:*** N/A					
Title: Naval War Gaming Support ***Articles:*** ***Description:*** Naval War College (NWC) conducts strategic and operational war gaming and research for Office of the Chief of Naval Operations (OPNAV), the numbered Fleets, Fleet Commanders, and the Combatant Commanders. Each year, 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. ***FY 2016 Accomplishments:*** - Continue to conduct 45-50 major war games and related events in support of OPNAV, the numbered Fleets, and the Combatant Commands. - Continue to support CNO and OPNAV with Navy Title X war games, research, and analysis. Continue to provide war gaming expertise to other services' Title 10 war games.	2.400 -	2.411 -	3.350 -	0.000 -	3.350 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Continue to provide research, analysis, and war gaming support to senior Navy leadership in areas as directed, such as MDA, Irregular Warfare, cyber, and C4ISR - Continue to foster and sustain cooperative relationships with international partners through the use of war gaming, research, and analysis. - Continue to conduct 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 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).					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Continue to foster and sustain cooperative relationships with international partners through the use of war gaming, research, and analysis. - Continue to conduct analytic research on maritime security cooperation planning for forward based fleets. - Continue to lead the effort to conduct analytical research in operational concepts of Cyber Warfare. - Continue to support Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection and counter piracy. - Continue to support Fleet Commanders with high quality Course of Action Analysis and war games of operational plans. - Continue to conduct advanced research and analysis for OPNAV on determining measures of effectiveness for implementation of Cooperative Strategy for 21st Century Seapower. - Continue war gaming, research and analytical support for Navy core capabilities, such as deterrence, maritime security, and sea control. - 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 2018 Base Plans: - Conduct 60-65 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 foster and sustain cooperative relationships with international partners through the use of war gaming, research, and analysis. - Continue to conduct analytic research on maritime security cooperation planning for forward based fleets. - Continue to lead the effort to conduct analytical research in operational concepts of Cyber Warfare. - Continue to support Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection and counter piracy.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Continue to support Fleet Commanders and advance concepts in war fighting areas of interest, such as critical infrastructure protection. - Continue to support Fleet Commanders with high quality Course of Action Analysis and war games of operational plans. - Continue to conduct advanced research and analysis for OPNAV on determining measures of effectiveness for implementation of Cooperative Strategy for 21st Century Sea power. - Continue war gaming, research and analytical support for Navy core capabilities, such as deterrence, maritime security, and sea control. - Continue to conduct research and analysis on key operational challenges such as theater ASW, IAMD, global maritime security, maritime homeland defense, MDA, and sea basing. - Continue to increase the level of directed high security research war gaming at the operational level of war. Intent of the high security research games will be to inform current and future Navy programs regarding focus issues and capabilities. ***FY 2018 OCO Plans:*** N/A					
Title: Warfare Analysis and Research ***Articles:*** ***Description:*** Naval War College (NWC) supports senior decision-makers from the Department of Defense, Department of the Navy, the numbered Fleets, Fleet Commanders and Combatant Commanders in reaching well-informed, objective decisions on strategic, operational and programmatic issues through collaborative research which integrates traditional research and analysis with advanced decision support tools. ***FY 2016 Accomplishments:*** - 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.	0.400 -	0.305 -	0.533 -	0.000 -	0.533 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- 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 Plans:*** - 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 2018 Base Plans:*** - 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. - Approximately 20 major decision events will be conducted in support of there efforts. ***FY 2018 OCO Plans:*** N/A					
Title: NWC Student Research Projects	0.077	0.079	0.039	0.000	0.039
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Description: Selected top performing Naval War College (NWC) students to conduct focused research and analysis of current and future strategic and operational challenges and tactical imperatives. These students are organized under the supervision of the Mahan Scholars Program and the Halsey Group Program. ***FY 2016 Accomplishments:*** - 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. ***FY 2017 Plans:*** - 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. ***FY 2018 Base Plans:*** - 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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. ***FY 2018 OCO Plans:*** N/A					
Title: Maritime Headquarters / Maritime Operations Center (MOC) Analysis ***Articles:*** ***Description:*** Formerly JFMCC/Worldwide Naval Component Commanders (WNCC). Naval War College (NWC) conducts research and analysis at the operational level of war, including direct support for the Maritime Headquarters (MHQ) and Maritime Operations Centers (MOC), as well as Combined/Joint Forces Maritime Component Commander (C/JFMCC) activities. These activities include support for concept and doctrine development of numbered fleet war games, exercises, education, research and analysis. NWC is responsible for development of Professional Military Education for Naval Component Commanders and Numbered Fleet Staff personnel, and the Numbered Fleet Commander, including education and research initiatives in support of concept of operations development, training and C/JFMCC advisory and assist team. ***FY 2016 Accomplishments:*** - Continued development of MOC processes, doctrine and educational products. Maritime Staff Operators Course (MSOC): - Expand research into the required competencies for Maritime Staff Operations Course for officer and enlisted personnel to successfully operate at the operational level of war - Actively participate in creation and review of existing and emerging doctrine, and have active involvement in development of evolving operational level issues - Incorporate more interactive technologies for staff collaboration while conducting distributed operations - Conduct research in advanced adaptive intelligence, information warfare, and other advanced decision-support tools, including adapting Spiral-developed systems into the MOC classroom environment.	0.150 -	0.000 -	0.000 -	0.000 -	0.000 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- 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. - Conduct research into how Navy units worldwide can support Commander, TENTH Fleet in the execution of the full spectrum of information and cyber operations. Assist and Assess Team (AAT): - 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. Joint/Combined Forces Maritime Commanders Course (J/CFMCC): - Continue development/research in national and international implications of maritime commander leadership roles, and development of new flag course curriculum accordingly. ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.367	4.139	4.434	0.000	4.434

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / *Management, Technical & Intl Supt*	Project (Number/Name) 2098 / *Navy Postgraduate School (NPS) Studies Support*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2098: *Navy Postgraduate School (NPS) Studies Support*	0.000	8.602	13.261	13.122	-	13.122	11.894	11.840	12.218	12.332	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Navy Postgraduate School (NPS) research and analysis activities serve as a focal point, stimulus, and major source of strategic, tactical and operational thought within the Navy communities. These efforts generate strategic and operational alternatives, tactical imperatives, quantitative analyses, technical developments and assessments, and political-military assessments. Also, provide recommendations to the Chief of Naval Operations (CNO), Fleet Commanders and numbered Fleet Commanders regarding the formulation and execution of maritime options for the President of the United States. Research will be conducted 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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Faculty and Student Studies, Analysis and Research	8.602	13.261	13.122	0.000	13.122
Articles:	-	-	-	-	-
Description: Navy Postgraduate School (NPS) supports senior decision-makers from the Department of the Navy, the Office of the Chief of Naval Operations, Budget Submission Offices and Fleet Commanders in reaching well-informed, objective decisions on strategic, operational and programmatic issues through collaborative research which integrates traditional research and analysis with advanced decision support tools. Student Theses will be an integral part of this program in support of the critical analysis and research conducted by the Faculty. The increase from FY16 to FY17 supports the performance of additional studies at NPS. ***FY 2016 Accomplishments:*** -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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 2098 / *Navy Postgraduate School (NPS) Studies Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-Conduct studies in support of US Fleet Forces Command -Conduct studies in support of the Secretary of the Navy ***FY 2017 Plans:*** -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 ***FY 2018 Base Plans:*** Conduct studies in support of OPNAV N1 - Conduct studies in support of OPNAV N2/N6 - Conduct studies in support of OPNAV N3/N5 - Conduct studies in support of OPNAV N4 - Conduct studies in support of OPNAV N8 - Conduct studies in support of OPNAV N9 - Conduct studies in support of US Fleet Forces Command - Conduct studies in support of the Secretary of the Navy ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	8.602	13.261	13.122	0.000	13.122

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2221.: *JT Mission Assessment Studies*	0.000	16.641	20.863	24.889	-	24.889	28.682	28.434	27.702	28.006	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 warfighting 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 Warfare); warfare systems (Expeditionary Warfare & Combat Logistics, Sea Control, and Power Projection) 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 warfighting and warfighting-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) / Concept Development and Experimentation (CDE) efforts. This is a shift of funding from PE 0605152N, Studies and Analysis Support, Project 2092, Naval Warfare Studies. CONFORM/CDE 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 Commands (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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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- 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.
- 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.

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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Navy Standard Scenarios with Warfare and Warfare Support Analyses	0.782	0.990	1.126	0.000	1.126
Articles:	-	-	-	-	-
FY 2016 Accomplishments: -Developed, updated and maintained detailed level Navy Standard scenarios based on DPG. -Developed alternative scenarios in support of Defense Review guidance, Joint studies, and Navy resource analyses. -Developed, updated, and maintained analytic baselines for the MCO based on DPG. -Developed details required to execute analysis of designated Defense Planning Scenarios and their respective Multi-Service Force Deployment Plans. -Developed and maintained 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. -Developed scenarios and operational concepts based on government inputs that are sufficiently detailed for use in naval and joint campaign analyses. -Developed MOPs and MOEs and recommended appropriate modeling/methodology to support analyses. -At the mission level, continued to script OPSITS or TACSITS for use in effectiveness analyses in specific warfare mission areas.					
FY 2017 Plans:					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-Continue to develop, update and maintain detailed level Navy Standard scenarios based on DPG. -Continue to develop alternative scenarios in support of Defense Review guidance, Joint studies, and Navy resource analyses. -Continue to develop, update and maintain analytic baselines for the MCO based on DPG. -Continue to develop details required to execute analysis of designated Defense Planning Scenarios and their respective Multi-Service Force Deployment Plans. -Continue to develop and maintain a framework and common set of processes to ensure that essential elements of warfare analyses, including scenarios, operational concepts, tactics, capabilities of platforms and systems (for Navy, Joint, coalition and threat forces), key assumptions and input data are defined and traceable to government approved/provided source material. -Continue to develop scenarios and operational concepts based on government inputs that are sufficiently detailed for use in naval and joint campaign analyses. -Continue to develop MOPs and MOEs and recommend appropriate modeling/methodology to support analyses. -At the mission level, continue to script OPSITS or TACSITS for use in effectiveness analyses in specific warfare mission areas.					
FY 2018 Base Plans: -Continue to develop, update and maintain detailed level Navy Standard scenarios based on DPG. -Continue to develop alternative scenarios in support of Defense Review guidance, Joint studies, and Navy resource analyses. -Continue to develop, update and maintain analytic baselines for the MCO based on DPG. -Continue to develop details required to execute analysis of designated Defense Planning Scenarios and their respective Multi-Service Force Deployment Plans. -Continue to develop and maintain a framework and common set of processes to ensure that essential elements of warfare analyses, including scenarios, operational concepts, tactics, capabilities of platforms and systems (for Navy, Joint, coalition and threat forces), key assumptions and input data are defined and traceable to government approved/provided source material. -Continue to develop scenarios and operational concepts based on government inputs that are sufficiently detailed for use in naval and joint campaign analyses. -Continue to develop MOPs and MOEs and recommend appropriate modeling/methodology to support analyses. -At the mission level, continue to script OPSITS or TACSITS for use in effectiveness analyses in specific warfare mission areas.					
FY 2018 OCO Plans:					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Title: Capability Based Assessments with Campaign Mission Analyses Analytical and Technical Support	1.550	2.730	3.116	0.000	3.116
Articles:	-	-	-	-	-
FY 2016 Accomplishments: -Performed collaborative assessment with capability sponsors. -Proactively participated in Capability Sponsors' Integrated Process Teams. -Presented opposing analytically-based points of view to the CNO and Navy senior leadership. -Provided analytically-based decision recommendations to CNO for both warfighting and support areas. -Developed CNO investment strategy recommendations and assessments for Program Review and Program Objective Memorandum. -Assessed capability sponsors' products for senior leadership decision forums. -Conducted Verification, Validation & Accreditation of warfare, performance, and pricing models. -Conducted OCO CBAs that provided a rapid and scalable process to utilize a Concept of Operation, developed investment strategies, and capabilities roadmaps. -Conducted Tactical Aircraft Recapitalization alternatives and Theater Ballistic Missile Defense cost capability trade off assessments. -Conducted independent assessment of Anti-Submarine Warfare. -Conducted weapons safety and sea basing capability assessments. -Conducted ISR and METOC assessments 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. -Supported CBAs to meet the requirements of current and future scenarios, and made strategic decisions within a constrained economic framework. -Performed rigorous, time critical naval and joint campaign and mission-level analyses, usually based on modeling and simulation that illuminated complex warfare issues which supported decision-making in the PPBE process. -Performed analyses including joint campaign analysis that examined the ability to counter a range of coordinated threat capabilities, high level tradeoffs between service capabilities, or impact of large-scale architecture, mission-level effectiveness analyses that determined system capabilities; conducted analyses of alternative force structures that determined the ability to meet peacetime deployment or steady-state requirements and responded to transition to war and contingency operations.					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-Conducted cost-effectiveness analyses and analyses of new technologies in support of Sponsor Program Proposal, Navy Program Objective Memorandum or Warfare Capability Plan. -Developed innovative analysis techniques that evaluated the effectiveness of operations on the Long War focus on Irregular Warfare and Sea Shaping (influence) activities such as Theater Security Cooperation. -Provided rigorous business case assessments of complex issues relating to the warfighting support processes, manpower and personnel, training and education, infrastructure, both afloat and ashore readiness, Naval Medical Program and provider enterprise operations. - Performed analyses for accreditation of models, used estimated 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.					
FY 2017 Plans: -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 warfighting 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 strategies, and capabilities roadmaps. -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 assessments 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 support CBAs to meet the requirements of current and future scenarios, and make strategic decisions within a constrained economic framework.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-Continue to perform rigorous, time critical naval and joint campaign and mission-level analyses, usually based on modeling and simulation that illuminated complex warfare issues which support decision-making in the PPBE process. -Continue to perform analyses including joint campaign analysis that examines the ability to counter a range of coordinated threat capabilities, high level tradeoffs between service capabilities, or impact of large-scale architecture, mission-level effectiveness analyses that determines 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 warfighting support processes, manpower and personnel, training and education, infrastructure, both afloat and ashore readiness, Naval Medical Program and provider enterprise operations. -Continue to perform analyses for accreditation of models, use estimated 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.					
FY 2018 Base Plans: -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 warfighting 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, developed investment strategies, and capabilities roadmaps. -Continue to conduct Tactical Aircraft Recapitalization alternatives and Theater Ballistic Missile Defense cost capability trade off assessments.					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-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 assessments 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 support CBAs to meet the requirements of current and future scenarios, and make strategic decisions within a constrained economic framework. -Continue to perform rigorous, time critical naval and joint campaign and mission-level analyses, usually based on modeling and simulation that illuminate complex warfare issues which support decision-making in the PPBE process. -Continue to perform analyses including joint campaign analysis that examine the ability to counter a range of coordinated 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 warfighting support processes, manpower and personnel, training and education, infrastructure, both afloat and ashore readiness, Naval Medical Program and provider enterprise operations. -Continue to perform analyses for accreditation of models, use estimated 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. ***FY 2018 OCO Plans:*** N/A					
Title: Campaign Analysis-Modeling and Simulation	2.914	3.642	4.125	0.000	4.125
Articles:	-	-	-	-	-
FY 2016 Accomplishments:					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-Developed and maintained common baselines from which campaign excursions and mission-level analyses are executed. -Identified, developed and improved data and modeling. -Led Navy's participation in OSD/Joint Staff analytic agenda, baseline development, and collection of data. -Provided coordination across the Navy. - Brokered agreements upon assumptions, CONOPS, scenarios, and data. -Led campaign analysis for OPNAV. -Conducted modeling and simulation support for ongoing OPNAV missile defense analysis requirements.					
FY 2017 Plans: -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.					
FY 2018 Base Plans: -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.					
FY 2018 OCO Plans:					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Title: OSD/Joint Staff Study Analysis and Assessment with Investment Strategy Development	0.964	1.326	1.517	0.000	1.517
Articles:	-	-	-	-	-
FY 2016 Accomplishments: -Coordinated and lead OSD/Navy's Analytic Agenda in Defense Planning Scenario, Multi-Service Force Deployment, Enhanced Planning Process, Strategic Planning Guidance, and participated in Capability Sponsors' Integrated Process Teams. -Provided overarching PPBE analyses and guidance. -Provided analytically-based decision recommendations to OPNAV for joint warfighting and support areas. -Conducted net assessments and provided independent analytic support to Navy leadership in conjunction with various executive level decision forums. -Served as the Navy's lead to Joint Requirements Oversight Council, Joint Capabilities Board, and Functional Capabilities Board. -Provided the lead requirements and acquisition for OPNAV. -Coordinated and lead Navy's role in Defense Planning Guidance, Program Decision Memoranda, Quadrennial Defense Review, and Defense Science Board studies. -Participated in OSD and JS analysis assessments and provided structure for coordination across the Navy. -Coordinated and supported Joint Analytical Model Improvement Program. -Developed new analytic techniques for informing resource allocation decisions; conducted all campaign and warfare mission-level analyses and developed investment strategies.					
FY 2017 Plans: -Continue to coordinate and lead OSD/Navy's Analytic Agenda in Defense Planning Scenario, Multi-Service Force Deployment, Enhanced Planning Process, Strategic Planning Guidance, and participate in Capability Sponsors' Integrated Process Teams. -Continue to provide overarching PPBE analyses and guidance. -Continue to provide analytically-based decision recommendations to OPNAV for joint warfighting 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.					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-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 assessments and provide 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 strategies. ***FY 2018 Base Plans:*** -Continue to coordinate and lead OSD/Navy's Analytic Agenda in Defense Planning Scenario, Multi-Service Force Deployment, Enhanced Planning Process, Strategic Planning Guidance, and participate in Capability Sponsors' Integrated Process Teams. -Continue to provide overarching PPBE analyses and guidance. -Continue to provide analytically-based decision recommendations to OPNAV for joint warfighting 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 assessments and provide structure for coordination across the Navy. -Continue to coordinate and supported 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 developed investment strategies. ***FY 2018 OCO Plans:*** N/A					
Title: World Class Modeling, Simulation, and Capability Analysis	4.058	3.836	4.282	0.000	4.282
Articles:	-	-	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
FY 2016 Accomplishments: -Developed and improved 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 included mission- and campaign-level warfighting models, active and reserve manpower, afloat and ashore readiness, and medical capabilities. -Focused on integrated analysis capabilities that cut across business and program accounts. Specific efforts addressed 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. -Developed 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. -Updated the high-level readiness model that fully integrates all aspects of warfighting support (operational utilization, training cycles, training centers, depots, etc.) and personnel (recruitment, training, development, deployment, retention, etc.) across the Navy's warfighting platforms (aircraft, ships, submarines, etc.), facilities and personnel development centers.					
FY 2017 Plans: -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 included 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 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. -Continue to 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. -Continue to update the high-level readiness model that fully integrate all aspects of warfighting support (operational utilization, training cycles, training centers, depots, etc.) and personnel (recruitment, training,					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
development, deployment, retention, etc.) across the Navy's warfighting platforms (aircraft, ships, submarines, etc.), facilities and personnel development centers. ***FY 2018 Base Plans:*** -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 included 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 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. -Continue to 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. -Continue to update the high-level readiness model that fully integrates all aspects of warfighting support (operational utilization, training cycles, training centers, depots, etc.) and personnel (recruitment, training, development, deployment, retention, etc.) across the Navy's warfighting platforms (aircraft, ships, submarines, etc.), facilities and personnel development centers. ***FY 2018 OCO Plans:*** N/A					
Title: CONFORM	2.708	5.082	5.994	0.000	5.994
Articles:	-	-	-	-	-
FY 2016 Accomplishments: -Conducted ship, boat, and unmanned marine vehicle concept studies in preparation for Capabilities Based Assessments (CBAs) and Analysis of Alternatives (AoAs). Studies were performed in a continuous manner to support future recapitalization of Surface Combatants, Amphibious Ships, Carriers, Auxiliary Ships and other emerging program requirements. -Collaborated with Warfare Systems design experts to perform continuous Warfare Systems analysis at the ship and fleet level. Warfare Systems effectiveness assessment tools are being continually developed and enhanced as required to address future concepts and to incorporate improvements in information technology systems.					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Additionally, collaboration with aircraft, C4ISR, and networks by continuing dialog and collaboration between NAVSEA, NAVAIR, and SPAWAR systems commands which refines fleet level requirements. -Refined platform concept stage cost analysis tools to predict costs better in areas where weight-based algorithms may not be appropriate. Continually enhance tools to estimate total ownership costs more accurately at the ship and weapons system concept development stage. Conducted cost estimates in support of future concept design exploration, CBA, and AoA efforts. Further developed Cost Estimating Relationships (CERs) to accommodate emerging technologies incorporated in future platforms. Developed cost estimating tools which incorporated emerging technologies applicable to future platforms. -Conducted future force structure concept formulation. Fleet synthesis and analysis were conducted, which included 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. Areas examined included interoperability concepts, force architecture impact studies, Long Range Shipbuilding Schedule (LRSS) support, and operational employment concept studies.					
FY 2017 Plans: -Continue to 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. -Continue to collaborate with Warfare Systems design experts to perform continuous Warfare Systems analysis at the ship and fleet level. Warfare Systems effectiveness assessment tools are being continually developed and enhanced as required to address future concepts and to incorporate improvements in information technology systems. Additionally, collaborate with aircraft, C4ISR, and networks by continuing dialog and collaboration between NAVSEA, NAVAIR, and SPAWAR systems commands which refines fleet level requirements. -Continue to refine platform concept stage cost analysis tools to predict costs better in areas where weight-based algorithms may not be appropriate. Continually enhance tools to estimate total ownership costs more accurately at the ship and weapons system concept development stage. Continue to 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. Continue to develop cost estimating tools which incorporate emerging technologies applicable to future platforms. -Continue to 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					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
evolution of the fleet as new platforms are introduced and old ones are retired. Areas examined include interoperability concepts, force architecture impact studies, Long Range Shipbuilding Schedule (LRSS) support, and operational employment concept studies. ***FY 2018 Base Plans:*** -Continue to 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. -Continue to collaborate with Warfare Systems design experts to perform continuous Warfare Systems analysis at the ship and fleet level. Warfare Systems effectiveness assessment tools are being continually developed and enhanced as required to address future concepts and to incorporate improvements in information technology systems. Additionally, collaborate with aircraft, C4ISR, and networks by continuing dialog and collaboration between NAVSEA, NAVAIR, and SPAWAR systems commands which refines fleet level requirements. -Continue to refine platform concept stage cost analysis tools to predict costs better in areas where weight-based algorithms may not be appropriate. 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. Continue to develop cost estimating tools which incorporate emerging technologies applicable to future platforms. -Continue to 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. Areas to be examined include interoperability concepts, force architecture impact studies, Long Range Shipbuilding Schedule (LRSS) support, and operational employment concept studies. ***FY 2018 OCO Plans:*** N/A					
Title: Joint Mission Assessment Studies	3.665	3.257	4.729	0.000	4.729
Articles:	-	-	-	-	-
Description: CBA - The CBA is the JCIDS analysis process that includes three phases: the FAA, the FNA, and the FSA. The results of the CBA are used to develop a joint capabilities document (based on the FAA and					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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. ***FY 2016 Accomplishments:*** 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. ***FY 2017 Plans:*** 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. ***FY 2018 Base Plans:*** Continue Capabilities-Based Assessments (CBA) such as advanced Naval surface fires and Naval aviation training to identify future capability requirements. Develop metrics to describe the effectiveness of solutions, and evaluate current and programmed systems ability to meet capability requirements to determine capability gaps. Expand warfighting gap assessments addressing interaction of mission area kill chain platforms, sensors, and weapons in a system-of-system construct. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	16.641	20.863	24.889	0.000	24.889

