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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy **Date:** March 2014

Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 3: Advanced Technology Development (ATD)					R-1 Program Element (Number/Name) PE 0603758N / Navy Warfighting Exp & Demo							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	0.000	45.801	51.463	53.956	-	53.956	92.525	94.602	137.807	137.821	Continuing	Continuing
2918: Navy Warfighting Experiments and Demo	0.000	45.801	51.463	53.956	-	53.956	92.525	94.602	137.807	137.821	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This Program Element (PE) addresses the development of recent technology breakthroughs to meet current operational needs from a subscale proof-of-principle into a full-scale prototype for warfighter experimentation during laboratory and operational demonstrations, Fleet Battle Experiments (FBE), Limited Objective Experiments (LOEs) and sea trial exercises. The key aspects of this PE are divided into four areas: (1) SwampWorks develops and demonstrates newly invented or recently discovered technologies that address emergent and enduring operational problems in an accelerated timeframe; (2) Naval Warfare Experimentation develops rapid prototypes and provides them to the warfighter for experimentation during laboratory and operational demonstrations; (3) TechSolutions develops rapid response science and technology prototypes addressing Fleet/Force needs identified by Sailors and Marines at the deckplate level; (4) Operations Analysis provides the Navy and Marine Corps the means to identify capability needs that can be addressed with science and technology solutions, and (5) Manufacturing Technology Science and Technology (S&T) to accelerate recently discovered manufacturing technologies to reduce the acquisition and ownership costs of current and future platforms.

Due to the number of efforts in this PE, the programs described herein are representative of the work included in this PE.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	51.819	51.463	53.701	-	53.701
Current President's Budget	45.801	51.463	53.956	-	53.956
Total Adjustments	-6.018	-	0.255	-	0.255
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.267	-			
• SBIR/STTR Transfer	-1.631	-			
• Program Adjustments	-	-	0.278	-	0.278
• Rate/Misc Adjustments	0.001	-	-0.023	-	-0.023
• Congressional General Reductions Adjustments	-4.121	-	-	-	-

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<div>Change Summary Explanation</div> <div>Technical: Not applicable.</div> <div>Schedule: Not applicable.</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 3					R-1 Program Element (Number/Name) PE 0603758N / Navy Warfighting Exp & Demo				Project (Number/Name) 2918 / Navy Warfighting Experiments and Demo			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2918: Navy Warfighting Experiments and Demo	-	45.801	51.463	53.956	-	53.956	92.525	94.602	137.807	137.821	Continuing	Continuing
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
This project focuses on the development of recent technology breakthroughs to meet current operational needs from a subscale proof-of-principle into a full-scale prototype for warfighter experimentation during laboratory and operational demonstrations, FBE, LOEs and sea trial exercises.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015	
Title: NAVAL WARFARE EXPERIMENTATION									16.970	19.119	19.719	
Description: The objective of this project is to capitalize on recent technology breakthroughs to develop prototypes quickly and provide them to the warfighter for experimentation during laboratory and operational demonstrations, sea trials or LOEs.												
FY 2013 Accomplishments:												
- Continued concept based technology program efforts.												
- Continued experimentation efforts with technologies developed in SwampWorks/TechSolutions.												
- Continued to identify promising technology breakthroughs that can be prototyped and delivered to the warfighter for experimentation.												
- Continued development and demonstration of real time situational awareness technologies.												
- Continued technology experimentation for Total Ownership Cost (TOC) reduction.												
- Continued efforts to develop and demonstrate technologies to meet current or emerging operational needs.												
- Initiated efforts to experiment and demonstrate technologies to meet current or emerging operational needs.												
FY 2014 Plans:												
- Continue efforts initiated in FY 2013 as necessary												
- Develop, demonstrate and experiment with technologies to rapidly evaluate operational capabilities of new or recently developed technologies.												
FY 2015 Plans:												
- Continue efforts initiated in FY 2014 as necessary												
- Develop, demonstrate and experiment with technologies to rapidly evaluate operational capabilities of new or recently developed technologies.												
Title: OPERATIONS ANALYSIS									2.409	2.714	2.096	

