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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>					R-1 Program Element (Number/Name) PE 0604373N / <i>Airborne Mine Countermeasures (AMCM)</i>							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	394.591	44.930	15.734	10.831	-	10.831	10.916	10.916	11.099	11.328	Continuing	Continuing
2047: <i>ALMDS</i>	201.178	18.343	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	219.521
2473: <i>Airborne Mine Neutralization System</i>	154.275	13.646	3.481	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	171.402
4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i>	33.343	11.624	10.994	9.919	-	9.919	9.984	9.963	10.127	10.336	Continuing	Continuing
9179: <i>Surf Navy Integ Undersea Tactical Tech</i>	5.795	1.317	1.259	0.912	-	0.912	0.932	0.953	0.972	0.992	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides resources to develop advanced mine countermeasures equipment systems to counter known and projected mine threats. The mine countermeasures systems provide mobile, quick reaction forces capable of land or sea-based minehunting and minesweeping operations worldwide. Resources are for developing and deploying advanced mine-hunting systems and the intelligence and oceanographic capabilities that will enable mine warfare superiority. Tactics and techniques used vary across a diversity of environments and threats, including both asymmetric and emerging. Resources provide for systems and support of mine warfare systems, maritime systems, and expeditionary systems to allow for continuous operations of the Navy's warships and support vessels, other military vessels, and commercial vessels. Core capabilities include forward presence, deterrence, sea control, power projection, maritime security, humanitarian assistance and disaster response to maintain freedom of the seas. Capability improvements include conducting minefield reconnaissance (mine density and location) at high area search rates, improving detection capability, decreasing sensor false alarm rates, reducing or eliminating post-mission analysis detect, classify, identify, decision time, improving neutralization time, improving network communications, automatic target recognition, and achieving in-stride detect-to-engage capability. Concept of operations includes development of cooperative, unmanned, modular systems; the establishment of capable networked command and control systems; and standing up an accurate and interactive environmental system with the ability to form and disseminate a Common Environmental Picture. Other areas of importance include search and rescue; surface fire support; ASW operations; protection/offense against small craft/vehicles; air to air operations; very shallow water MCM; swimmer defense and torpedo defense. Efforts benefit the MCM force by transforming the Navy from the platform-centered legacy set of systems to a capability-centered force that is distributed, networked, and able to provide unique maritime influence and access across the entire maritime domain.

The Airborne Mine Countermeasures (AMCM) programs will provide detection, classification, localization, identification, neutralization, and influence sweep capabilities. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA).

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Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy I BA 5: System Development & Demonstration (SDD)		PE 0604373N I Airborne Mine Countermeasures (AMCM)			
B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	45.622	15.734	11.031	-	11.031
Current President's Budget	44.930	15.734	10.831	-	10.831
Total Adjustments	-0.692	0.000	-0.200	-	-0.200
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.692	0.000			
• Rate/Misc Adjustments	0.000	0.000	-0.200	-	-0.200
Change Summary Explanation					
FY19 -\$200K Total Adjustments: -\$200k economic assumptions reduction					

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 2047 / ALMDS			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
2047: ALMDS	201.178	18.343	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	219.521
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The Airborne Laser Mine Detection System (ALMDS), designation AN/AES-1, is a light detection and ranging (LIDAR) Airborne Mine Countermeasures (AMCM) high area coverage system that detects, classifies, and localizes near-surface moored sea mines. The system is deployed from the MH-60S helicopter and will provide Organic Airborne Mine Countermeasures (OAMCM) defense to the battle force. The system represents a capability that does not exist in the current Mine Countermeasures (MCM) inventory.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Hardware and Software technology development and demonstration/Engineering Services: Articles: Description: Engineering, oversight, and support of engineering efforts to meet baseline performance and P3I performance. FY 2018 Plans: N/A FY 2019 Base Plans: N/A FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: No change from PB18 to PB19.								9.612	0.000	0.000	0.000	0.000
								-	-	-	-	-
Title: Integrated Logistics Support: Articles: FY 2018 Plans: N/A FY 2019 Base Plans:								1.035	0.000	0.000	0.000	0.000
								-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018			
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)	Project (Number/Name) 2047 / ALMDS				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: No change from PB18 to PB19.						
Title: Testing and Evaluation: Articles:		7.495 -	0.000 -	0.000 -	0.000 -	0.000 -
FY 2018 Plans: N/A						
FY 2019 Base Plans: N/A						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: No change from PB18 to PB19.						
Title: Project Management: Articles:		0.201 -	0.000 -	0.000 -	0.000 -	0.000 -
Description: Completion of OA						
FY 2018 Plans: N/A						
FY 2019 Base Plans: N/A						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: No change from PB18 to PB19.						
Accomplishments/Planned Programs Subtotals		18.343	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)	Project (Number/Name) 2047 / ALMDS	

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

<u>Line Item</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u> <u>Base</u>	<u>FY 2019</u> <u>OCO</u>	<u>FY 2019</u> <u>Total</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN 4248: Aviation Mine Countermeasures	27.542	20.605	11.299	-	11.299	19.250	6.732	4.536	4.629	0.000	544.060
• OPN 1601: LCS MCM Mission Modules	29.724	55.870	124.147	-	124.147	204.324	245.108	227.068	234.109	1,421.551	2,691.282

Remarks

The above funding lines account for several programs, of which ALMDS is only a portion.

D. Acquisition Strategy

The program entered Production and Development Acquisition Phase following MS C in May 2005. August 2007 program authorized to meet full performance in two increments. The first LRIP lot was awarded as a new sole-source contract to the SD&D contractor in FY05. FRP will be based on Increment 1 performance. In FY14 a new competitive FFP production contract was awarded. This is a Fixed-Price Incentive (FPI) contract with cost and schedule incentives.