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A.
N/A

E. Performance Metrics

The overall goal is to conduct analysis to support the Navy decisions needed to turn strategy and guidance into the Fleet capabilities we need within acceptable risk. METRIC: Risks are balanced across capability that delivers the right capabilities within the resources available to Navy. Navy Assessment Program supports the development of platform specific studies and Capabilities Based Assessments, an analytical effort resulting in Functional Area Analysis, Functional Needs Analysis, and Functional Solution Analysis. Efforts provide added analytical rigor relative to program's maturation under the Joint Capabilities Integration and Development System (JCIDS) and support warfare integration initiatives.

-Navy Standard Scenarios with Warfare and Warfare Support Analyses: Goal: 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 are defined and traceable to government approved source material. METRIC: Consistency with other ongoing analyses as directed, develop Measures of Performance and Measures of Effectiveness and recommend appropriate modeling/methodology to support analysis. Models/methodology used reflect study objects, level of fidelity required and time constraints.

-Capability Based Assessments with Campaign Mission Analyses Analytical and Technical Support: Goal: To provide analyses and technical and engineering support including, but not limited to, joint campaign analysis that examines the ability to counter a range of coordinated threat capabilities, high level tradeoffs between service capabilities, or impact of large-scale architecture, force structure of modernization decision; mission-level effectiveness analyses to determine system capabilities; analyses of alternative force structures to determine ability to meet peacetime deployment or steady-state requirements and respond to transition to war and contingency operations; cost-effectiveness and analyses; Acquisition Category Program Office and Systems Command assessments; and analyses of new technologies. METRIC: Develop analysis plans; determine proposed alternatives for analysis; and research performance data on current and future threats, coalition and own force systems; perform technology investigations and forecasts; develop or obtain cost data for current or planned systems; develop and use Cost Estimating Relationships to determine cost for conceptual or future systems for which no cost data is available; identify analysis assumptions, limitations and uncertainties; use established models or develop new models or methodologies to perform analyses; and interpret and analyze results.

-Campaign Analysis-Modeling and Simulation: Goal: Develop and maintain a standard set of models for use in warfare analyses and analyses performed to support Planning Strategy that work at the campaign, mission, and engagement levels. METRIC: A combination of model design statements, model study reports, system specifications, updated model reports, model/database documents, model verification and validation plans, code, and Plan of Action and Milestones reports developed or updated that encompass all aspects of Sea Power 21 to include at a minimum air, land, sea, and Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

-Joint Assessments and Integration and Investment Strategy Development: Goal: Conduct assessments to determine shortfalls and redundancies in existing or planned operational or support capabilities; identify key issues including deficiencies in warfighting capability; determine priorities for needed capabilities; assesses affordability of high payoff systems and technologies; assess effectiveness and affordability of alternative force structures; and formulate investment strategies. Continue development and refinement of Navy program planning to determine the warfighting wholeness and cost effectiveness of alternative Navy strategies. METRIC: Identify shortfalls and redundancies in existing or planned capabilities. Determine the impact of variations in warfare systems and architectures in threat, U.S. and combined forces and strategies. Provide engineering and analytic support for the assessment and transition of technology for use in the Investment Strategy.

-World Class Modeling, Simulation, and Capability Analysis: Goal: Development of new models or model upgrades to meet requirements identified by the WCM requirements process that support the Program Objective Memorandum decision-making process, with the goal of creating a state-of-the art set of models for use in warfare and warfare support analyses. METRIC: Develop model design documents, model study reports, system specifications, updated model reports, model documentation, model verification and validation plans, code, Plan of Action and Milestones reports, and technical reports.
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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2801: *Anti-Tamper*	0.000	1.374	1.389	1.385	-	1.385	1.389	1.414	1.444	1.474	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Anti-Tamper (AT)	1.374	1.389	1.385	0.000	1.385
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

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.

FY 2017 Plans:

Continue championing new technology with a focused and disciplined approach of development, assessment, evaluation, and transition to meet Navy program AT requirements. Maintain role in AT policy development for implementation and execution by the SYSCOMs incorporating Navy program AT requirements. Provide secure facilities, networks, computers, video/telephone conference and support personnel for collateral and Special Program operational environments to enable AT implementation and execution by SYSCOM's programs, incorporating AT requirements.

FY 2018 Base Plans:

Continue championing new technology with a focused and disciplined approach of development, assessment, evaluation, and transition to meet Navy program AT requirements. Maintain role in AT policy development for implementation and execution by the SYSCOMs incorporating Navy program AT requirements. Provide secure

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 2801 / *Anti-Tamper*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.374	1.389	1.385	0.000	1.385

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3024: *Financial Auditability and Audit Readiness (FIAR)*	0.000	0.000	0.142	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.142
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding will support DON FIAR efforts to achieve audit readiness.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: FIAR Reimbursable Support	0.000	0.142	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: The decrease in FY 2018 reflects the realignment of the Financial Auditability and Audit Readiness (FIAR) funding to PE 0605861N RDT&E Science & Technology Management. ***FY 2016 Accomplishments:*** N/A ***FY 2017 Plans:*** 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). ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.142	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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)*

E. Performance Metrics

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3027: *Defense Critical Infrastructure Program*	0.000	5.590	4.808	6.431	-	6.431	6.963	6.980	7.131	7.274	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.

The funding decrease in FY 2017 reflects the availability of prior year execution balances.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: DCIP Onsite Assessment, Analysis Support, and Reports	1.490	1.300	1.700	0.000	1.700
Articles:	-	-	-	-	-
FY 2016 Accomplishments: A40 Cyber Warfare Engineering Division, CWED, 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, A40 will support the Joint Mission Assurance Assessment (JMAA) 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. A40 will work with other service and agency teams to supplement data evaluation for Critical Infrastructure Protection (CIP) offices as negotiated between OASD HD's MA Director, the Joint Staff J34 and Service CIP offices					
FY 2017 Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continue all efforts of FY16.					
FY 2018 Base Plans: Continue all efforts of FY17.					
FY 2018 OCO Plans: N/A					
Title: Central Analytic Capability (CAC) for Research and Data Development	0.970	0.764	1.000	0.000	1.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: A40 Cyber Warfare Engineering Division, CWED, 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. A40 will provide reach back 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, A40 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. A40 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 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
selected assessment service teams. They will continue to update the DCIP benchmarks and standards data / information to support MA program execution requirements. ***FY 2017 Plans:*** Continue all efforts of FY16. ***FY 2018 Base Plans:*** Continue all efforts of FY17. ***FY 2018 OCO Plans:*** N/A					
Title: DoD Cyber Critical Infrastructure Support ***Articles:*** ***FY 2016 Accomplishments:*** A40 Cyber Warfare Engineering Division, CWED, 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. A40 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. ***FY 2017 Plans:*** A40 Cyber Warfare Engineering Division, CWED, will continue to work with OSD Cyber Policy and OASD HD on the Cyber dependencies of critical infrastructure assets. A40 will be asked to provide follow on analysis of additional cyber studies in COCOM regions and specific defense mission assets. They will also assist in looking at how to better synchronize nascent cyber processes and capabilities, such as cyber assessments, cyber key terrain analysis, and Control System inventories into the DCIP methodology. A40 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. A40 will analyze technical and situational Cyber Security information (all threats, particularly industrial control systems) from	0.900 -	0.800 -	1.000 -	0.000 -	1.000 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
intelligence message traffic, internet, private sources, other government agencies, national labs, and industry that address cyber control system infrastructure threats and vulnerabilities. A40 will provide guidance, analysis, and technical evaluation and experimentation for Aurora Rotating Equipment Isolation Device (REID) utility engagements and test beds; maintain test data on REIDs with public sector utility companies and utilize private sector engagements to enhance knowledge about the Aurora threat and develop mitigations. ***FY 2018 Base Plans:*** A40 Cyber Warfare Engineering Division, CWED, will continue to work with OSD Cyber Policy and OASD HD on the Cyber dependencies of critical infrastructure assets. A40 will be asked to provide follow on analysis of additional cyber studies in COCOM regions and specific defense mission assets. They will also assist in looking at how to better synchronize nascent cyber processes and capabilities, such as cyber assessments, cyber key terrain analysis, and Control System inventories into the DCIP methodology. A40 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. A40 will analyze 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 control system infrastructure threats and vulnerabilities. A40 will provide guidance, analysis, and technical evaluation and experimentation for Aurora Rotating Equipment Isolation Device (REID) utility engagements and test beds; maintain test data on REIDs with public sector utility companies and utilize private sector engagements to enhance knowledge about the Aurora threat and develop mitigations ***FY 2018 OCO Plans:*** N/A					
Title: Dependency Analysis for MA and Infrastructure Network Operations	0.740	0.640	0.750	0.000	0.750
Articles:	-	-	-	-	-
FY 2016 Accomplishments: A40 Cyber Warfare Engineering Division, CWED, 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)					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
prioritization and perform analysis to develop the final nomination list for review by Chairman of the Joint Chiefs of Staff (CJCS) and to be signed by the OASD HD. This process will include identifying duplicative nominations and/or similar assets and work with stakeholders to de-conflict, and also work with Joint Staff to develop a vulnerability assessment schedule. The task will synchronize efforts for criticality, threat / hazard and vulnerability assessment, and risk response via risk decision packages.					
FY 2017 Plans: A40 Cyber Warfare Engineering Division, CWED, 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.					
FY 2018 Base Plans: A40 Cyber Warfare Engineering Division, CWED, 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.					
FY 2018 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Title: Crisis Support, Exercise Support and Emergent Requirements Analysis	0.440	0.440	0.500	0.000	0.500
Articles:	-	-	-	-	-

FY 2016 Accomplishments:
A40 Cyber Warfare Engineering Division, CWED, 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, A40s 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.

FY 2017 Plans:
A40 Cyber Warfare Engineering Division, CWED, 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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 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, A40s 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.					
FY 2018 Base Plans: A40 Cyber Warfare Engineering Division, CWED, 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 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, A40s 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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. ***FY 2018 OCO Plans:*** N/A					
Title: On-Site Liaison to OASD (HD&ASA) and Data Exchange Working Groups Leadership and Participation ***Articles:*** ***FY 2016 Accomplishments:*** A40 Cyber Warfare Engineering Division, CWED, 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 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 A40 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. ***FY 2017 Plans:*** A40 Cyber Warfare Engineering Division, CWED, 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 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 A40 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. ***FY 2018 Base Plans:***	0.180 -	0.128 -	0.450 -	0.000 -	0.450 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
A40 Cyber Warfare Engineering Division, CWED, 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 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 A40 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. ***FY 2018 OCO Plans:*** N/A					
Title: Mission Assurance Knowledge Management and Technical Information and Dissemination Support and Maintenance ***Articles:*** ***FY 2016 Accomplishments:*** 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. A40 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 A40 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. A40 will provide development support working with in-house information technology (IT) personnel to update and administrate the portal / tool interfaces and ensure appropriate data exchange and data gathering is able to occur within DCIP systems. ***FY 2017 Plans:***	0.870 -	0.736 -	1.031 -	0.000 -	1.031 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 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. A40 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 A40 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. A40 will provide development support working with in-house information technology (IT) personnel to update and administrate the portal / tool interfaces and ensure appropriate data exchange and data gathering is able to occur within DCIP systems. ***FY 2018 Base Plans:*** This support provides for the network backbone and information technology support required for day-to-day operations, and to respond to crises and exercise events in near real-time with accurate and actionable information. Typical tasks provide an early and deep look at an event informing senior leaders and allowing for follow on tailored research. A40 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 A40 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. A40 will provide development support working with in-house information technology (IT) personnel to update and administrate the portal / tool interfaces and ensure appropriate data exchange and data gathering is able to occur within DCIP systems. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	5.590	4.808	6.431	0.000	6.431

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3039: *CHENG*	0.000	6.031	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.031
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Naval System Engineering Resource Center (NSERC)	0.300	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: Development and implementation of the Navy Enterprise Architecture Repository (NEAR) as a DON enterprise resource for Naval integration and interoperability information to enable collaboration and decision support among Fleet organizations, Program Executive Offices, Program Managers, Systems Commands, prime contractors, Resource/Warfare Sponsors and Comptroller organizations.					
FY 2016 Accomplishments: - Continue Phased Delivery of NEAR					
FY 2017 Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 3039 / *CHENG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Funding realigned to PE 0603382N Advanced Combat Systems Technology starting in FY 2017 to support the Rapid Prototype Development project. ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Title: Systems Engineering ***Articles:*** ***Description:*** Provide the framework for making engineering decisions by war fighting capability at the Family of Systems/System of Systems level and supports consistent engineering and investment decision making across Navy and Marine Corps programs within-capability based acquisition portfolio ***FY 2016 Accomplishments:*** - Continue Program Office SEP review and support - Continue Corrosion Prevention and Control initiatives ***FY 2017 Plans:*** -Funding realigned to PE 0603382N Advanced Combat Systems Technology starting in FY 2017 to support the Rapid Prototype Development project. ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A	5.731 -	0.000 -	0.000 -	0.000 -	0.000 -
Accomplishments/Planned Programs Subtotals	6.031	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 3039 / *CHENG*

E. Performance Metrics

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

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

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

Naval Collaborative Engineering Environment (NCEE): Number of customers/ users.