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014
<p>Description: The objective of this project is to provide operational analysis through studies, analyses, gaming and experimentation to identify Navy and Marine Corps capability needs that can be addressed with S&T solutions. The effort includes core analysis of S&T programs, military utility/capability gaps analyses, war gaming, structured experimentation events, the articulation of the results of that analysis and wargaming, and the development of innovation strategies and messages resulting from these analyses. Recent work includes participation in SIMEX design, data collection and analysis events; wargame design in support of the ONR Office of Technology; analytical, strategic planning, and wargaming support; organizing and conducting workshops and symposia that increase innovation outreach; and participating in Red Teaming and conceptual analysis.</p> <p>FY 2013 Accomplishments:</p> <ul style="list-style-type: none"> - Continued to conduct Military Utility Analyses of Future Naval Capability technologies. - Continued to conduct capability gaps analyses to identify areas that can be addressed with products from the S&T portfolio. - Continued to conduct SIMEX development, execution, data collection and analysis. - Continued to conduct wargame design in support of the ONR Office of Technology. <p>FY 2014 Plans:</p> <ul style="list-style-type: none"> - Continue all FY 2013 efforts. <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Continue all FY 2014 efforts 			
<p>Title: SWAMPWORKS</p> <p>Description: SwampWorks seeks to develop and demonstrate technologies that address emergent and enduring operational problems in an accelerated timeframe. Some of these technologies may end up in the hands of the warfighter for experimentation, or may culminate in a significant exercise that demonstrates capability then transitions into the Acquisition Program of Record (POR).</p> <p>The funding increase from FY 2014 to FY 2015 is largely due to the increased research and fleet interest in the areas of Autonomy, Electromagnetic Warfare and the exploitation of unmanned vehicles.</p> <p>FY 2013 Accomplishments:</p> <ul style="list-style-type: none"> - Continued to identify enduring and emergent operational barriers identified by naval leadership and responded with relevant technology developments and demonstrations. - Continued disruptive commercial technology studies at varied military, government, and educational institutions. - Continued high risk/high payoff projects to explore significant leap-ahead capabilities . - Continued efforts to develop technologies to meet current or emerging operational needs. 		16.337	18.305
			20.246

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014	FY 2015
<ul style="list-style-type: none">- Continued investment in submarine control surface technologies.- Continued investment in advanced electronic warfare technologies; projects are expected to be classified at a higher level.- Initiated efforts to develop and demonstrate technologies to meet current or emerging operational needs to include vision enhancement, electronic warfare, diving technologies. <p>FY 2014 Plans:</p> <ul style="list-style-type: none">- Continue FY 2013 efforts as necessary.- Initiate efforts that develop and/or demonstrate advanced technologies in support of Fleet issue in an accelerated timeframe. <p>FY 2015 Plans:</p> <ul style="list-style-type: none">- Continue FY 2014 efforts as necessary.- Initiate efforts that develop and/or demonstrate advanced technologies in support of Fleet issue in an accelerated timeframe.				
<p>Title: TECH SOLUTIONS</p> <p>Description: TechSolutions develops rapid response S&T solutions to immediate Fleet/Force needs identified by individual warfighters at the deckplate level. Sailors, Marines and Science Advisors submit their issues throughout the year via the TechSolutions website, email, phone, or chain of command. Projects are initiated as requests come in and are completed in approximately twelve to eighteen months, resulting in a prototype demonstration of TRL 6 or higher.</p> <p>FY 2013 Accomplishments:</p> <ul style="list-style-type: none">- Continued development of projects that provide solutions to problems identified by Science Advisors and the Fleet/Force to address emergent critical needs.- Developed, demonstrate and deliver technical solution prototypes to projects initiated in the previous fiscal year.- Initiated development of additional projects that will provide solutions to address emergent critical needs. <p>FY 2014 Plans:</p> <ul style="list-style-type: none">- Develop, demonstrate and deliver technical solution prototypes to projects initiated in the previous fiscal year.- Initiate development of additional projects that will provide solutions to address emergent critical needs. <p>FY 2015 Plans:</p> <ul style="list-style-type: none">- Develop, demonstrate and deliver technical solution prototypes to projects initiated in the previous fiscal year.- Initiate development of additional projects that will provide solutions to address emergent critical needs.		8.403	9.469	9.756
<p>Title: MANUFACTURING TECHNOLOGY S&T</p> <p>Description: The Manufacturing Technology S&T program accelerates recently discovered manufacturing technologies to reduce the acquisition and ownership costs of current and future platforms which assists in meeting performance and platform</p>		1.682	1.856	2.139

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014
<p>affordability goals - both acquisition and life-cycle. This supports a critical goal of the Navy, meeting the affordability goals of major acquisition platforms, by accelerating emerging manufacturing technology. Funding does not begin until FY 2013.</p> <p>FY 2013 Accomplishments: - Initiated/accelerated recently discovered manufacturing technologies to reduce the acquisition and ownership costs of current and future platforms.</p> <p>FY 2014 Plans: - Continue manufacturing technology development efforts of FY 2013 to reduce the acquisition and ownership costs of current and future platforms.</p> <p>FY 2015 Plans: - Continue manufacturing technology development efforts of FY 2014 to reduce the acquisition and ownership costs of current and future platforms.</p>			
Accomplishments/Planned Programs Subtotals		45.801	51.463
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
Not applicable.			
E. Performance Metrics			
<p>Overall metric goals are to transition the 6.3 advanced technology projects into acquisition programs of record, demonstrate successful technologies to enable new operational concepts, and enable the production of technology products such as proofs of concept and manufacturing packages. The performance of the work funded in this PE is reviewed at several levels to ensure that the investment is relevant and productive. At the macroscopic level, the investment is coordinated with Navy Warfare Development Command and Commander, Fleet Forces Command to address the goals and objectives identified for sea trials and LOEs. At the microscopic level, the work funded in this PE is reviewed periodically by the Program Manager to ensure the investment is meeting the goals defined for each project. This review includes feedback collected from the warfighter community on all sea trials and LOEs to support the Program Manager's assessment of the value and relevance of each investment. Furthermore, the entire program is reviewed yearly by the Chief of Naval Research.</p>			