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 0605853N / *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* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605853N / *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* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605853N / *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* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605853N / *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	2.400	2.411	3.350	0.000	3.350
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.					

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
- 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
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
- 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
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
- 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	0.400	0.305	0.533	0.000	0.533
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.					

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
- 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
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
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	0.150	0.000	0.000	0.000	0.000
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.					

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
- 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
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*

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

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*

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
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*

- 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:					

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 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:					

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*

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.

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*

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.					

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 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:					

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
-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:					

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
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.

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 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:	-	-	-	-	-

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
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,					

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
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.					

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
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

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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.

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-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	0.900	0.800	1.000	0.000	1.000
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					

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	0.180	0.128	0.450	0.000	0.450
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:***					

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	0.870	0.736	1.031	0.000	1.031
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:***					

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	5.731	0.000	0.000	0.000	0.000
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					
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.