Percentage of time the tool is available.

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605853N / *Management, Technical & Intl Supt*	Project (Number/Name) 3312 / *MTMD-Maritime Theater Missile Defense Forum*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3312: *MTMD-Maritime Theater Missile Defense Forum*	0.000	0.000	8.570	7.776	-	7.776	7.944	8.156	8.434	8.599	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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 3312 / *MTMD-Maritime Theater Missile Defense Forum*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: MTMD-Martime Theater Missile Defense Forum	0.000	8.570	7.776	0.000	7.776
Articles:	-	-	-	-	-

FY 2016 Accomplishments:
N/A

FY 2017 Plans:
Starting in FY17, funding for MTMD is realigned from Program Element 0603582N Combat System Integration.

(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 will develop updates to MTMD Coalition Capabilities and Interoperability (CCI) and Systems Tactical Data Links Interoperability (STIR) Reports as appropriate.

(2) M&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&S will model and further Target Architectures and provide training in support of future at sea demonstrations.

(3) CDEP will reference the Coalition Capabilities Index (CCI) document and assess capabilities suitable for land-based testing. CDEP will also characterize risks of the Joint Project Optic Windmill (JPOW) 2017 tactical data link architecture, as well as those of the Sixth Fleet Exercise Formidable Shield 2017. 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.

(4) Open Architecture will continue to analyze and define the data model requirements. The requirements will used develop, derive, and evaluate existing data models that can be used to define the Force Level data model for the Force Level Open Architecture Technical Standard (FLOATS). The OAWG will collaborate with BMC4I to ensure alignment with the Target Architecture and the Possible Point Solution (PPS) Force Level Functions (FLFs).

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 3312 / *MTMD-Maritime Theater Missile Defense Forum*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
(5) TPEX will continue preparations for MTMD participation as part of ongoing at-sea test event continuums and Formidable Shield 17. 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, Formidable Shield, 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.					
FY 2018 Base Plans: (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. (2) M&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&S will model and further Target Architectures and provide training in support of future at sea demonstration. (3) CDEP will work with BMC4I and OR working groups to update the Coalition Capabilities Index (CCI) document and develop test plans to assess capabilities suitable for land-based testing. CDEP will also characterize risks of future at-sea demonstrations such as ASD 20. 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 as an effective and efficient alternative to costly at-sea demonstrations.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 3312 / *MTMD-Maritime Theater Missile Defense Forum*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
(4) Open Architecture will begin developing Force Level Function (FLF) component interfaces based on the Force Level data model. The OAWG will collaborate with BMC4I to ensure these interfaces align with the Target Architecture as well as selected Possible Point Solutions (PPS) in developing the Force Level Open Architecture Technical Standard (FLOATS). (5) TPEX will continue preparations for MTMD participation as part of ongoing at-sea test event continuums, Formidable Shield 17 executive will occur at the beginning of FY18. 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 with a fleet exercise focus. Planning for At-Sea Demonstrations and follow-on at-sea testing will continue into future years and include target configuration/ procurement. Focus in FY18 will include potential At Sea Demonstration preparations notionally in 2020 and 2025. (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. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	8.570	7.776	0.000	7.776

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• RDTEN/0603582N/3312: *Combat System Integration*	8.735	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	29.324

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Program Reviews and Baseline Assessments

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605853N / *Management, Technical & Intl Supt*				Project (Number/Name) 3330 / *Naval Research Laboratory (NRL) Facilities Modernization*			
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
3330: *Naval Research Laboratory (NRL) Facilities Modernization*	0.000	13.798	15.424	18.279	-	18.279	17.361	17.986	18.322	18.493	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NRL Facilities Modernization	13.798	15.424	18.279	0.000	18.279
Articles:	-	-	-	-	-
Description: Critical Science and Technology research cannot be sustained or succeed in deteriorated facilities. World class research can only be accomplished in facilities that are at a minimum "adequate", but preferably "state-of-the-art." Due to their advanced age and deterioration, funds are planned to restore/modernize various laboratory facilities at the Naval Research Laboratory. The FY17 and FY18 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 2016 Accomplishments:*** - Starting in FY16 the Naval Research Laboratory, the Navy's only Corporate Research Laboratory, will be completing the first phase of its Corporate Facility Investment Plan (CFIP), a comprehensive plan through FY25, to modernize its laboratory to ensure they can meet future technological threats. The funds will be used for specific studies, evaluations, and the special handling of highly critical and sensitive laboratories that will be relocated into refurbished buildings. This includes planning, consolidating and relocating of over 100 laboratories into less than 80 laboratories; careful disassembly of one-of-a-kind facilities and equipment by in-house scientists and experts and contractor support with specialized skills to devise unique plans to					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 3330 / *Naval Research Laboratory (NRL) Facilities Modernization*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
disassemble, transport, and reassemble the facilities; and the recalibration and specialized reassembly of the highly specialized equipment (e.g., solid-state electronic devises, lasers, vacuum tubes, electrical connections, reactors, gas sensors and chambers, and chemical connectors and distribution systems). ***FY 2017 Plans:*** - Continue all efforts of FY16. ***FY 2018 Base Plans:*** Continue modernization of laboratories to ensure they can meet future technological threats. Conduct specific studies, evaluations, and the special handling of highly critical and sensitive laboratories that are being relocated into refurbished buildings. Continue 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 devises, lasers, vacuum tubes, electrical connections, reactors, gas sensors and chambers, and chemical connectors and distribution systems). ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	13.798	15.424	18.279	0.000	18.279

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

None

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3363: *PACOM Initiative*	0.000	13.207	14.924	15.246	-	15.246	14.983	15.301	15.600	15.907	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

China Strategic Initiative (CSI) (LI 0605853N). The CSI became a DoD RDTE program in FY14. The CSI program is USPACOM's first Asia Rebalance initiative and provides critical support to operational planning efforts. The CSI program is a command-directed program that provides the Commander, USPACOM and his staff critical support at all levels of planning and decision-making for military operations within the PACOM AOR. The CSI program provides: Effects Emulations, PACOM Media Project, Operational Modeling and Simulation and a Critical Factors Analysis Tool.
This funding is for a classified effort.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: PACOM Initiative	13.207	14.924	15.246	0.000	15.246
Articles:	-	-	-	-	-
Description: This is a classified initiative. ***FY 2016 Accomplishments:*** This is a classified initiative. ***FY 2017 Plans:*** This is a classified initiative. ***FY 2018 Base Plans:*** This is a classified initiative. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	13.207	14.924	15.246	0.000	15.246

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 3363 / *PACOM Initiative*

D. Acquisition Strategy

N/A

E. Performance Metrics

Operational Emulation (OE). Successfully achieve Initial Operating Capability on OE sub Line of Effort (LOE) with at least 80% of initial objectives being met after proof of concept test run in late FY17; successfully implement quarterly OE events beginning 1QTR FY18

This PE provides funding to support continuing requirement for extensive studies and analysis of issues critical to operational and intelligence contingency planning required by the China Strategic Roundtable (whose members include all Combatant Commanders, Service Chiefs, Deputy Secretary of Defense, Policy leadership, the Director of Defense Intelligence Agency, and Director of the National Security Agency). This PE directly supports the China Strategic Initiative's (CSI) Strategic Emulations LOE, expanding those outputs to the operational level, making insights timely and relevant to USPACOM (and other Combatant Commands), Functional Component Force Commanders across all strategic domains (e.g. cyber, air and space, sea etc.) in support of national-level mandated operational and strategic-level contingency planning.

Operational Decision Analysis (ODA). Successfully achieve Initial Operating Capability on ODA sub Line of Effort support effort with at least 80% of initial objectives being achieved by 3QTR FY18.

This PE provides funding to support continuing requirement for studies and analysis of issues critical to operational and intelligence contingency planning required by the China Strategic Roundtable (whose members include all Combatant Commanders, Service Chiefs, Deputy Secretary of Defense, Policy leadership, the Director of Defense Intelligence Agency, and Director of the National Security Agency). The PE directly support CSI's Strategic Emulation LOE and will provide critical technical inputs and strategic insights that complement the program's OE output database, which is still under development. ODA outputs will significantly enhance Combatant Component Command staffs with their operational and intelligence planning and global synchronization across multiple domains amongst all geographic and functional combatant commands.

Decision Support Elements to Operational Emulation Modeling and Simulation (DSEOMS). Successfully achieve Initial Operating Capability on this major LOE with at least 80% of initial objectives being met by 3QTR FY19.

This PE provides funding to support all four major LOEs for the CSI program?and all its sub-LOEs. This effort will provide a comprehensive and campaign-quality decision support toolset to decision makers across the entire CSI enterprise: OSD, Joint Staff, Combatant Commands, Intelligence Community, and the Whole of US Government (Interagency). This PE will create a set of enhanced automated and doctrinal decision- making tools to assist key policy- and strategic leaders on a full spectrum of contingencies related to competitor nations. DSEOMS will provide analytic modeling and simulation tools that take inputs from all major CSI program LOEs; the goal being to present decision- and policy-makers and their planning staffs with a rich dataset of information that is relevant, timely, and substantive for their respective problem sets. The current scope and focus across all LOE's is to support emerging near-term and longer-term planning to both significantly enhance war planning orientation and force posture considerations but also to significantly enhance more informed strategic choices regarding future joint/service capability

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 3363 / *PACOM Initiative*

investments and joint/service operational concepts across all strategic domains. Ultimately, fully integrated program deliverables will guide a deliberative process for identifying efficiencies in major service platform decisions to ensure they are optimized for the full-spectrum of projected adversary capabilities in the future.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	4.679	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	4.679
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 2016	FY 2017
Congressional Add: Printed Circuit Board Executive Agent	4.679	0.000
FY 2016 Accomplishments: - Complete Executive Agent Assignment Formalization - Complete Trust Accreditation ("Competing Network of Trusted Suppliers") - Complete Counterfeit Detection & Avoidance - Complete Supply Chain Assessments and Initiatives		
FY 2017 Plans: N/A		
Congressional Adds Subtotals	4.679	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605853N / *Management, Technical & Intl Supt*	**Project (Number/Name)** 9999 / *Congressional Adds*

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 indentify technology gaps and research and development needs, as well as identify and recommend policy changes.

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

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605856N / *Strategic Technical Support*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	3.140	3.597	4.313	-	4.313	4.370	4.415	4.486	4.576	Continuing	Continuing
0128: *Mgmt/Tech Supt Strategic*	0.000	1.138	1.215	1.226	-	1.226	1.250	1.276	1.302	1.328	Continuing	Continuing
1038: *Acoustic & Non-Acoustic Analysis Supt*	0.000	2.002	2.382	3.087	-	3.087	3.120	3.139	3.184	3.248	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	3.258	3.597	4.349	-	4.349
Current President's Budget	3.140	3.597	4.313	-	4.313
Total Adjustments	-0.118	0.000	-0.036	-	-0.036
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.118	0.000			
• Program Adjustments	0.000	0.000	-0.036	-	-0.036

Change Summary Explanation

The FY 2017 request was reduced by -$0.069 million to account for the availability of prior year execution balances.

The funding increase from FY 2017 to FY 2018 supports development of Draft and Final Scientific Research Plan for field research using SURTASS Low Frequency Active (LFA) sonar system in oceanic environment to support development of the 2022 SURTASS LFA sonar new Environmental Impact Statement (EIS).

Technical: N/A

Schedule: N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0128: *Mgmt/Tech Supt Strategic*	0.000	1.138	1.215	1.226	-	1.226	1.250	1.276	1.302	1.328	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: MANAGEMENT AND TECHNICAL SUPPORT, STRATEGIC	1.138	1.215	1.226	0.000	1.226
Articles:	-	-	-	-	-
FY 2016 Accomplishments: - Coordinated analytic efforts and drafted integrated undersea investment strategy that is used to determine S&T/R&D needs in the FYDP; - Conducted analysis on technology, inventory, and force structure options/tradeoffs for future planning; - Conducted analytic, strategic planning, programmatic, technical and research to support for future capability development.					
FY 2017 Plans: - Conduct technical investigations and quantitative assessments that identify needs and establish plans for the development of USW capabilities and requirements. - Develop solutions that reflect a broad, integrated view including operational effects, policy considerations, programmatics, business-case factors, strategic implications, and attention to past historical precedents.					
FY 2018 Base Plans: - Conduct analysis to identify and weigh options for addressing problems/challenges and assessing the impact across the strategic and conventional military spectrum; - Anticipate emerging and future USW challenges, and lead effective assessment efforts to proactively address those challenges.					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.138	1.215	1.226	0.000	1.226

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605856N / *Strategic Technical Support*	**Project (Number/Name)** 0128 / *Mgmt/Tech Supt Strategic*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1038: *Acoustic & Non-Acoustic Analysis Supt*	0.000	2.002	2.382	3.087	-	3.087	3.120	3.139	3.184	3.248	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides analytical support to the Director, Intelligence, Surveillance, and Reconnaissance (ISR) Division, 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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: ACOUSTIC AND NON-ACOUSTIC ANALYSIS SUPPORT	2.002	2.382	3.087	0.000	3.087
Articles:	-	-	-	-	-
Description: 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. The increase from FY17 to FY18 supports development of Draft and Final Scientific Research Plan for field research using SURTASS Low Frequency Active (LFA) sonar system in oceanic environment to support development of the 2022 SURTASS LFA sonar new Environmental Impact Statement (EIS).					
FY 2016 Accomplishments: -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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-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 (M3) Program -Continue to provide environmental compliance documentation review, generation and revision of draft Supplemental Environmental Impact Statements (SEIS) statements enabling continuing fleet operations of Low Frequency Active (LFA) 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)					
FY 2017 Plans: -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 Advanced Surveillance Build (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 and execution of the IUSS Marine Mammal Monitoring (M3) Program. -Continue to provide environmental compliance documentation development, generation, revision, adjudication, and submission of Draft Supplemental Environmental Impact Statements (SEIS) enabling continuing fleet operations of SURTASS Low Frequency Active systems. -Continue to provide analytic and Subject Matter Expert (SME) support to facilitate Naval Litigation Office (NLO) and Department of Justice (DoJ) efforts in litigation from environmental NGOs in order to ensure no gap in SURTASS LFA sonar vessel operations.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-Provide passive acoustic monitoring, which must occur whenever the SURTASS LFA sonar is operational, to support continued fleet Low Frequency Active operations worldwide. -Hire one additional scientific and technical (S&T) employee, which is required for additional S&T oversight and data/document management control during the 5-year development of the 2022 EIS. -Initiate scoping effort for the 2022 EIS, which entails planning and programming for publishing public scoping meeting announcements and agenda for at least five locations, in U.S. newspapers and online outlets. -Establish a Scientific Working Group (SWG) of up to five scientific SMEs to meet at least twice, in order to formulate the research plans for field research to study behavioral effects of LFA sonar exposure to marine mammals using SURTASS LFA sonar system (update 1997-98 field data collected). -Plan, organize, and execute public scoping meetings in at least five locations, fielding, addressing and memorializing public comments from the meetings. -Initiate planning for field research using SURTASS LFA sonar system in oceanic environment to support development of the 2022 SURTASS LFA sonar full-up new EIS (like original 2001 version), which is required vice supplemental EIS/OEISs, which have been adequate since 2007. -Begin development of the 2022 EIS, which is essentially a full EIS rewrite, no carrying forward of previous conclusions/information/data as has been done with the four supplemental EISs between 2007 and 2017.					
FY 2018 Base Plans: -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 Advanced Surveillance Build (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 and execution of the IUSS Marine Mammal Monitoring (M3) Program. -Continue to provide environmental compliance documentation development, generation, revision, adjudication, and submission of Draft Supplemental Environmental Impact Statements (SEIS) enabling continuing fleet operations of SURTASS Low Frequency Active systems.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
-Continue to provide analytic and Subject Matter Expert (SME) support to facilitate Naval Litigation Office (NLO) and Department of Justice (DoJ) efforts in litigation from environmental NGOs in order to ensure no gap in SURTASS LFA sonar vessel operations. -Provide passive acoustic monitoring, which must occur whenever the SURTASS LFA sonar is operational, to support continued fleet Low Frequency Active operations worldwide. -Continue oversight and data/document management control during the 5-year development of the 2022 EIS under the direction of new hire scientific and technical (S&T) employee. -Continue exploitation of the Scientific Working Group (SWG) of up to five scientific SMEs to meet in order to finalize the research plans for field research to study behavioral effects of LFA sonar exposure to marine mammals using SURTASS LFA sonar system (update 1997-98 field data collected). -Develop Draft and Final Scientific Research Plan for field research using SURTASS LFA sonar system in oceanic environment to support development of the 2022 SURTASS LFA sonar new EIS. -Continue development of the 2022 EIS, which is essentially a full EIS rewrite, no carrying forward of previous conclusions/information/data as has been done with the four supplemental EISs between 2007 and 2017, and which will include the input from the public scoping meetings. -Execute the Scientific Research Plan for field research using SURTASS LFA sonar system in oceanic environment. -Provide daily SITREPs during field research to pertinent Navy personnel; and upon completion provide Hot Wash brief; and within three months of conclusion of the field research, provide Quicklook report and brief. -With support from the SWG, initiate the updating of information on the following elements of the new 2022 EIS: 1) non-acoustic alternatives to LFA sonar; 2) effects of LFA sonar on human divers; 3) efficacy of LFA sonar mitigation measures; 4) potential effects of exposure to LFA sonar on marine mammals, sea turtles, and fish; and 5) effects on recreational marine activities, such as diving. -On direction, plan for public hearings in at least five locations. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.002	2.382	3.087	0.000	3.087

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605861N *I RDT&E Science & Tech Mgmt*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	76.872	63.000	1.104	-	1.104	1.108	1.131	1.154	1.177	Continuing	Continuing
0135: *ONR Science & Technology Mgmt*	0.000	69.455	55.739	1.104	-	1.104	1.108	1.131	1.154	1.177	Continuing	Continuing
2353: *DFAS Billings*	0.000	1.695	1.465	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.160
3234: *Office of Naval Research - N-ERP*	0.000	1.126	1.121	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.247
3364: *ONR Global Management*	0.000	4.596	4.675	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.271

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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	76.948	62.811	62.901	-	62.901
Current President's Budget	76.872	63.000	1.104	-	1.104
Total Adjustments	-0.076	0.189	-61.797	-	-61.797
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.076	0.000			
• Program Adjustments	0.000	0.189	-61.798	-	-61.798
• Rate/Misc Adjustments	0.000	0.000	0.001	-	0.001

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605861N / *RDT&E Science & Tech Mgmt*

Change Summary Explanation

The decrease from FY 2017 to FY 2018 reflects a transfer of Non-MHA funding to PE 0602861N Science & Technology Management - ONR Field Accounts to consolidate ONR Science & Technology (S&T) Management in 6.2 Applied Research and improve reporting of Navy's S&T investment by including S&T management as part of the S&T topline.

