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

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604601N / <i>Mine Development</i>
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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	199.469	6.934	5.041	19.067	-	19.067	3.734	4.696	3.797	3.587	Continuing	Continuing
0267: <i>Mine Improvements</i>	199.469	6.934	5.041	19.067	-	19.067	3.734	4.696	3.797	3.587	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; and (3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields; (4) Test and Evaluation (T&E) to support aircraft certification; (5) Submarine Launch Mobile Mine (SLMM).

Increase from FY14 to FY15 of \$15.0M is for Offensive Mining efforts. Funds will convert SLMM warheads into LDUUV delivered mines, and conduct an engineering and cost estimate study for a wide-area coverage moored torpedo mine.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	8.335	5.041	4.127	-	4.127
Current President's Budget	6.934	5.041	19.067	-	19.067
Total Adjustments	-1.401	-	14.940	-	14.940
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.500	-			
• SBIR/STTR Transfer	-0.206	-			
• Program Adjustments	-	-	0.400	-	0.400
• Rate/Misc Adjustments	-	-	14.540	-	14.540
• Congressional General Reductions Adjustments	-0.695	-	-	-	-

Change Summary Explanation

Total Adjustments: FY13 -\$1,401K: -\$695K for Sequestration Order, -\$500K Reprogramming (AN/AQS-20) and -\$206K SBIR/Misc adjustments.

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Total Adjustments: FY15 +\$14,940K: +\$15,000K Offensive Mining, \$400K for Submarine Launch Mobile Mine (SLMM) and -\$460K Misc adjustments.		

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Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604601N / Mine Development				Project (Number/Name) 0267 / Mine Improvements			
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
0267: Mine Improvements	199.469	6.934	5.041	19.067	-	19.067	3.734	4.696	3.797	3.587	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; and (3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields; (4)Test and Evaluation (T&E) to support aircraft cetification; (5) Submarine Launch Moble Mine (SLMM); (6) Development of new offensive mining calabilities.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Product Development									3.539	2.667	16.593	
									Articles: -	-	-	
FY 2013 Accomplishments: Software Development: Modified algorithms based on testing results. Continued generating OPDATA for fast patrol boat, air cushioned vehicle, and large ship algorithms. Continued to work action items assigned by Navy and Air Force fuse safety boards. Continued to work with P-8 Aircraft mission planning software designers to include transfer of MEDAL data to their system. Began design of mine standoff delivery (Wing Kit) capability.												
FY 2014 Plans: Software Development: Modified algorithms based on testing results. Continue generating OPDATA for fast patrol boat, air cushioned vehicle, and large ship algorithms. Continue to work action items assigned by Navy and Air Force fuse safety boards. Complete modification to mine data recorder design. Continue to work with P-8 Aircraft mission planning software designers to include transfer of MEDAL data to their system. Conclude design of mine standoff delivery (Wing Kit) capability and build prototype system for evaluation.												
FY 2015 Plans: Modify algorithms based on testing results. Continue generating OPDATA for the Fast Patrol Boat, Air cushioned Vehicle, and large ship algorithyms. Continue to work action items assigned by Navy and Air Force fuse safety boards. Initiate design of future offensive mining capability, based on AOA analysis. Convert SLMM warheads into LDUUV delivered mines, and conduct an engineering and cost estimate study for a wide-area coverage moored torpedo mine.												
Title: Support									0.100	0.050	0.050	

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015
Articles:									-	-	-
FY 2013 Accomplishments: Integrated Logistics Support											
FY 2014 Plans: Integrated Logistics Support											
FY 2015 Plans: Integrated Logistics Support											
Title: Management:									0.050	0.304	0.050
Articles:									-	-	-
FY 2013 Accomplishments: Program Management Support and Travel											
FY 2014 Plans: Program Management Support and Travel											
FY 2015 Plans: Program Management Support and Travel											
Title: Test and Evaluation									3.245	2.020	2.374
Articles:									-	-	-
FY 2013 Accomplishments: Conducted in-water test to determine algorithm performance for Mod 3 system. Continued Aircraft certification.											
FY 2014 Plans: Continue Aircraft certification (to include F/A-18 and B-52). Perform test and evaluation on the MINES standoff (Wing Kit) capabiltiy.											
FY 2015 Plans: Continue Aircraft certification (to include F/A-18 and B-52).											
Accomplishments/Planned Programs Subtotals									6.934	5.041	19.067
C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• WPN 3231: Quickstrike Mine	6.843	7.800	6.966	-	6.966	14.378	14.144	12.249	8.606	-	88.230

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C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2015</u>	<u>FY 2015</u>	<u>FY 2015</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Complete</u>	<u>Total Cost</u>
Remarks											
D. Acquisition Strategy											
Procurement of Target Detecting Device (TDD) Mk 71, MK 62/63 kits, MK 65 kits and associated components.											
E. Performance Metrics											
N/A											

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																								Date: March 2014				
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Proj 0267	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
System Development																												
Minefield Planning Tactical Decision Aid Improvements	Minefield Planning Tactical Decision Aid Improvements																											
Mines Standoff Capability	Mines Standoff Capability																											
Test and Evaluation																												
Mines Standoff Capability	Mines Stadoff Capability																											
Quickstrike Mod 3 Aircraft Certification	Quickstrike Mod 3 Aircraft Certification																											
Quickstrike Mod 3 Algorithm Development and Testing	Quickstrike Mod 3 Algorithm Development and Testing																											
Production Milestones																												
2015PB - 0604601N - 0267																												