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605861N / *RDT&E Science & Tech Mgmt*	Project (Number/Name) 0135 / *ONR Science & Technology Mgmt*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0135: *ONR Science & Technology Mgmt*	0.000	69.455	55.739	1.104	-	1.104	1.108	1.131	1.154	1.177	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 Non-Management Headquarters Activities (Non-MHA) 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 Non-MHA management and direction for the following Navy-wide programs: Small Business Innovation Research, Naval Research Advisory Committee, Navy Patent Program, Historically Black Colleges and Universities/Minority Institutions Program, Navy Manufacturing Technology Program and the Ballistic Missile Submarine Nuclear (SSBN) Security Technology Program.

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: S&T MANAGEMENT SUPPORT	69.455	55.739	1.104	0.000	1.104
Articles:	-	-	-	-	-
Description: This project provides for Non-MHA 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.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605861N / *RDT&E Science & Tech Mgmt*	**Project (Number/Name)** 0135 / *ONR Science & Technology Mgmt*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
This project also provides for Non-MHA costs of ONR's field activities to include fixed costs, such as salaries and communications. 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. The decrease from FY 2017 to FY 2018 reflects a transfer of Non-MHA funding to PE 0602861N Science & Technology Management - ONR Field Accounts to consolidate ONR Science & Technology (S&T) Management in 6.2 Applied Research and improve reporting of Navy's S&T investment by including S&T management as part of the S&T topline, offset by the transfer of funding from 0605853N Management, Technical and International Support to support Financial Auditability and Audit Readiness (FIAR). Effective in FY18 this PE Project will only fund NGEN Corporate requirements and FIAR Civilian Salary (1 FTE). ***FY 2016 Accomplishments:*** This project provided for all 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 paid the salaries of Scientific and Engineering and corporate business personnel who directed 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 activities in support of the entire Navy S&T program. Increased support and focused on audit readiness to prepare for the FY17 financial auditability mandates set by SECDEF and Congress. ***FY 2017 Plans:*** Continue all efforts in directly supporting Navy Science and Technology programs of FY 2016. ***FY 2018 Base Plans:*** Continue efforts supporting ONR IT infrastructure and audit readiness. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	69.455	55.739	1.104	0.000	1.104

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605861N / *RDT&E Science & Tech Mgmt*	**Project (Number/Name)** 0135 / *ONR Science & Technology Mgmt*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2353: *DFAS Billings*	0.000	1.695	1.465	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.160
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: TRANSACTIONS PROCESSED IN SUPPORT OF DON R&D	1.695	1.465	0.000	0.000	0.000
Articles:	-	-	-	-	-

Description: This project funds the DFAS bill for transactions processed in support of Department of the Navy R&D activities. Specific services include payroll, transportation, commercial invoices, travel, maintenance of trial balances, associated accounting and reporting.

The decrease from FY 2016 to FY 2017 is due to an increase in automated efficiencies requiring less support from DFAS.

The decrease from FY 2017 to FY 2018 reflects a transfer of Non-MHA funding to PE 0602861N Science & Technology Management - ONR Field Accounts to consolidate ONR Science & Technology (S&T) Management in 6.2 Applied Research and improve reporting of Navy's S&T investment by including S&T management as part of the S&T topline.

FY 2016 Accomplishments:
This project funded the DFAS bill for transactions processed in support of the Department of Navy R&D activities. Specific services include payroll, transportation, commercial invoices, travel and maintenance of trial balances, associated accounting and reporting.

FY 2017 Plans:
Continue all efforts of FY 2016.

FY 2018 Base Plans:
N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605861N / *RDT&E Science & Tech Mgmt*	**Project (Number/Name)** 2353 / *DFAS Billings*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Effort and associated funding was moved to 0602861N Science & Technology Management - ONR Field Accounts. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.695	1.465	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605861N / *RDT&E Science & Tech Mgmt*	Project (Number/Name) 3234 / *Office of Naval Research - N-ERP*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3234: *Office of Naval Research - N-ERP*	0.000	1.126	1.121	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.247
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: OFFICE OF NAVAL RESEARCH NAVY ERP	1.126	1.121	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: This project funds N-ERP implementation and sustainment. The decrease from FY 2017 to FY 2018 reflects a transfer of Non-MHA funding to PE 0602861N to consolidate ONR Science & Technology (S&T) Management in 6.2 and improve reporting of Navy's S&T investment by including S&T management as part of the S&T topline. ***FY 2016 Accomplishments:*** Continue N-ERP sustainment efforts. ***FY 2017 Plans:*** Continue N-ERP sustainment efforts. ***FY 2018 Base Plans:*** N/A Effort and associated funding was moved to 0602861N Science & Technology Management - ONR Field Accounts. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.126	1.121	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605861N / *RDT&E Science & Tech Mgmt*	**Project (Number/Name)** 3234 / *Office of Naval Research - N-ERP*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3364: *ONR Global Management*	0.000	4.596	4.675	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.271
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds ONR Global salaries. Functions performed support ONR Navy-wide responsibilities in promoting the development of research in the international S&T community.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: ONR Global	4.596	4.675	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: This project funds ONR Global salaries. Functions performed support ONR Navy-wide responsibilities in promoting the development of research in the international S&T community. The decrease from FY 2017 to FY 2018 reflects a transfer of Non-MHA funding to PE 0602861N Science & Technology Management - ONR Field Accounts to consolidate ONR Science & Technology (S&T) Management in 6.2 Applied Research and improve reporting of Navy's S&T investment by including S&T management as part of the S&T topline. ***FY 2016 Accomplishments:*** This project provides for all basic costs of ONR Global activities in support of the entire Navy S&T program. ***FY 2017 Plans:*** Continue all efforts of FY 2016. ***FY 2018 Base Plans:*** N/A Effort and associated funding was moved to 0602861N Science & Technology Management - ONR Field Accounts. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.596	4.675	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605863N *I RDT&E Ship & Aircraft Support*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	128.715	106.093	105.666	-	105.666	98.985	100.964	102.355	104.404	Continuing	Continuing
0568: *RDT&E Acft Flt Hours*	0.000	31.387	32.283	33.655	-	33.655	34.639	35.807	36.588	37.317	Continuing	Continuing
0569: *RDT&E Acft Supt*	0.000	36.695	36.536	34.339	-	34.339	38.515	39.095	39.140	39.929	Continuing	Continuing
2924: *SDTS*	0.000	10.303	11.476	11.421	-	11.421	11.531	11.717	11.970	12.213	Continuing	Continuing
3206: *T&E Enterprise*	0.000	50.330	25.798	26.251	-	26.251	14.300	14.345	14.657	14.945	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

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

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	132.122	106.093	97.775	-	97.775
Current President's Budget	128.715	106.093	105.666	-	105.666
Total Adjustments	-3.407	0.000	7.891	-	7.891
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.500	0.000			
• SBIR/STTR Transfer	-0.906	0.000			
• Program Adjustments	0.000	0.000	7.606	-	7.606
• Rate/Misc Adjustments	-0.001	0.000	0.285	-	0.285

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605863N *I RDT&E Ship & Aircraft Support*

Change Summary Explanation

The FY 2018 funding increase supports T&E Enterprise test planning and target build up for CVN78 SDTS Test; lead ship testing for LCS 12 and LSD 52 ship classes; and PRA Testbed Development Testing for LCS 12, LSD 52, and CVN78.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0568: *RDT&E Acft Flt Hours*	0.000	31.387	32.283	33.655	-	33.655	34.639	35.807	36.588	37.317	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: RDT&E Acft Flt Hours	31.387	32.283	33.655	0.000	33.655
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Provided planned organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of RDT&E aircraft operations.					
FY 2017 Plans: Continue to provide planned organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of RDT&E aircraft operations.					
FY 2018 Base Plans: Continue to provide planned organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of RDT&E aircraft operations.					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	31.387	32.283	33.655	0.000	33.655

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

Not Applicable

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0569: *RDT&E Acft Supt*	0.000	36.695	36.536	34.339	-	34.339	38.515	39.095	39.140	39.929	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, Aviation Climate Assessment Survey System (ACASS) 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Aircraft/Engine Maintenance and AVDLR/IMRL Support	35.204	35.936	33.739	0.000	33.739
Articles:	-	-	-	-	-
Description: 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.					
FY 2016 Accomplishments: Continued planned transition from ASPA/SDLM to the IMC/PDM program for depot maintenance requirements, while sustaining the following programs: AVDLR/IMRL, engine repairs, support of aircraft in the RDT&E inventory. Continue operation and implementation of maintenance and material management programs at Naval Air Warfare Center activities.					
FY 2017 Plans: Continue planned transition from ASPA/SDLM to the IMC/PDM program for depot maintenance requirements, while sustaining the following programs: AVDLR/IMRL, engine repairs, support of aircraft in the RDT&E					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
inventory. Continue operation and implementation of maintenance and material management programs at Naval Air Warfare Center activities. ***FY 2018 Base Plans:*** Continue planned transition from ASPA/SDLM to the Integrated Maintenance Concept/Phased Depot Maintenance program for depot maintenance requirements, while sustaining the following programs: AVDLR/ IMRL, engine repairs, support of aircraft in the RDT&E inventory. Continue operation and implementation of maintenance and material management programs at Naval Air Warfare Center activities. ***FY 2018 OCO Plans:*** N/A					
Title: In-Service Repairs ***Articles:*** ***FY 2016 Accomplishments:*** Provided planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects. ***FY 2017 Plans:*** Continue to provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects. ***FY 2018 Base Plans:*** Continue to provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects. ***FY 2018 OCO Plans:*** N/A	1.491 -	0.600 -	0.600 -	0.000 -	0.600 -
Accomplishments/Planned Programs Subtotals	36.695	36.536	34.339	0.000	34.339

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2924: *SDTS*	0.000	10.303	11.476	11.421	-	11.421	11.531	11.717	11.970	12.213	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 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SDTS	10.303	11.476	11.421	0.000	11.421
Articles:	-	-	-	-	-

FY 2016 Accomplishments:

Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD) conducted management, operation, maintenance and repair/upgrade of ship 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. Naval Surface Warfare Center Port Hueneme (NSWC PHD) conducted a complex pier side availability to install and test the combat system elements for the DDG 1000 and CVN 78.

FY 2017 Plans:

NSWC PHD continues to conduct management, operation, maintenance and repair/upgrade of ship Hull, Mechanical and Electrical (HM&E) critical items to ensure ongoing safe operation, and performance of the SDTS. Maintain, operate, configure and upgrade the 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 for new Combat System installations (funded through the T&E Enterprise Project 3206) which will include HM&E maintenance and necessary upgrades.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605863N / *RDT&E Ship & Aircraft Support*	**Project (Number/Name)** 2924 / *SDTS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Conduct hull assessment and ship check to support initial work package development for the SDTS dry dock scheduled for FY19. ***FY 2018 Base Plans:*** NSWC PHD continues to conduct management, operation, maintenance and repair/upgrade of ship HM&E critical items to ensure ongoing safe operation, and performance of the SDTS. Maintain, operate, configure and upgrade the TSRCS and associated infrastructure in support of T&E requirements onboard SDTS to support the AW SSD Enterprise TEMP efforts as well as Navy development test programs. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	10.303	11.476	11.421	0.000	11.421

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy											Date: May 2017	
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 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
3206: *T&E Enterprise*	0.000	50.330	25.798	26.251	-	26.251	14.300	14.345	14.657	14.945	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 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 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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: T&E Enterprise	50.330	25.798	26.251	0.000	26.251
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Completed a pier side industrial availability (Jan-Feb 2016) to conduct Installation and Checkout (INCO) of the SSDS 5C to support LSD 50 and LCS 8 SDTS configuration testing. The Enterprise conducted SDTS test event; ET 05 J (Dual stream of maneuvering GQM-163A against the SDTS in the LHA 6 configuration). Continued 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 continued routine maintenance, I/A 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, Railgun). Continue supporting development of TECP-1, and facilitating the integration into the PEO IWS M&S framework.					
FY 2017 Plans: The Enterprise will conduct PRA Assessment of the LHA 6 configuration (ET-15). Conduct pier side industrial availability to conduct Installation and Checkout (INCO) of DDG1000 equipment to include Multi-Function Radar (MFR), and INCO CVN 78 configurations on the SDTS. The Enterprise will continue routine maintenance, IA/Cybersecurity Certification and Accreditation on combat systems elements and the remote control system on the SDTS. Conduct PRA Testbed DT of the CVN 78 configurations.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continue to facilitate the integration of systems into the PEO IWS M&S framework. Continue supporting development of TECP-1, and facilitating the integration into the PEO IWS M&S framework. ***FY 2018 Base Plans:*** Test planning and target build up for CVN 78 SDTS Test (ET 09) Conduct Lead Ship testing of the LCS 12 and LSD 52 ship classes Conduct PRA Testbed DT of the LCS 12, LSD 52, and CVN 78 configurations. 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 Enterprise systems into the Program Executive Office Integrated Warfare System (PEO IWS) Modeling and Simulation (M&S) framework. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	50.330	25.798	26.251	0.000	26.251

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605864N *I Test & Evaluation Support*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	351.469	413.446	373.667	-	373.667	375.362	388.518	393.918	401.556	Continuing	Continuing
0541: *AUTEC*	0.000	51.125	52.556	55.439	-	55.439	53.572	55.416	56.295	57.302	Continuing	Continuing
0566: *NAVAIR Environmental Compliance*	0.000	4.249	4.219	4.382	-	4.382	4.459	4.605	4.698	4.792	Continuing	Continuing
0653: *NAWC Weapons Division*	0.000	141.856	135.521	140.001	-	140.001	142.958	147.660	150.612	153.600	Continuing	Continuing
0654: *NAWC Acft Division*	0.000	97.645	94.556	96.653	-	96.653	98.322	101.605	103.632	105.684	Continuing	Continuing
2921: *Pacific Missile Range Facility*	0.000	5.316	5.179	5.385	-	5.385	5.484	5.665	5.778	5.894	Continuing	Continuing
2922: *MRTFB Maint & Repair*	0.000	39.583	96.034	44.378	-	44.378	45.704	41.756	44.229	45.068	Continuing	Continuing
3154: *Nanoose and Dabob Bay Ranges*	0.000	11.695	11.421	11.556	-	11.556	11.771	12.171	12.418	12.671	Continuing	Continuing
3386: *MRTFB Marine Vessels*	0.000	0.000	13.960	15.873	-	15.873	13.092	19.640	16.256	16.545	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 (NUWC) 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 (PMRF), Barking Sands, HI; Maintenance and Repair at NAWCWD, NAWCAD, and AUTEC; and the NUWC Keyport Nanoose and Dabob Bay Ranges. Project Unit 3386, Major Range and Test Facility Base (MRTFB) Marine Vessels, is a new start FY17 program which will provide 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). The T&E activities make up the Navy portion of the Department of Defense's MRTFB. 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.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy					Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*		**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*			
B. Program Change Summary ($ in Millions)	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**
Previous President's Budget	351.912	349.146	361.446	-	361.446
Current President's Budget	351.469	413.446	373.667	-	373.667
Total Adjustments	-0.443	64.300	12.221	-	12.221
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.445	0.000			
• Program Adjustments	0.000	64.300	12.242	-	12.242
• Rate/Misc Adjustments	0.002	0.000	-0.021	-	-0.021

Change Summary Explanation

The FY 2018 funding increase supports a comprehensive life extension and repair of the MRTFB hangars, projects to improve security at AUTEC, and sustainment of six new advanced high fidelity threat emitters at NAWC-WD.

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0541: *AUTEC*	0.000	51.125	52.556	55.439	-	55.439	53.572	55.416	56.295	57.302	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Atlantic Undersea Test and Eval Ctr Facility	39.854	40.800	43.683	0.000	43.683
Articles:	-	-	-	-	-
Description: AUTEC is a Test and Evaluation facility for collecting selected underwater, surface and air tracking data on test participants. This project funds the overhead/institutional costs required to sustain the Major Range and Test Facility capabilities at AUTEC in accordance with Department of Defense Directive 3200.11.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0541 / *AUTEC*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
The funding increase from FY 217 to FY 2018 supports resolution of policy compliance issues resulting from a Naval Sea Systems Command Inspector General/Newport Office of Counsel and Contracting review; and the certified ordnance barge capabilities for fleet training. ***FY 2016 Accomplishments:*** 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 (MRTFB) operations. Reimburse the Command for General and Administrative support services. ***FY 2017 Plans:*** 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. ***FY 2018 Base Plans:*** 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. Continue to support resolution of policy compliance issues resulting from a Naval Sea Systems Command Inspector General/Newport Office of Counsel and Contracting review. Increased funding supports the certified ordnance carrying barge capability for fleet training. ***FY 2018 OCO Plans:*** N/A					
Title: Bahamian Lease	11.271	11.756	11.756	0.000	11.756
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0541 / *AUTEC*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Description: Rental payments to the Bahamian government for use of land and ocean in the Bahamas. ***FY 2016 Accomplishments:*** Continue to provide rental payments to the Bahamian government for use of land and ocean in the Bahamas. ***FY 2017 Plans:*** Continue to provide rental payments to the Bahamian government for use of land and ocean in the Bahamas. ***FY 2018 Base Plans:*** Continue to provide rental payments to the Bahamian government for use of land and ocean in the Bahamas. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	51.125	52.556	55.439	0.000	55.439

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0566: *NAVAIR Environmental Compliance*	0.000	4.249	4.219	4.382	-	4.382	4.459	4.605	4.698	4.792	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Environmental Compliance	4.249	4.219	4.382	0.000	4.382
Articles:	-	-	-	-	-
Description: Projects supporting level 1 compliance requirements at Naval Air Systems Command Ranges inclusive of hazardous waste disposal, Resource Conservation & Recovery Act (RCRA), Subtitle C - 40 CFR 260 through 279, and Emergency Planning and Community Right-to-Know Act (EPCRA), Sections 311-312; solid waste disposal, RCRA, Subtitle D - 40 CFR Parts 239 through 259; natural & cultural resources programs, National Environmental Policy Act (NEPA), Environmental Protection Act, Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA), Archeological and Historic Preservation Act (AHPA), maintaining of environmental permits, Clean Air Act (CAA), Clean Water Act (CWA), and environmental monitoring. RCRA, 42 U.S.C. Section 6901 et sequens 1976; EPCRA, 42 U.S.C. Section 11001-11050 et sequens 1986; NEPA, 42 U.S.C. Section 4331 et sequens 1969; MMPA, 16 U.S.C. Section 1361 et sequens 1972; CWA, 33 U.S.C. Section 1251-1387 1972; ESA, 7 U.S.C. Section 136, 16 U.S.C. Section 1531 et sequens 1973; AHPA, 16 USC Section 469-469c-2 1960; and CAA, Title V, 33 U.S.C. Section 1251 et sequens 1972.					
FY 2016 Accomplishments: 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0566 / *NAVAIR Environmental Compliance*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Cultural Surveys Supporting Testing & Training, 0.1 ***FY 2017 Plans:*** 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 ***FY 2018 Base Plans:*** 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 ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.249	4.219	4.382	0.000	4.382

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0653: *NAWC Weapons Division*	0.000	141.856	135.521	140.001	-	140.001	142.958	147.660	150.612	153.600	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Pacific Ranges	57.153	55.114	57.192	0.000	57.192
Articles:	-	-	-	-	-
Description: In accordance with Department of Defense Directive 3200.11., this project funds the overhead/ institutional costs required to sustain the Major Range and Test Facility Base (MRTFB) capabilities at the Pacific Ranges and Facilities located at China Lake and Point Mugu, CA. These facilities provide safe, instrumented, controlled open air testing utilizing the Land Range, Sea Range, ECR, Air Vehicle Modification and Instrumentation, and San Nicholas Island. The funding increase from FY 2017 to FY 2018 supports the sustainment of six new advanced high fidelity threat emitters at NAWC-WD ranges (five open loop Active Emitter Scan Array and one closed loop Passive Emitter Scan Array) operating in the C and S Radio Frequency Bands and E, F & G Electronic Warfare Bands. ***FY 2016 Accomplishments:*** Continue to maintain and operate mission/core test support resources. These resources include test article instrumentation and systems required to safely conduct flight and ground test missions as well as schedule and control air, land, sea and associated range operating areas required to meet customer test workload. Fund					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0653 / *NAWC Weapons Division*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased services contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations. ***FY 2017 Plans:*** Continue to maintain and operate mission/core test support resources. These resources include test article instrumentation and systems required to safely conduct flight and ground test missions as well as schedule and control air, land, sea and associated range operating areas required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased services contracts, annual utilities and any costs necessary to manage and sustain the Major Range and Test Facility Base (MRTFB) operations. ***FY 2018 Base Plans:*** Continue to maintain and operate mission/core test support resources. These resources include test article instrumentation and systems required to safely conduct flight and ground test missions as well as schedule and control air, land, sea and associated range operating areas required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased services contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations. Increased funding supports the sustainment of six new advanced high fidelity threat emitters at NAWC-WD ranges (five open loop Active Emitter Scan Array and one closed loop Passive Emitter Scan Array) operating in the C and S Radio Frequency Bands and E, F & G Electronic Warfare Bands. ***FY 2018 OCO Plans:*** N/A					
Title: Navy Test Wing Pacific	22.162	20.964	21.337	0.000	21.337
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Naval Test Wing Pacific located at China Lake and Point Mugu, CA. These facilities provide the Navy's principal Pacific test activity for Naval Aviation Systems Team aircraft, engaged in or supporting Test & Evaluation of aircraft, weapons and weapons systems. ***FY 2016 Accomplishments:*** Continue to maintain and operate mission essential/core test support resources associated with 11 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel,					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0653 / *NAWC Weapons Division*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2017 Plans:*** 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 MRTFB operations. ***FY 2018 Base Plans:*** 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. ***FY 2018 OCO Plans:*** N/A					
Title: Threat/Target Systems ***Articles:*** ***Description:*** This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Threat/Target Systems facilities. These facilities provide the airborne and seaborne threats for test and evaluation. ***FY 2016 Accomplishments:*** Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations. ***FY 2017 Plans:*** Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment,	11.339 -	11.226 -	10.944 -	0.000 -	10.944 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0653 / *NAWC Weapons Division*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations. ***FY 2018 Base Plans:*** Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain the MRTFB operations. ***FY 2018 OCO Plans:*** N/A					
Title: Test and Evaluation Ordnance	3.012	3.033	3.089	0.000	3.089
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Test and Evaluation Ordnance facilities. These facilities provide test and evaluation of All-Up live ordnance and components. ***FY 2016 Accomplishments:*** Continue to maintain and operate mission essential/core test support resources associated propulsion, warhead, environmental, rocket motor, and other missile component test facilities required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations. ***FY 2017 Plans:*** Continue to maintain and operate mission essential/core test support resources associated propulsion, warhead, environmental, rocket motor, and other missile component test facilities required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 Base Plans:*** Continue to maintain and operate mission essential/core test support resources associated propulsion, warhead, environmental, rocket motor, and other missile component test facilities required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0653 / *NAWC Weapons Division*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 OCO Plans:*** N/A					
Title: Naval Air Warfare Center Weapons Division (NAWCWD) Command ***Articles:*** ***Description:*** This project funds the overhead/institutional costs required to sustain the NAWCWD MRTFB Test and Evaluation capabilities. The funding increase from FY 2017 to FY 2018 reflects a one-time cost to complete Pt. Mugu certification as a Gulfstream main operation base in preparation for maintenance support of the C-20 aircraft. ***FY 2016 Accomplishments:*** Continue to reimburse the Command for General and Administration Support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities, Navy Marine Corps Intranet, and any costs necessary to manage and sustain MRTFB operations. ***FY 2017 Plans:*** Continue to reimburse the Command for General and Administration Support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities, Navy Marine Corps Intranet, and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations. ***FY 2018 Base Plans:*** Continue to reimburse the Command for General and Administration Support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities, Navy Marine Corps Intranet, and any costs necessary to manage and sustain MRTFB operations. Added maintenance start up for C-20 aircraft. ***FY 2018 OCO Plans:*** N/A	48.190 -	45.184 -	47.439 -	0.000 -	47.439 -
Accomplishments/Planned Programs Subtotals	141.856	135.521	140.001	0.000	140.001

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0653 / *NAWC Weapons Division*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain MRTFB infrastructure in a ready state to provide between 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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0654: *NAWC Acft Division*	0.000	97.645	94.556	96.653	-	96.653	98.322	101.605	103.632	105.684	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Atlantic Ranges	23.742	22.256	22.892	0.000	22.892
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities associated with the Atlantic Ranges and Facilities and Air Vehicle Modification and Instrumentation. These facilities provide safe, instrumented, controlled flight testing and training in air, sea, and land arenas.					
FY 2016 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 2017 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,					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0654 / *NAWC Acft Division*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations. ***FY 2018 Base Plans:*** Continue to maintain and operate mission essential/core test support resources. These resources include test article instrumentation and/or modification for Flight Test Aircraft and Weapons Undersea Test as well as ground and flight test instrumentation systems, range instrumentation systems and data processing and communication systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 OCO Plans:*** N/A					
Title: Electromagnetic Environmental Effects (E-Cubed) and Air Combat Environment Test and Evaluation Facility (ACETEF) ***Articles:*** ***Description:*** This project funds the overhead/institutional costs required to sustain the MRTFB capabilities associated with E-Cubed and ACETEF. These facilities provide Test & Evaluation support with integrated, interactive, and repeatable synthetic environments and reduce the risk and cost for programs with the use of installed systems tests to include simulation and stimulation tools, techniques and technologies. ***FY 2016 Accomplishments:*** Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2017 Plans:*** Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 Base Plans:***	19.879 -	19.729 -	19.667 -	0.000 -	19.667 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0654 / *NAWC Acft Division*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 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. ***FY 2018 OCO Plans:*** N/A					
Title: Propulsion Systems Evaluation Facility (PSEF) ***Articles:*** ***Description:*** This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the PSEF. These facilities perform Test & Evaluation (T&E) of propulsion systems in the laboratories, engine test chambers and component test rigs of the PSEF and the Aircraft T&E Facility. Propulsion Systems consists of engines, engine components and accessories. ***FY 2016 Accomplishments:*** Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2017 Plans:*** Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 Base Plans:*** Continue to maintain and operate mission essential/core test support resources required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 OCO Plans:*** N/A	4.389 -	4.366 -	4.444 -	0.000 -	4.444 -
Title: Threat/Target Systems	1.621	1.645	1.675	0.000	1.675

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0654 / *NAWC Acft Division*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Threat/Target Systems facilities. These facilities provide the airborne and seaborne threats for T&E. ***FY 2016 Accomplishments:*** Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations. ***FY 2017 Plans:*** Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 Base Plans:*** Continue to maintain and operate mission essential/core test support resources associated with airborne and seaborne targets required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 OCO Plans:*** N/A					
Title: Naval Test Wing Atlantic	22.474	21.658	22.068	0.000	22.068
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the MRTFB capabilities of the Naval Test Wing Atlantic. These facilities provide support for Naval Aviation Systems Team aircraft, engaged in or supporting Test & Evaluation aircraft systems. ***FY 2016 Accomplishments:*** Continue to maintain and operate mission essential/core test support resources associated with 12 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel,					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0654 / *NAWC Acft Division*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2017 Plans:*** Continue to maintain and operate mission essential/core test support resources associated with 11 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range and Test Facility Base (MRTFB) operations. ***FY 2018 Base Plans:*** Continue to maintain and operate mission essential/core test support resources associated with 11 aircraft and related systems and flight test safety required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 OCO Plans:*** N/A					
Title: Naval Air Warfare Center Aircraft Division Command (NAWCAD) ***Articles:*** ***Description:*** This project funds the overhead/institutional costs required to sustain the NAWCAD MRTFB Test & Evaluation capabilities. ***FY 2016 Accomplishments:*** Continue to reimburse the Command for General and Administrative support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2017 Plans:*** Continue to reimburse the Command for General and Administrative support services. Continue to fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. ***FY 2018 Base Plans:***	25.540 -	24.902 -	25.907 -	0.000 -	25.907 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 0654 / *NAWC Acft Division*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 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. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	97.645	94.556	96.653	0.000	96.653

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain Major Range Test Facility Base infrastructure in a ready state to provide between 8,700-9,200 range hours, 4,900-5,300 chamber hours, 9,500-10,000 Electromagnetic Environmental Effects test hours, and over 10,000 flight hours in support of multiple Navy and Department of Defense acquisition programs and fleet training.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy											Date: May 2017	
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 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
2921: *Pacific Missile Range Facility*	0.000	5.316	5.179	5.385	-	5.385	5.484	5.665	5.778	5.894	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: PMRF	5.316	5.179	5.385	0.000	5.385
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the recognized Major Range and Test Facility Base (MRTFB) capabilities at PMRF in accordance with Department of Defense Directive 3200.11.					
FY 2016 Accomplishments: Continue to maintain and operate mission essential/core test support resources including the precision radar and telemetry assets, the MATSS, the SHOTS, and the Telemetry Systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. Reimburse the Command for General and Administrative support services.					
FY 2017 Plans: Continue to maintain and operate mission essential/core test support resources including the precision radar and telemetry assets, the MATSS, the SHOTS, and the Telemetry Systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. Reimburse the Command for General and Administrative support services.					
FY 2018 Base Plans: Continue to maintain and operate mission essential/core test support resources including the precision radar and telemetry assets, the MATSS, the SHOTS, and the Telemetry Systems required to meet customer test workload.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 2921 / *Pacific Missile Range Facility*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain Major Range Test Facility Base (MRTFB) operations. Reimburse the Command for General and Administrative support services. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	5.316	5.179	5.385	0.000	5.385

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain MRTFB infrastructure in a ready state to provide between 600-1,000 range hours in support of multiple Navy and Department of Defense acquisition programs and fleet training.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2922: *MRTFB Maint & Repair*	0.000	39.583	96.034	44.378	-	44.378	45.704	41.756	44.229	45.068	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Facility Maintenance and Repair	39.583	96.034	44.378	0.000	44.378
Articles:	-	-	-	-	-
Description: Maintenance and repair of the MRTFB RPMA at NAWCWD, NAWCAD, and AUTEC.					
FY 2016 Accomplishments: 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 and continue NAWCAD Hangar Life Extension.					
FY 2017 Plans: 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 Hanger Life Extension.					
$52.300 million is required to support necessary repairs to AUTEC facilities resulting from Hurricane Matthew in October 2016. Damage includes, but is not limited to, roofs, air conditioning/ventilation systems, potable water distribution and storage, maritime navigation (channel) markers, and building siding, trim and doors. The following types of facilities were damaged: range use buildings, range operations support, exercise torpedo					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 2922 / *MRTFB Maint & Repair*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
post-run, transient and permanent party housing, potable water distribution piping and storage tanks, storage and warehousing, and public works (e.g., machine shop, welding, roads and grounds. ***FY 2018 Base Plans:*** 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. Initiate NAVAIR Hangar recapitalization efforts and AUTEC Inspector General compliance projects to improve security. Improvements include fencing, security lighting and gate. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	39.583	96.034	44.378	0.000	44.378

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain the 141, 357, and 784 building/structures at Naval Undersea Warfare Center Detachment (NUWC) Atlantic Undersea Test and Evaluation Center (AUTEC), Naval Air Warfare Center Aircraft Division (NAWCAD), and Naval Air Warfare Center Weapons Division (NAWCWD) respectively. Execute 15-20 major repair projects per year to address mission critical services.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3154: *Nanoose and Dabob Bay Ranges*	0.000	11.695	11.421	11.556	-	11.556	11.771	12.171	12.418	12.671	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Undersea Ranges	11.695	11.421	11.556	0.000	11.556
Articles:	-	-	-	-	-
Description: This project funds the overhead/institutional costs required to sustain the Major Range Test Facility Base (MRTFB) capabilities at the Nanoose and Dabob Bay undersea tracking ranges.					
FY 2016 Accomplishments: Continue to maintain and operate mission essential/core test support resources associated with the unique test environments for T&E of undersea weapons, sensors, submarines and other undersea systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication, equipment maintenance, purchased service contracts, annual utilities and any costs necessary to manage and sustain MRTFB operations. Reimburse the Command for General and Administrative support services.					
FY 2017 Plans: Continue to maintain and operate mission essential/core test support resources associated with the unique test environments for T&E of undersea weapons, sensors, submarines and other undersea systems required to meet customer test workload. Fund civilian labor, travel, transportation, equipment, supplies, communication,					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 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. ***FY 2018 Base Plans:*** 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. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	11.695	11.421	11.556	0.000	11.556

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

Maintain MRTFB infrastructure in a ready state to provide between 1,600-2,000 range hours in support of multiple Navy and Department of Defense acquisition programs and fleet training.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3386: *MRTFB Marine Vessels*	0.000	0.000	13.960	15.873	-	15.873	13.092	19.640	16.256	16.545	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is a new start FY17 program which 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: MRTFB Marine Vessels	0.000	13.960	15.873	0.000	15.873
Articles:	-	-	-	-	-
Description: 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).					
FY 2016 Accomplishments: N/A					
FY 2017 Plans: Initiate overhauls and preventative maintenance on five MRTFB vessels. Initiate Service Life Extension Projects for YTT-10, YTT-11, and Transporter vessels.					
FY 2018 Base Plans: Initiate overhauls and preventative maintenance on seven MRTFB vessels. Complete Service Life Extension Projects (SLEP) for YTT-10 and Transporter vessels, continue SLEP on YTT-11, and initiate SLEP of Rover vessel.					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	13.960	15.873	0.000	15.873

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605864N / *Test & Evaluation Support*	**Project (Number/Name)** 3386 / *MRTFB Marine Vessels*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable.

E. Performance Metrics

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: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605865N *I Operational Test & Eval Capability*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	17.796	18.199	20.298	-	20.298	21.950	23.099	23.587	24.177	Continuing	Continuing
0831: *OPTEVFOR Support*	0.000	17.796	18.199	20.298	-	20.298	21.950	23.099	23.587	24.177	Continuing	Continuing

A. Mission Description and Budget Item Justification

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, Cybersecurity, 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.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	17.985	18.160	18.487	-	18.487
Current President's Budget	17.796	18.199	20.298	-	20.298
Total Adjustments	-0.189	0.039	1.811	-	1.811
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.189	0.000			
• Program Adjustments	0.000	0.039	1.679	-	1.679
• Rate/Misc Adjustments	0.000	0.000	0.132	-	0.132

Change Summary Explanation

Fleet demand for Cybersecurity testing has increased by 63% since FY14 due to real world threats and Department of Defense (DoD) directives. Cyber Security threats continue to evolve and it has become more challenging for the Navy to protect systems, detect threats, react to threatens and restore system functionality after a cyber attack. These evolving threats require specialized training, tool sets and increased proficiency in COMOPTEVFOR's cyber security test manpower. The funding increase supports additional Cyber Security manpower to meet the Program Cyber Security Operational Tests (OT) required by DoD.

The cyber manpower increase is offset by the realignment of 14 Management Headquarters Activity (MHA) FTE from this program element into 0902498N Management Headquarters (Departmental Support Accounts).

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605865N / *Operational Test & Eval Capability*

Technical: N/A

Schedule: N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0831: *OPTEVFOR Support*	0.000	17.796	18.199	20.298	-	20.298	21.950	23.099	23.587	24.177	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element (PE) provides Commander, Operational Test and Evaluation Force (COMOPTEVFOR) general support funding for headquarters annual operating costs and ensures COMOPTEVFOR compliance with Secretary of Defense (SECDEF) and Secretary of the Navy (SECNAV) directives to conduct independent operational testing and evaluation. This funding supports planning, testing, and reporting on the operational effectiveness and suitability of new and improved systems and recommending fleet usage to the Chief of Naval Operations (CNO). Funding also supports recently instituted initiatives (including the manpower to execute) that improve COMOPTEVFOR's ability to develop "minimum, adequate" test strategies maximizing efficiencies and minimizing assets required to conduct planned operational testing, thereby driving down overall test and evaluation costs for the Navy. The CNO, as well as acquisition executives and managers at all levels, have a continuing need for expeditious and efficient conduct of Operational Test and Evaluation (OT&E) by COMOPTEVFOR in support of training and equipping fleet forces. To this end, this funding supports COMOPTEVFOR's continued pursuit of a variety of senior management initiatives aimed at increasing efficiencies in T&E; these senior management initiatives include IT database and decision making technology upgrades, implementation of Integrated Testing and Mission Based Test Design across all programs, and improved staffing and expertise in the areas of DON acquisition processes, Modeling and Simulation, Statistical Studies, Information Assurance, and similar disciplines. All of these initiatives are aimed at improving the quality of testing and evaluation, thus ensuring delivery to fleet units of fully tested and capable combat systems. OT&E issues have direct long term Navy-wide implications on the Fleet's readiness and warfighting capability. Rapid advances in technology, changes in fleet tactics, and increased complexity of weapons systems and platforms, combined with reductions in manpower, force structure, and budgets have created an increased need for technical and operational analyses that are sophisticated and timely in order to ensure an optimal return on investment of Navy resources.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: OPTEVFOR SUPPORT	17.796	18.199	20.298	0.000	20.298
Articles:	-	-	-	-	-
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.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605865N / *Operational Test & Eval Capability*	**Project (Number/Name)** 0831 / *OPTEVFOR Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
FY 2016 Accomplishments: - This project provided for the civilian salaries and operating costs for COMOPTEVOR. - Agile IT: Continued Agile IT Operational Test and Evaluation (OT&E efforts); a third program is under consideration for inclusion in this method. - Test and Product Processes: Continued efforts to enhance and improve test processes and products in support of increasing the value of OT&E. - Continued efforts to electronically link program deficiencies to the Warfare Capability Baseline (WCB) assessment efforts (PHOENIX). - Workforce Shaping: Anticipate limited, but measurable progress to continue in the effort to acquire analytic and cybersecurity workforce improvements. - WCB 6 completed during FY16.					
FY 2017 Plans: - This project funds civilian salaries and operating costs for COMOPTEVOR - Agile IT process is expected to benefit and be refined following the first full year of effort. - OT&E processes and methods will continue to be examined for improvement - Anticipate that the linkage between WCB and deficiencies will be complete and other electronic database efforts associated with PHOENIX will continue. - Workforce shaping efforts will continue across the FYDP. - 7th increment of WCB is expected to be completed.					
FY 2018 Base Plans: - This project funds civilian salaries and operating costs for COMOPTEVOR - Agile IT: Expect to continue Agile IT OT&E efforts; additional programs are under consideration for inclusion in this method. - Test and Product Processes: as a learning organization, COTF will continue efforts to enhance and improve test processes and products in support of increasing the value of OT&E. - Anticipate that the linkage between WCB and deficiencies will be complete and other electronic database efforts associated with PHOENIX will continue. - Increased CIVPERS E/S will support increased optempo in cyber security testing. - 8th increment of WCB is expected to be completed.					
FY 2018 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605865N / *Operational Test & Eval Capability*	**Project (Number/Name)** 0831 / *OPTEVFOR Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Accomplishments/Planned Programs Subtotals	17.796	18.199	20.298	0.000	20.298

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

As indicated in section A above, funding provides for core headquarters operations and support (O&S) costs related to required operational testing and evaluation (T&E) conducted in support of Navy acquisition programs. The preponderance of funding provides for the annual O&S costs for day to day operations of the staff/ headquarters of COMOPTEVFOR, located in Norfolk, Virginia. (Pursuant to DoD Financial Management Regulations and Navy financial policy guidance, as a T&E activity, COMOPTEVFOR's annual support costs are funded via RDTEN vice OMN; hence, and unlike most RDTEN programs, these funds provide for O&S costs typical of military field commands/activities). Within this project, over 1/2 of the funding supports salaries of assigned civilian personnel. The remaining funds provide for other routine support costs such as travel, IT support, supplies, and other overhead/administrative support costs. The primary metric used within the project involves support for scheduled Navy acquisition program testing and subsequent analysis and reporting of results of testing to appropriate senior Navy acquisition officials and to the Navy chain of command directly to the CNO and various OPNAV/SECNAV staff offices. The performance goal is met when all assigned/scheduled testing and reporting is supported each year. Specific test program success is measured through analytic results of testing conducted throughout the year and constant interaction with program offices, acquisition decision makers, OPNAV staff resource sponsor offices, OSD and other service T&E offices/activities, and miscellaneous other customers/stakeholders. This project also supports testing and evaluation of various Joint/multi-service programs in which the Navy shares responsibilities in support of the acquisition community. The following metrics relate directly to the funding provided and are applicable to current operations.

Number of Tests Conducted - FY16 = 103; FY17 = 104; FY18 = 108
Number of Programs Supported - FY16 = 422; FY17 = 424; FY18 = 424

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605866N *I Navy Space & Electr Warfare Supt*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	6.316	9.658	17.341	-	17.341	18.686	22.023	19.024	19.944	Continuing	Continuing
0706: *EMC & RF Mgmt*	0.000	6.316	9.658	17.341	-	17.341	18.686	22.023	19.024	19.944	Continuing	Continuing

Note

Increased budget from FY 2017 to FY 2018 is required make updates to the RTSO Software 1.0 to enable new features in support of enabling Electromagnetic Maneuver Warfare (Battlespace Awareness, Assured Command and Control, Maneuver, and Integrated Fires) and provide RTSO Software 1.0 to every ship in the Navy. Funding to support continual testing and updates, 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.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	5.316	9.658	11.520	-	11.520
Current President's Budget	6.316	9.658	17.341	-	17.341
Total Adjustments	1.000	0.000	5.821	-	5.821
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.000	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	5.800	-	5.800
• Rate/Misc Adjustments	0.000	0.000	0.021	-	0.021

Change Summary Explanation

Increased budget from FY 2017 to FY 2018 is required make updates to the RTSO Software 1.0 to enable new features in support of enabling Electromagnetic Maneuver Warfare (Battlespace Awareness, Assured Command and Control, Maneuver, and Integrated Fires) and provide RTSO Software 1.0 to every ship in the Navy.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0706: *EMC & RF Mgmt*	0.000	6.316	9.658	17.341	-	17.341	18.686	22.023	19.024	19.944	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Electromagnetic Compatibility (EMC) and Radio Frequency (RF) Management Program. This project develops tools, processes, and algorithms to identify and mitigate EMI sources for Navy systems and platforms.

(a) It will support the Afloat Electromagnetic Spectrum Operations Program (AESOP), an automated spectrum Fleet operational capability. The application will be enhanced to comply with fleet operational requirements and streamline Strike Force frequency management processes. It will provide automated Spectrum Management (SM) tools for development of operational task communication and radar/weapon plans to support fleet deployments, exercises, and contingency operations. It will provide identification and mitigation of EMI in Navy, North Atlantic Treaty Organization (NATO), Allied, Ashore and Joint Combat Operations. It will provide analysis related to spectrum reallocation proposals to assess impacts on Navy operations and systems.

(b) It will support the Shipboard Electromagnetic Compatibility Improvement Program (SEMCIP) to identify, engineer, and evaluate effectiveness of potential EMI corrections. The program also characterizes and quantifies the operational impact of EMI problems on system's mission performance.

(c) It will support the Nuclear Electromagnetic Pulse (EMP) Survivability Program. The program assesses the EMP survivability of all mission critical systems and funds development of a hardness assurance and maintenance program. It will develop improved modeling capability to reduce hardness validation costs at delivery and over the lifetime of the system/platform. The program develops new and updated design criteria, test methodology, test limits, and survivability validation procedures for all Navy systems, ships, submarines and shore facilities.

(d) It will support the Real-Time Spectrum Operations Program. The program investigates Electromagnetic (EM) Environmental effects between shipboard transmitters/ receivers and develops EM and spectrum techniques with Commercial off the shelf (COTS) technologies to provide the ability to monitor EM spectrum usage and system EM degradation on all ships in a given strike group. The program will investigate technologies to build an EM Spectrum Common Operational Picture (COP) to detect and assess operational capabilities in real-time. Additional investigations will be performed to develop processes and procedures to predict the EM environment for planning purposes. In the out-years, these capabilities will be used to build the next generation combat system with inherent spectrum agility and self-awareness capability, further enhancing the Navy's ability to perform Command and Control (C2) of the EM Spectrum warfighting domain.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Afloat Electromagnetic Spectrum Operations Program (AESOP)	0.420	0.420	0.680	0.000	0.680
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
FY 2016 Accomplishments: - Initiated effort to modularize AESOP source code to allow easier integration with next gen software tools [Real Time Spectrum Operations (RTSO) / Electromagnetic Maneuver Warfare (EMW) - Added Emission Control (EMCON) source code to both RTSO and AESOP systems, providing a more integrated approach. - Attended the Spectral Tsunami War-game and provided input for the use of AESOP in the future - Attended Department of Navy Spectrum Summit and delivered a brief on AESOP updates - Met with Spectrum Knowledge Framework (SKF) team from Office of Naval Research (ONR) and discussed the integration of AESOP data - Researched the Orchestrated Simulation through Modeling (OSM) program. - Attended System Integration meetings with the Orchestrated Simulation through Modeling (OSM) program. - Researched Spectral Warrior data / views for display within AESOP. - Researched and developed plans with RTSO/EMW teams to integrate Spectral Warrior modules. - Held six (6) integrated AESOP/RTSO Configuration Control Board (CCB) meetings to discuss software and database merger requirements.					
FY 2017 Plans: - Identify new/modified military equipment and review their spectrum usage to provide capability to ships. - Develop software and database modifications to support new Navy shipboard systems; i.e. DBR, AMDR, EASR, etc - Develop software and database modifications to enhance spectrum planning based on fleet requirements, including in the areas of TACAN and below decks wireless. - Update the common system database elements with equipment parameters, platform data, policy/littoral restrictions information. - Develop software modifications as needed to ensure interoperability and common analysis tools/techniques (e.g., propagation models). - Evaluate International, National, DoD and Navy spectrum processes that could impact Naval operations. - Assess potential changes and develop tests to evaluate potential updates to the fleet operational application.					
FY 2018 Base Plans: - Research International, National, DoD and Navy spectrum processes that could impact Naval operations. - Identify new/modified military equipment and review their spectrum usage to provide capability to ships.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Perform analysis of these new/modified systems against existing Fleet equipment spectrum use, and develop potential scenarios for further testing and evaluation. - Evaluate, test, and integrate into the software updates to toolkits and application programming interfaces (APIs), such as ArcGIS, SQL Server, and propagation models such as the Advanced Propagation Model (APM). ***FY 2018 OCO Plans:*** N/A					
Title: Shipboard Electromagnetic Compatibility Improvement Program (SEMCIP)	1.033	1.270	1.655	0.000	1.655
Articles:	-	-	-	-	-
FY 2016 Accomplishments: - Performed evaluation EMI on of USS ARLINGTON (LPD 24) to determine point of entry of HF transmissions to the Load and Motion Indicator (LMI) of the Boom Crane. Results of testing/analysis enabled crane manufacturer to redesign LMI signal wire installation routing to reduce interference. - Completed evaluation of mast reflections from AN/WSC-6(V)9 SATCOM to AN/SLD-4 Electronic Support Measure to identify and install radar absorbing material (RAM) on LCS Freedom Variant. - Completed evaluation of mast reflections from/to the AN/SPS-75 radar to identify and install radar absorbing material (RAM) on LCS Independence Variant. - Performed AN/SPQ-9B radar testing of the newest prototype receive band-pass filter design on AEGIS Cruiser test ship. The filter in conjunction with the newly designed Transmit filter improves radar performance and together they help to reduces identified radar interference. - Evaluated report of AN/SPS-35 radar interference to the AN/WSC-6 and AN/WSC-9 Navy Multi-Band Terminal SATCOMs causing reduced bit error rates. The EMI was identified as a maintenance issue, enclosure doors were opened allowing energy to penetrate critical components. A warning sticker has been created and will be placed on the exterior cabinets to remind Fleet technicians to ensure doors are properly secured after maintenance actions are complete.					
FY 2017 Plans: - As new problems are identified, perform EMI Problem Characterization and Quantification to identify level of problem severity. - EMI problems with a high severity level can debilitate the combat capability of strike force capability and operational readiness will be added to the priority list for evaluating potential EMI solutions. - In 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),					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Satellite Communication (i.e., the Navy Multi-Band Terminal and the Commercial Broadband Satellite Program), and Common Data Link (CDL) Programs. - An additional focus area is the evaluation of Commercial Off the Shelf (COTS) systems/radars and the integration of Unmanned Aircraft Systems (UAS). - Develop and evaluate the effectiveness of proposed EMI solutions and coordinate with system program managers for proper integration of the final EMI solution. ***FY 2018 Base Plans:*** - As new problems are identified, perform EMI Problem Characterization and Quantification to identify level of problem severity. EMI problems with a high severity level can debilitate the combat capability of strike force capability and operational readiness will be added to the priority list for evaluating potential EMI solutions. - The program will evaluate 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. - The program will focus on the evaluation of Commercial Off the Shelf (COTS) systems/radars and the integration of Unmanned Aircraft Systems (UAS). - The program will develop and evaluate the effectiveness of proposed EMI solutions and coordinate with system program managers for proper integration of the final EMI solution. ***FY 2018 OCO Plans:*** N/A					
Title: Electromagnetic Pulse (EMP) Survivability	0.924	1.004	0.834	0.000	0.834
Articles:	-	-	-	-	-
FY 2016 Accomplishments: - Supported the EMP Maritime Standard for Surface Ships. Attended and participated in 6 meetings. MIL-STD 4023 published 25 Jan 2016 - Held Pulse Current Injection Technical Interchange to review current test methods and proposed enhancements; performed side-by-side comparison testing utilizing various test equipment; and discussed the development of an improved Electromagnetic Pulse (EMP) test method - Modified test fixture to be used as a shielded enclosure for the purposes R&D work relating to free-field cable coupling and pulse current injection analysis and design					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Investigated signal reconstruction algorithms to process signals collected during testing of afloat and ashore HEMP testing - Developed Low Level Continuous Wave Illumination test plan for a ship test in accordance with MIL-STD 4023 Appendix C and to support upfront planning and testing for potential Central Test &Evaluation Investment Program (CTEIP) investment of a large scale LLCWI simulator - Refined Navy patented Cable Shield Ground Adaptor for use in ashore facilities -Supported ashore facility in Pulse Current Injection (PCI) testing as well as installation of Navy patented Cable Shield Ground Adaptor. Assisted with shore based Hardness Maintenance / Hardness Surveillance plan and Integrated Survivability and Endurability Report (INSER) On-Site Assessment ***FY 2017 Plans:*** - 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 Ordinance Transient Electromagnetic Simulator (NOTES) EMP Facility (ashore test bed). - Develop Data Acquisition conceptual capability for HEMP testing at NOTES facility and on afloat platforms - Investigate HEMP afloat testing technology concepts in order to support full ship HEMP testing requirements in MIL-STD 4023 ***FY 2018 Base Plans:*** - - Perform Modeling and Simulation (M&S) Verification, Validation, & Accreditation (VV&A) efforts - Support Development 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 assessments using existing methods onboard an existing ship and compare measurements to multiple, independent M&S investigations leveraging different methodologies -Complete Data Acquisition capability design - Initiate conceptual at-sea HEMP demonstration plan ***FY 2018 OCO Plans:*** N/A					
Title: Real-Time Spectrum Operations (RTSO)	3.939	6.964	14.172	0.000	14.172

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Articles:	-	-	-	-	-
FY 2016 Accomplishments: - Held a Propagation Workshop to build propagation and coupling application development plans. - Successfully integrated and demonstrated RTSO EMCON software with Pacific Pivot Own Force Monitoring System onboard USS JOHN C. STENNIS (CVN 74). - Installed RTSO Speed-to-Fleet (S2F) software and hardware on USS VELLA GULF (CG 72) and completed ship checks and several underway demonstrations. The S2F hardware provides the electronic warfare operator EMCON and spectrum policy validation in real-time. The system has proved to be very valuable to the warfighter.					
FY 2017 Plans: - Integrate the RTSO S2F Own Force Monitoring Software demonstrated on USS VELLA GULF (CG 72) with the 59 Fleet Forces Command Purchased Own Force Monitoring Kits. The kits are provided to deploying units. - Deliver the RTSO Software 1.0 (S2F Own Force Monitoring Software) to every ship in the Navy. The OFM software when used with the Own Force Monitoring Kits will provide the user interface to quickly identify EMCON compliance and authorized frequency plan compliance in real-time. - Investigate running the RTSO Software on the CANES shipboard server for future applications in providing spectrum awareness and status to multiple users. - Demonstrate the capability for real-time Electromagnetic Inference / Jamming detection awareness in a lab or test range environment.					
FY 2018 Base Plans: - Develop and integrate ship's positional updates to enable real-time calculations of electromagnetic interference/feed into a RTSO fleet/user interface that provides recommended actions to resolve the interference. - Investigate and integrate Meteorological and Oceanographic (METOC), refractivity, climatology data and update propagation models to include in the real-time calculations. - Finalize Consolidated Afloat Networks and Enterprise Services (CANES) network interface specification and integrate RTSO Software into the CANES network. This will provide spectrum awareness to multiple users. - Develop and publish a RTSO Spectrum Common Operating Picture (COP) to enable Electromagnetic Maneuver Warfare (EMW) capabilities and provide spectrum situational awareness of the strike group within the AOR.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Develop and integrate multiple user defined displays and Graphical User Interfaces (GUIs) so the operator can tailor their views based on the operational needs. - Develop and integrate Satellite Communications (SATCOM) tools (i.e., jamming, interference, and coverage) into a RTSO GUI for mission critical SATCOM systems. - Develop RTSO Software interface requirements for specific systems such as radar, electronic warfare, and communication systems. - Investigate and develop RTSO Software interface requirements for Combat Systems baselines [i.e., AEGIS and Ship Self-Defense System (SSDS)]. - Define RTSO Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF-P) requirements that effect Manpower, Personnel, Training and Education (MPT&E) requirements and solutions. -Perform initial DOTMLPF-P analysis to assess RTSO training requirements. Perform review/update/ development of Navy Tactical Tasks (NTAs) measures, standards, and criteria to support RTSO operation and maintenance. Perform review/update of Defense Readiness Reporting System-Navy (DRRS-N) to evaluate RTSO Personnel, Equipment, Supply, Training, Ordnance and Facilities (PESTOF) resource measures. -Develop a plan for RTSO training and certification requirements analysis for course development and implementation within the RTSO NTSP and Theater/Fleet Training Plans. Develop/update Job Duty Task Analysis (JDTA) requirements to support RTSO equipment basic operation/maintenance; and tactical operation to support Task Unit and Strike Group personnel. -Identify the Knowledge, Skills, and Abilities (KSAs) necessary for leaders, warfighters, civilians, and contractor personnel to understand and effectively utilize RTSO. Develop/update Personnel Qualification Standard (PQS) to support RTSO JDTA requirements. ***FY 2018 OCO Plans:*** - Provide fleet-requested RTSO software improvements to accommodate the intense/severe operational environment and constraints encountered in overseas contingency operations.					
Accomplishments/Planned Programs Subtotals	6.316	9.658	17.341	0.000	17.341

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

D. Acquisition Strategy

An acquisition strategy is not required.

E. Performance Metrics

Performance metrics will consist of quarterly program reviews.

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy												Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605867N *I Space & Elec War Surv/Recon*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	6.519	6.500	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.019
1034: *TAC SAT Recon Office*	0.000	6.519	6.500	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.019

Note

The Space & Elec War Surv/Recon PE (0605867N) funding consolidated under the SEW Surveillance/Reconnaissance Support PE (1206867N) in FY2018 and out.

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.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy					Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0605867N / *Space & Elec War Surv/Recon*			
B. Program Change Summary ($ in Millions)	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**
Previous President's Budget	6.519	6.500	9.151	-	9.151
Current President's Budget	6.519	6.500	0.000	-	0.000
Total Adjustments	0.000	0.000	-9.151	-	-9.151
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-9.151	-	-9.151

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1034: *TAC SAT Recon Office*	0.000	6.519	6.500	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.019
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Assured Command and Control	0.652	0.560	0.000	0.000	0.000
Articles:	-	-	-	-	-
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.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
FY 2016 Accomplishments: Additional details with respect to this line item are held at a higher classification. ***FY 2017 Plans:*** Additional details with respect to this line item are held at a higher classification. ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Title: Battlespace Awareness	4.237	3.627	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: 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. ***FY 2016 Accomplishments:*** Additional details with respect to this line item are held at a higher classification. ***FY 2017 Plans:*** Additional details with respect to this line item are held at a higher classification. ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Title: Integrated Fires	1.630	2.313	0.000	0.000	0.000
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Description: 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. ***FY 2016 Accomplishments:*** Additional details with respect to this line item are held at a higher classification. ***FY 2017 Plans:*** Additional details with respect to this line item are held at a higher classification. ***FY 2018 Base Plans:*** N/A ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	6.519	6.500	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not Applicable

E. Performance Metrics

Not Applicable

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605873M *I Marine Corps Program Wide Supt*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	14.129	22.247	21.751	-	21.751	21.994	22.439	22.867	23.299	Continuing	Continuing
0030: *Studies & Analysis/MC*	0.000	1.214	7.876	6.133	-	6.133	5.012	5.116	5.226	5.329	Continuing	Continuing
0033: *OT&E Support*	0.000	12.584	12.281	13.643	-	13.643	15.377	15.696	15.982	16.277	Continuing	Continuing
2330: *Chem Bio Consequence Mgmt*	0.000	0.331	2.090	1.975	-	1.975	1.605	1.627	1.659	1.693	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element (PE) provides the analytical foundation for the Marine Corps Studies System (MCSS), including mandated Mission Area Analyses and Cost and Operational Effectiveness Analyses. The MCSS is the front end of the Marine Corps' acquisition system. This PE also supports the material acquisition process as follows: managing the Marine Corps Operational Test and Evaluations (OT&E); providing Chem Bio Consequence Management of capabilites for Weapons of Mass Destruction (WMD) incident response forces; and conducting Phase A activities to investigate potential material solutions that validate needs, program costs, business decisions, and prevent undue delays in pursuing priority requirements.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	13.627	22.247	17.875	-	17.875
Current President's Budget	14.129	22.247	21.751	-	21.751
Total Adjustments	0.502	0.000	3.876	-	3.876
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.555	0.000			
• SBIR/STTR Transfer	-0.053	0.000			
• Program Adjustments	0.000	0.000	3.750	-	3.750
• Rate/Misc Adjustments	0.000	0.000	0.126	-	0.126

Change Summary Explanation

The decrease from FY17 to FY18 of $.495M reflects an adjustment of funding back to normal operational levels. FY17 funding supported an 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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605873M / *Marine Corps Program Wide Supt*	Project (Number/Name) 0030 / *Studies & Analysis/MC*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0030: *Studies & Analysis/MC*	0.000	1.214	7.876	6.133	-	6.133	5.012	5.116	5.226	5.329	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 Directorate (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 has been revised into two specialized analytical divisions: (1) External Analysis Division (EAD) - responsible for providing joint external analysis is the Marine Corps' sole representative in the joint modeling arenas. Provides deployed on site professional operations analysis support to Special Purpose MAGTFs in CENTCOM and AFRICOM. (2) Combat Development Analysis Division responsible for executing a select portfolio of studies for senior leadership, Capabilities Based Assessment (CAB) and Marine Corps Enterprise Integration Plan (MCEIP).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Studies & Analysis/MC	1.214	7.876	6.133	0.000	6.133
Articles:	-	-	-	-	-
Description: The Marine Corps Studies System (MCSS), the sole responsibility of the Operations Analysis Directorate (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 Studies Requirements Review Board (SRRB) and approved by the CG, Combat Development					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
and Integration (CD&I)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, supports and protects forces in theater, and utilizes funds efficiently. Research conducted produces comprehensive and integrated analyses aligned to Senior Leadership's requirements and decision timelines. The decrease from FY17 to FY18 of $1.743M reflects an adjustment of funding back to normal operational levels. FY17 funding supported 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. ***FY 2016 Accomplishments:*** - Continued all efforts initiated in FY15 and FY16 unless noted as completed below. - Completed: Phase I MCFIP efforts; Amphibious Ship risk assessments Phase I; MAGTF-CR Phase I - Initiated: The Marine Corps Studies System (MCSS) funded study initiatives to implement the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)) strategic plan for defense basic research. This plan defines specific and quantifiable actions to help create conditions for defense basic research investments capable of creating high-payoff, transformative breakthroughs for DoD though research, analysis, and modeling and simulation. Areas of concentration included: Ground Based Simulation Training; Wartime Medical Requirements; GBAD Weapons Systems Phase II, Cyber and Manpower Allocations. ***FY 2017 Plans:*** - Continue all efforts not completed in FY16. - Complete: Modeling Simulation and Analytical Support Toolkit (MSAT) Phase III. - Initiate: FY17 funding supports 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.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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. ***FY 2018 Base Plans:*** - Continue all efforts not completed in FY17. - Initiate: Phase III and Phase IV prior year efforts and new studies in 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. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.214	7.876	6.133	0.000	6.133

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Provide analytical documentation and support to decision makers for resolution of current and future operational and logistical issues identified by operating forces. Utilize OAD Subject Matter Experts (SME), Marine Corps University, and Naval Post Graduate School to conduct studies and analysis projects in basic and applied research and advanced technology development. Develop and maintain a current operations analysis reachback network with other government and Coalition agencies such as Center for Army Analysis, 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,

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0033: *OT&E Support*	0.000	12.584	12.281	13.643	-	13.643	15.377	15.696	15.982	16.277	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Marine Corps Operational Test and Evaluation Activity (MCOTEA) supports the material acquisition process by managing the Marine Corps Operational Test (OT) programs for Acquisition Categories (ACAT) I through ACAT IV (less OT of manned aircraft) and performs other functions that may be directed by the Commandant of the Marine Corps. The primary purpose of Operational Test and Evaluation (OT&E) is to provide information to the Milestone Decision Authority (MDA) regarding the Operational Effectiveness (OE) and Operational Suitability (OS) of the system addressed at a decision point. MCOTEA must ensure that the Marines in the Operating Forces receive the very best possible equipment and support. MCOTEA must also ensure each system proposed for acquisition is tested adequately, evaluated objectively and reported independently.

Marine Corps Operational Test and Evaluation Activity (MCOTEA) is the only unit that provides the Marine Corps with required operational test and evaluation (OT&E) capability, ensuring the Marine Corps is compliant with laws and regulations, and ensuring that training and equipment are operationally effective, relevant, and suitable. Additionally, MCOTEA's early involvement, coordination, and oversight in developmental testing and evaluation of new combat and combat support systems ensures that our Marines are the best trained, and have the best equipment, with the lowest test costs for taxpayers. Finally, MCOTEA's support of rapid acquisitions ensures that Marines in the fight are supported with the newest and most advanced equipment and that the Marine Corps is compliant with regulations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: MCOTEA	12.584	12.281	12.549	0.000	12.549
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Continued 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 Plans: 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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Authority (MDAs) to programs that are inherently governmental and a comprehensive understanding of operational risk associated with ACAT programs. ***FY 2018 Base Plans:*** 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. ***FY 2018 OCO Plans:*** N/A					
Title: Cyber Awareness Red Team Support ***Articles:*** ***Description:*** This effort supports NDAA S. 1647 requirements. ***FY 2016 Accomplishments:*** N/A ***FY 2017 Plans:*** N/A ***FY 2018 Base Plans:*** Initiate Vulnerability Assessments and Adversarial Assessments in support of the Marine Corps Cyber Awareness Red Team. Initiate efforts to train and equip the Cyber Threat Assessment Team (CTE) to meet all DoD Red Team established standards. ***FY 2018 OCO Plans:*** N/A	0.000 -	0.000 -	1.094 -	0.000 -	1.094 -
Accomplishments/Planned Programs Subtotals	12.584	12.281	13.643	0.000	13.643

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2330: *Chem Bio Consequence Mgmt*	0.000	0.331	2.090	1.975	-	1.975	1.605	1.627	1.659	1.693	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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: FIRS: Reconnaissance Mission Area.	0.007	0.830	0.985	0.000	0.985
Articles:	-	-	-	-	-
FY 2016 Accomplishments: - Continued verification and validation testing for personal protective, detection, identification, and decontamination material solutions.					
FY 2017 Plans: - Continue verification and validation testing for personal protective, detection, identification, and decontamination material solutions. - Continue chemical contamination standoff and early warning research efforts in support of SCAD replacement material solution. - Initiate Unified Command Suite Block II (UCSb2) naval system integration.					
FY 2018 Base Plans: - Continue verification and validation testing for personal protective, detection, identification, and decontamination material solutions.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605873M / *Marine Corps Program Wide Supt*	**Project (Number/Name)** 2330 / *Chem Bio Consequence Mgmt*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Continue chemical contamination standoff and early warning research in support of SCAD replacement material solution. - Initiate Common Analytical Laboratory System-Field Confirmatory Integrated System (CALS FC-IS) naval system integration. ***FY 2018 OCO Plans:*** N/A					
Title: FIRS: Force Protection Mission Area ***Articles:*** ***FY 2016 Accomplishments:*** - Continued verification and validation testing of the positive/negative pressure adaptable mask (XM55). ***FY 2017 Plans:*** - Complete verification and validation testing of the positive/negative pressure adaptable mask (XM55). - Initiate verification and validation testing for new decontamination systems relevant to the Marine Air Ground Task Force (MAGTF) and Chemical-Biological Incident Response Force (CBIRF). ***FY 2018 Base Plans:*** - Continue verification and validation testing for decontamination systems relevant to the MAGTF and CBIRF to include efforts to refresh new area air monitoring devices. ***FY 2018 OCO Plans:*** N/A	0.324 -	1.260 -	0.990 -	0.000 -	0.990 -
Accomplishments/Planned Programs Subtotals	0.331	2.090	1.975	0.000	1.975

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PMC/2220: *Wpns & Cmbt Vehs under $5 million*	0.000	0.689	0.806	-	0.806	0.476	0.540	0.556	0.000	Continuing	Continuing

Remarks

PMC in FY18 through FY21 supports Unified Command Suite Block 2 (UCSb2) and the Common Analytical Laboratory System - Field Confirmatory Integrated System (CALS FC-IS).

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605898N *I (U)MANAGEMENT HQ - R&D*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	16.312	44.279	-	44.279	43.812	42.728	43.615	44.509	Continuing	Continuing
0223: *Sub Combat System Improvement (ADV)*	0.000	0.000	0.144	0.147	-	0.147	0.150	0.153	0.146	0.149	Continuing	Continuing
1447: *Surf Combatant Combat System Imp*	0.000	0.000	0.169	0.172	-	0.172	0.174	0.178	0.181	0.185	Continuing	Continuing
3159: *Naval Integrated Fire Control-Counter Air SE&I*	0.000	0.000	0.169	0.172	-	0.172	0.174	0.178	0.181	0.185	Continuing	Continuing
3186: *Air and Missile Defense Radar*	0.000	0.000	0.508	0.513	-	0.513	0.518	0.527	0.537	0.548	Continuing	Continuing
3216: *Tactical Support Center-Integration*	0.000	0.000	0.025	0.026	-	0.026	0.027	0.027	0.028	0.029	Continuing	Continuing
3316: *Advanced Offboard EW*	0.000	0.000	0.677	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.677
3345: *ONR Management Headquarters*	0.000	0.000	14.620	43.249	-	43.249	42.769	41.665	42.542	43.413	Continuing	Continuing
Program MDAP/MAIS Code: **Project MDAP/MAIS Code(s):** 180, P384												

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.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy					Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0605898N *I (U)MANAGEMENT HQ - R&D*			
B. Program Change Summary ($ in Millions)	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**
Previous President's Budget	0.000	16.254	16.493	-	16.493
Current President's Budget	0.000	16.312	44.279	-	44.279
Total Adjustments	0.000	0.058	27.786	-	27.786
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.058	27.672	-	27.672
• Rate/Misc Adjustments	0.000	0.000	0.114	-	0.114

Change Summary Explanation

The increase in funding from FY 2016 to FY 2017 reflects transfer of Management Headquarters Activity (MHA) funding from several Program Elements.

The increase in funding from FY2017 to FY2018 reflects transfer of ONR MHA Non-Labor support funding from PE 0602898N Science and Technology Management - ONR Headquarters to consolidate S&T Management efforts.

Technical: Not applicable.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0223: *Sub Combat System Improvement (ADV)*	0.000	0.000	0.144	0.147	-	0.147	0.150	0.153	0.146	0.149	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Management Headquarters Personnel	0.000	0.144	0.147	0.000	0.147
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: - 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.					
FY 2018 Base Plans: - Continue Advanced Processing Build (APB) development, integration, land-based testing, at-sea testing, and establishment of tactical scenarios.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- 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. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.144	0.147	0.000	0.147

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This program funds management headquarter contractor support. Performance is measured by attaining the administrative and financial tasks necessary to support program office management.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605898N / *(U)MANAGEMENT HQ - R&D*	Project (Number/Name) 1447 / *Surf Combatant Combat System Imp*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1447: *Surf Combatant Combat System Imp*	0.000	0.000	0.169	0.172	-	0.172	0.174	0.178	0.181	0.185	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 180

A. Mission Description and Budget Item Justification

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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Management Headquarter Personnel	0.000	0.169	0.172	0.000	0.172
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: -Support Cruiser and Destroyer AEGIS Combat System (ACS) upgrades and integrate new equipment and systems to pace the threat and capture advances in technology.					
FY 2018 Base Plans: -Support Cruiser and Destroyer AEGIS Combat System (ACS) upgrades and integrate new equipment and systems to pace the threat and capture advances in technology.					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.169	0.172	0.000	0.172

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605898N / *(U)MANAGEMENT HQ - R&D*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

D. Acquisition Strategy

N/A

E. Performance Metrics

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605898N / *(U)MANAGEMENT HQ - R&D*	Project (Number/Name) 3159 / *Naval Integrated Fire Control-Counter Air SE&I*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3159: *Naval Integrated Fire Control-Counter Air SE&I*	0.000	0.000	0.169	0.172	-	0.172	0.174	0.178	0.181	0.185	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 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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Management Headquarter Personnel	0.000	0.169	0.172	0.000	0.172
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: -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)					
FY 2018 Base Plans: -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)					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.169	0.172	0.000	0.172

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605898N / *(U)MANAGEMENT HQ - R&D*	**Project (Number/Name)** 3159 / *Naval Integrated Fire Control-Counter Air SE&I*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605898N / *(U)MANAGEMENT HQ - R&D*	Project (Number/Name) 3186 / *Air and Missile Defense Radar*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3186: *Air and Missile Defense Radar*	0.000	0.000	0.508	0.513	-	0.513	0.518	0.527	0.537	0.548	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: P384

A. Mission Description and Budget Item Justification

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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Management Headquarter Personnel	0.000	0.508	0.513	0.000	0.513
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: - 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.					
FY 2018 Base Plans: - Provide system engineering and software updates support of AEGIS ACB 20 Preliminary Design Review - Support combat system integration and DDG 51 FLT III integration, including preparing for ACB20 PDR and CDR					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.508	0.513	0.000	0.513

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605898N / *(U)MANAGEMENT HQ - R&D*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• RDT&E/0604522N: *Air and Missile Defense Radar (AMDR) System*	227.051	144.395	31.793	-	31.793	171.057	46.728	37.553	31.024	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605898N / *(U)MANAGEMENT HQ - R&D*	Project (Number/Name) 3216 / *Tactical Support Center-Integration*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3216: *Tactical Support Center-Integration*	0.000	0.000	0.025	0.026	-	0.026	0.027	0.027	0.028	0.029	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 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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Management Headquarter Personnel	0.000	0.025	0.026	0.000	0.026
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: - Continue CV-TSC Development/Integration including development of software builds and systems engineering efforts, conduct of incremental requirements, design, and test reviews.					
FY 2018 Base Plans: - Continue CV-TSC Development/Integration including development of software builds and systems engineering efforts, conduct of incremental requirements, design, and test reviews.					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.025	0.026	0.000	0.026

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605898N / *(U)MANAGEMENT HQ - R&D*	**Project (Number/Name)** 3216 / *Tactical Support Center-Integration*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605898N / *(U)MANAGEMENT HQ - R&D*	Project (Number/Name) 3316 / *Advanced Offboard EW*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3316: *Advanced Offboard EW*	0.000	0.000	0.677	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.677
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Management Headquarters Personnel	0.000	0.677	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: -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).					
FY 2018 Base Plans: The AOEW program has no MHA requirements after FY17.					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.677	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605898N / *(U)MANAGEMENT HQ - R&D*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

D. Acquisition Strategy

N/A

E. Performance Metrics

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605898N / *(U)MANAGEMENT HQ - R&D*	Project (Number/Name) 3345 / *ONR Management Headquarters*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3345: *ONR Management Headquarters*	0.000	0.000	14.620	43.249	-	43.249	42.769	41.665	42.542	43.413	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds all basic costs of Office of Naval Research Management Headquarters Activity (MHA) salaries and non-labor in support of the entire Navy S&T program. 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 in funding from FY 2016 to FY 2017 reflects a transfer of MHA civilian salaries from PE 0605861N Research Development Test & Evaluation (RDT&E) Science and Technology Management as directed by the Office of the Secretary of Defense (OSD) Deputy of Chief Management Officer (DCMO) and other leadership to ensure consistent external reporting. All Non-Operational HQ is now Major Headquarters Activity (MHA).

The increase in funding from FY 2017 to FY 2018 reflects a transfer of ONR Non-Labor MHA support for the Navy S&T programs from PE 0602898N Science and Technology Management - ONR Headquarters. Specifically, funding facilitates 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Management Headquarters Personnel	0.000	14.620	43.249	0.000	43.249
Articles:	-	-	-	-	-
Description: N/A					
FY 2016 Accomplishments: N/A					
FY 2017 Plans: This project provides for basic costs of ONR MHA personnel salaries 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. Reduce auditability challenges to meet the mandate.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605898N / *(U)MANAGEMENT HQ - R&D*	**Project (Number/Name)** 3345 / *ONR Management Headquarters*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Initiate sustainment phase to maintain the audit readiness. ***FY 2018 Base Plans:*** Provides corporate MHA personnel salaries and Non-Labor support in facilitating the purchase of the S&T programs for the Navy.to ensure consistent external reporting. All Non-Operational HQ is now Major Headquarters Activity (MHA). Continue to reduce auditability challenges to meet the mandate. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	14.620	43.249	0.000	43.249

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Program performance is measured by attaining financial benchmarks for planned obligations vs. actual obligations and planned expenditures vs. actual expenditures.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0606355N *I (U)Warfare Innovation Management*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	21.123	28.841	-	28.841	19.529	13.817	14.093	14.375	Continuing	Continuing
3319: *Fleet Experimentation*	0.000	0.000	18.954	11.572	-	11.572	11.219	11.453	11.682	11.916	Continuing	Continuing
3320: *TRIDENT Warrior*	0.000	0.000	2.169	2.269	-	2.269	2.310	2.364	2.411	2.459	Continuing	Continuing
3420: *Expeditionary Submarine Fiber Optic Cable (SFOC)*	0.000	0.000	0.000	15.000	-	15.000	6.000	0.000	0.000	0.000	0.000	21.000

A. Mission Description and Budget Item Justification

FLEX Project 3319:
The Fleet Experimentation (FLEX) project 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.
FLEX was previously funded under PE 0604707N.

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.
Trident Warrior (TW) was transferred from 0604231N (Tactical Command Systems) to 0606355N (Warfare Innovation Management)in FY17.

SFOC Project 3420
Classified Project Expeditionary Submarine Fiber Optic Cable (SFOC) Communications is not a new start. Funding was realigned from project 3319 FLEX in FY18.
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. Identified previous work done within OSD channels, and will leverage lessons learned.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy					Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*			R-1 Program Element (Number/Name) PE 0606355N *I (U)Warfare Innovation Management*		
B. Program Change Summary ($ in Millions)	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**
Previous President's Budget	0.000	21.123	34.938	-	34.938
Current President's Budget	0.000	21.123	28.841	-	28.841
Total Adjustments	0.000	0.000	-6.097	-	-6.097
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-6.104	-	-6.104
• Rate/Misc Adjustments	0.000	0.000	0.007	-	0.007

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / *(U)Warfare Innovation Management*	Project (Number/Name) 3319 / *Fleet Experimentation*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3319: *Fleet Experimentation*	0.000	0.000	18.954	11.572	-	11.572	11.219	11.453	11.682	11.916	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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 Future Years Defense Program (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 annual FLEX guidance. Through experimentation activities such as workshops, system or seminar war simulations, 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.

Expeditionary SFOC Communications (Classified Project) will transfer from Project 3319 (FLEX) to Project 3420 (Expeditionary SFOC Communications) in FY18.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Fleet Experimentation	0.000	18.954	11.572	0.000	11.572
Articles:	-	-	-	-	-
Description: 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 & Technology (S&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					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *(U)Warfare Innovation Management*	**Project (Number/Name)** 3319 / *Fleet Experimentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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). 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. ***FY 2016 Accomplishments:*** FLEX project was previously funded in PE 0604707N SEW ARCHITECTURE/ENG SUPPORT in FY16 ***FY 2017 Plans:*** The FY17 FLEX EXPLAN is based on four USFF/CPF directed focus areas to include, in very broad terms, Multi-mission Electromagnetic Maneuver Warfare, Naval Integrated Fires, Full Spectrum Mine Warfare, and Unmanned Systems. FLEX will also be leveraged to support new platform introduction capabilities. The FLEX Execution Plan supports the following events: a. Fleet Battle Experiment 2017 At-Sea b. Spectral Tsunami 2017 Seminar War Simulation c. USFF Independent Deployments At-Sea (Three ships) d. Emerging Concepts War Simulation e. Netted Sensors At-Sea f. Trident Warrior 2017 At-Sea g. Bold Alligator 2017 At-Sea h. Red Nitrum At-Sea I. Navy Integrated Fire Control - Counter Air System (NIFC-CA) System War Simulation j. MIW At-Sea k. Counter Unmanned Systems (UxS) At-Sea					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *(U)Warfare Innovation Management*	**Project (Number/Name)** 3319 / *Fleet Experimentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
I. Office of Naval Research (ONR) Technology Innovation Games (TIGs) Additionally, this project to provide funds for technical and subject matter expertise support throughout the experiment planning, execution, and analysis process in support of the draft FLEX ExPlan for FY 2017 At-Sea events and War simulations with the outcomes to advance or augment warfighting capabilities. ***FY 2018 Base Plans:*** The FY18 FLEX program aligns to the "Fleet Design" end state of fleet centric fighting power, enabled by integration, distribution and maneuver for a Fleet Level simultaneous employment across multiple domains with integrated kinetic and non-kinetic mission execution. The FY18 FLEX program campaign areas comprise Multi-mission Electromagnetic Maneuver Warfare, Naval Integrated Fires, Full Spectrum Mine Warfare, Operational/ Tactical integration (new), Assured Logistics (new) and Unmanned Systems. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	18.954	11.572	0.000	11.572

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

FLEX is a non-acquisition program.

E. Performance Metrics

Fleet Experimentation MOP:

FLEX funding is used for approximately 100 experimental initiatives annually, focused on addressing Fleet- identified capability gaps. The majority of this funding is used to acquire intellectual capital in emerging technical areas through contracts providing engineering expertise, experiment design, execution and analysis support, and also used to fund select engineering and integration costs associated with certain experiments.

Fleet Experimentation MOE:

- CNO/CUSFF/CPF directed experiment for emerging future capability
- Mitigate critical capability gaps
- Inform Doctrine TTP, and training

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *(U)Warfare Innovation Management*	**Project (Number/Name)** 3319 / *Fleet Experimentation*

- Inform Fleet Platform Wholeness or Warfighter CONOPS validation
- Impact to Fleet Warfighting within the FYDP

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3320: *TRIDENT Warrior*	0.000	0.000	2.169	2.269	-	2.269	2.310	2.364	2.411	2.459	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Trident Warrior (TW) was transferred from 0604231N (Tactical Command Systems) to 0606355N (Warfare Innovation Management) in FY17.

A. Mission Description and Budget Item Justification

TW enables early delivery of Information Warfare (IW) 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 IW 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Trident Warrior	0.000	2.169	2.269	0.000	2.269
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Trident Warrior was funded under PE 0604231N (Tactical Command Systems) in FY16.					
FY 2017 Plans: - Evaluate TW16 executed experiments and recommend next steps for Naval Warfare Development Command (NWDC). - In accordance with standardized procedures, lead TW participant efforts with the following: specific goal identification; risk identification; experiment plans (to include data requirements and collection); and required installation and security certifications, accreditations, and approvals. - Provide subject matter experts (SMEs) for core ship services during the experimentation period. Provide independent experts to ensure compliance with experiment plans, lead analysis effort, and deliver unbiased assessments. - Provide results to government sponsors to support the program's engineering recommendations. - Plan and execute TW17 experiments to accelerate the transition of IW capability to the Fleet. - Begin TW18 planning, taking into consideration identified Naval Capability Gaps.					
FY 2018 Base Plans: - Evaluate TW17 executed experiments and recommend next steps for NWDC.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *(U)Warfare Innovation Management*	**Project (Number/Name)** 3320 / *TRIDENT Warrior*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Promote broad participation in TW by researching advanced technology solution candidates, in conjunction with other services, commercial entities and academic research in order to fill IW technology gaps. - In accordance with standardized procedures, lead Trident Warrior (TW) participant efforts with the following: specific goal identification; risk identification; experiment plans (to include data requirements and collection); and required installation and security certifications, accreditations, and approvals. - Provide subject matter experts (SMEs) for core ship services during the experimentation period. Provide independent experts to ensure compliance with experiment plans, lead analysis effort, and deliver unbiased assessments. - Provide results to government sponsors to support the program's engineering recommendations. - Plan and execute TW18 experiments to accelerate the transition of Information Warfare (IW) capability to the Fleet. - Begin TW19 planning, taking into consideration identified Naval Capability Gaps. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	2.169	2.269	0.000	2.269

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Confirmation of Fleet and Joint Interoperability with technology candidates, Information Assurance Certification and Accreditation, and alignment with United States Fleet Forces (USFF) Commander's Guidance, as well as related Program Executive Office (PEO) objectives and projected architectures.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / *(U)Warfare Innovation Management*	Project (Number/Name) 3420 / *Expeditionary Submarine Fiber Optic Cable (SFOC)*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3420: *Expeditionary Submarine Fiber Optic Cable (SFOC)*	0.000	0.000	0.000	15.000	-	15.000	6.000	0.000	0.000	0.000	0.000	21.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Expeditionary Submarine Fiber Optic Cable (SFOC) Communications project is a classified program responsible for 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.

This is not a new start. $7.54M of funding was transferred from project 3319 FLEX and moved to 3420 Expeditionary Submarine Fiber Optic Cable (SFOC) Communications for transparency.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Expeditionary Submarine fiber Optic Cable (SFOC)	0.000	0.000	15.000	0.000	15.000
Articles:	-	-	-	-	-
Description: Classified Project: 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 and littoral domains. The project focus is to demonstrate capabilities that leverage existing industry and 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 across 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.					
FY 2016 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *(U)Warfare Innovation Management*	**Project (Number/Name)** 3420 / *Expeditionary Submarine Fiber Optic Cable (SFOC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A ***FY 2017 Plans:*** Funding was in project 3319 of this PE in FY17. ***FY 2018 Base Plans:*** FY 2018 Base Plans: This project will continue to provide funds for 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). Final demonstration will show ability to use submarine fiber optic cable to establish beyond line of sight communications in a tactically relevant timeline. - Acquire maritime vessel as test article IAW objectives - Modify vessel as required to meet demonstration objectives - Remote Operated Vehicle/ crew lease - Communication suite build - Cable engine procurement - SFOC, repeater procurement - Communication architecture integration ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	15.000	0.000	15.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *(U)Warfare Innovation Management*	**Project (Number/Name)** 3420 / *Expeditionary Submarine Fiber Optic Cable (SFOC)*

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, and identify technologies and DOTMLPF solutions considered ready for deployment to enhance war fighting capability and enhance interoperability.

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0902498N *I Management Headquarters (Departmental Spt Acts)*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	1.749	-	1.749	1.598	1.505	1.537	1.569	Continuing	Continuing
0831: *OPTEVFOR Support*	0.000	0.000	0.000	1.749	-	1.749	1.598	1.505	1.537	1.569	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element (PE) provides Commander, Operational Test and Evaluation Force (COMOPTEVFOR) general support funding and operating costs for Management Headquarter Activity (MHA) functions that support COMOPOTEVFOR compliance with Secretary of Defense (SECDEF) and Secretary of the Navy (SECNAV) directives to conduct independent operational testing and evaluation as described in PE 0605865N Operational Test & Evaluation Capability.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	1.749	-	1.749
Total Adjustments	0.000	0.000	1.749	-	1.749
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	1.740	-	1.740
• Rate/Misc Adjustments	0.000	0.000	0.009	-	0.009

Change Summary Explanation

Beginning in Fiscal Year 2018, MHA labor and operating costs in support of 14 FTE has been realigned from 0605865N Operational Test and Evaluation Capability into this newly established program element 0902498N Management Headquarters (Departmental Support Accounts) as a result of SECDEF and SECNAV direction to identify all MHA costs separately.

Technical: Not applicable.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0902498N / *Management Headquarters (Departmental Spt Acts)*	Project (Number/Name) 0831 / *OPTEVFOR Support*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0831: *OPTEVFOR Support*	0.000	0.000	0.000	1.749	-	1.749	1.598	1.505	1.537	1.569	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 and operating costs for Management Headquarter Activity (MHA) functions that support COMOPOTEVFOR compliance with Secretary of Defense (SECDEF) and Secretary of the Navy (SECNAV) directives to conduct independent operational testing and evaluation as described in PE 0605865N Operational Test & Evaluation Capability.

Beginning in Fiscal Year 2018, MHA labor and operating costs in support of 14 FTE has been realigned from 0605865N Operational Test and Evaluation Capability into this newly established program element 0902498N Management Headquarters (Departmental Support Accounts) as a result of SECDEF and SECNAV direction to identify all MHA costs separately.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: OPTEVFOR Support	0.000	0.000	1.749	0.000	1.749
Articles:	-	-	-	-	-
Description: Beginning in Fiscal Year 2018, MHA labor and operating costs in support of 14 FTE has been realigned from 0605865N Operational Test and Evaluation Capability into this newly established program element 0902498N Management Headquarters (Departmental Support Accounts) as a result of SECDEF and SECNAV direction to identify all MHA costs separately. This program is not a new start.					
FY 2016 Accomplishments: N/A					
FY 2017 Plans: N/A					
FY 2018 Base Plans: This project provides for the basic costs of the COMOPTEVFOR headquarters activities. Specifically, it pays personnel salaries and support costs for civilian personnel who support COMPOTEVFOR compliance with directives to conduct independent operational testing and evaluation on the operational effectiveness and suitability of new and improved systems.					
FY 2018 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0902498N / *Management Headquarters (Departmental Spt Acts)*	**Project (Number/Name)** 0831 / *OPTEVFOR Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	1.749	0.000	1.749

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0909980N / *Judgment Fund Reimbursement*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	0.398	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.398
0000: *UNDIST*	0.000	0.398	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.398

A. Mission Description and Budget Item Justification

Judgment Fund claim.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.353	0.000	0.000	-	0.000
Current President's Budget	0.398	0.000	0.000	-	0.000
Total Adjustments	0.045	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.045	0.000			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0000: *UNDIST*	0.000	0.398	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.398
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Judgment Fund claim

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: New Accomplishment/Planned Program Entry	0.398	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Judgment Fund claim.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.398	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	0.171	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.171
0000: *UNDIST*	0.000	0.171	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.171

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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.002	0.000	0.000	-	0.000
Current President's Budget	0.171	0.000	0.000	-	0.000
Total Adjustments	0.169	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.171	0.000			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-0.002	0.000	0.000	-	0.000

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0909999N / *Cancelled Account Adjustments*	Project (Number/Name) 0000 / *UNDIST*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0000: *UNDIST*	0.000	0.171	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.171
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Not applicable.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Cancelled Account Adjustments	0.171	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2016 Accomplishments: Funding is to reimburse the Department of the Treasury for cancelled account liabilities.					
FY 2017 Plans: N/A					
FY 2018 Base Plans: N/A					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.171	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy	Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 1206867N *I (U)SEW Surveillance/Reconnaissance Support*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	9.408	-	9.408	8.787	8.496	8.652	8.813	Continuing	Continuing
1034: *TAC SAT Recon Office*	0.000	0.000	0.000	9.408	-	9.408	8.787	8.496	8.652	8.813	Continuing	Continuing

Note

Efforts previously funded under PE 0605867N, Space & Elec War Surv/Recon.

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.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy					Date: May 2017
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*		**R-1 Program Element (Number/Name)** PE 1206867N *I (U)SEW Surveillance/Reconnaissance Support*			
B. Program Change Summary ($ in Millions)	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	9.408	-	9.408
Total Adjustments	0.000	0.000	9.408	-	9.408
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	9.151	-	9.151
• Rate/Misc Adjustments	0.000	0.000	0.257	-	0.257

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 1206867N / *(U)SEW Surveillance/ Reconnaissance Support*	Project (Number/Name) 1034 / *TAC SAT Recon Office*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1034: *TAC SAT Recon Office*	0.000	0.000	0.000	9.408	-	9.408	8.787	8.496	8.652	8.813	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Assured Command and Control	0.000	0.000	0.962	0.000	0.962
Articles:	-	-	-	-	-
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.					
FY 2016 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 1206867N / *(U)SEW Surveillance/ Reconnaissance Support*	**Project (Number/Name)** 1034 / *TAC SAT Recon Office*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A ***FY 2017 Plans:*** Additional details with respect to this line item are held at a higher classification. ***FY 2018 Base Plans:*** Additional details with respect to this line item are held at a higher classification. ***FY 2018 OCO Plans:*** N/A					
Title: Battlespace Awareness ***Articles:*** ***Description:*** 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. ***FY 2016 Accomplishments:*** N/A ***FY 2017 Plans:*** Additional details with respect to this line item are held at a higher classification. ***FY 2018 Base Plans:*** Additional details with respect to this line item are held at a higher classification. ***FY 2018 OCO Plans:*** N/A	0.000 -	0.000 -	6.072 -	0.000 -	6.072 -
Title: Integrated Fires ***Articles:*** ***Description:*** 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	0.000 -	0.000 -	2.374 -	0.000 -	2.374 -

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 1206867N / *(U)SEW Surveillance/ Reconnaissance Support*	**Project (Number/Name)** 1034 / *TAC SAT Recon Office*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
options for forward-deployed Navy commanders by ensuring that non-kinetic alternatives are considered alongside with kinetic solutions. ***FY 2016 Accomplishments:*** N/A ***FY 2017 Plans:*** Additional details with respect to this line item are held at a higher classification. ***FY 2018 Base Plans:*** Additional details with respect to this line item are held at a higher classification. ***FY 2018 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	9.408	0.000	9.408

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not applicable

E. Performance Metrics

Not applicable

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