E. Performance Metrics

Conducted Operational Assessment (OA) Phase A in FY12. Conducted OA Phase B, Environmental Qualification Test (EQT), and Equipment Qualifications Test in FY14. Completed OA Phase B and DT phase 4 period 2 in FY14/15. Completed Mine Countermeasures Mission Package (MCM MP) TECHEVAL in FY15. Achieved IOC in FY17.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 2047 / ALMDS					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware/Software Development	WR	NSWC PC : Panama City FL	3.313	0.053	Oct 2016	0.000		0.000		-		0.000	0.000	3.366	-
Hardware/Software Development	C/CPAF	Northrop Grumman : Melbourne, FL	41.223	2.268	May 2017	0.000		0.000		-		0.000	0.000	43.491	-
Hardware/Software Development	WR	NUWC NPT : RI	1.914	0.388	Nov 2016	0.000		0.000		-		0.000	0.000	2.302	-
Hardware/Software Development	WR	NSWC IH : MD	1.159	0.500	Oct 2016	0.000		0.000		-		0.000	0.000	1.659	-
Engineering Services1	WR	NSWC PC : Panama City FL	20.038	1.510	Nov 2016	0.000		0.000		-		0.000	0.000	21.548	-
Engineering Services2	C/CPAF	Northrop Grumman : Melbourne, FI	26.139	0.872	Feb 2017	0.000		0.000		-		0.000	0.000	27.011	-
Engineering Services3	WR	NUWC NPT : RI	21.131	0.735	Oct 2016	0.000		0.000		-		0.000	0.000	21.866	-
Engineering Services4	MIPR	Various : Various	5.996	2.016	Nov 2016	0.000		0.000		-		0.000	0.000	8.012	-
Engineering Services5	MIPR	Various : Various	3.212	1.270	Nov 2016	0.000		0.000		-		0.000	0.000	4.482	-
Subtotal			124.125	9.612		0.000		0.000		-		0.000	0.000	133.737	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ILS Functions1	WR	NSWC PC : Panama City FL	5.794	0.626	Dec 2016	0.000		0.000		-		0.000	0.000	6.420	-
ILS Functions2	WR	Northrop Grumman : Melbourne FL	8.286	0.409	May 2017	0.000		0.000		-		0.000	0.000	8.695	-
ILS Functions3	C/CPAF	Various/NRL Stennis : Various	1.062	0.000		0.000		0.000		-		0.000	0.000	1.062	-
ILS Functions4	WR	NSWC PC : Panama City FL	0.300	0.000		0.000		0.000		-		0.000	0.000	0.300	-
Subtotal			15.442	1.035		0.000		0.000		-		0.000	0.000	16.477	N/A

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Appropriation/Budget Activity 1319 / 5							R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 2047 / ALMDS				
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing and Evaluation1	C/CPAF	Northrp Grumman : Melbourne FL	17.604	0.634	May 2017	0.000		0.000		-		0.000	0.000	18.238	-
Testing and Evaluation2	WR	NSWC PC : Panama City FL	25.962	6.130	May 2017	0.000		0.000		-		0.000	0.000	32.092	-
Testing and Evaluation	C/CPAF	Various : Various	3.084	0.000		0.000		0.000		-		0.000	0.000	3.084	-
Testing and Evaluation	WR	NAWC AD PAX : Panama City FL	2.110	0.731	Jan 2017	0.000		0.000		-		0.000	0.000	2.841	-
Subtotal			48.760	7.495		0.000		0.000		-		0.000	0.000	56.255	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support1	C/CPAF	NGC : Various	2.798	0.000		0.000		0.000		-		0.000	0.000	2.798	-
Management Support2	WR	NSWC PC : Panama City FL	7.191	0.201	Jan 2017	0.000		0.000		-		0.000	0.000	7.392	-
Management Support3	WR	ARINC : Panama City FL	2.782	0.000		0.000		0.000		-		0.000	0.000	2.782	-
DAWDF	Various	Various : Various	0.080	0.000		0.000		0.000		-		0.000	0.000	0.080	-
Subtotal			12.851	0.201		0.000		0.000		-		0.000	0.000	13.052	N/A
			Prior Years	FY 2017	FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			201.178	18.343		0.000		0.000		-		0.000	0.000	219.521	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy																			Date: February 2018																		
Appropriation/Budget Activity 1319 / 5										R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)										Project (Number/Name) 2047 / ALMDS																	
ALMDS										FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
										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										ALMDS IOC ▲																											
System Development										Preparation for FY18 Deployment																											
ALMDS Development										Performance Mods																											
Test & Evaluation Milestones										6005 Flight Characterization				6006 Flight Characterization																							
										Qual Test																											
Production Milestones										Option 2				Deployment Preps																							
Production Deliveries										LRIP #5				Option 1				Option 2																			
																										</											

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)	Project (Number/Name) 2047 / ALMDS	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ALMDS				
Acquisition Milestones: Initial Operating Capability: IOC	1	2017	1	2017
System Development: ALMDS Development: Preparation for FY18 Deployment	1	2017	4	2017
System Development: ALMDS Development: Performance modifications in support of FY18 employment Configuration	1	2017	4	2017
Test & Evaluation Milestones: Software Build 6005	1	2017	2	2017
Test & Evaluation Milestones: Software Build 6006	4	2017	4	2017
Test & Evaluation Milestones: Shipping Container	2	2017	3	2017
Production Milestones: FY18 Deployment Preparations	3	2017	4	2017
Production Milestones: Production Start 2	2	2017	2	2017
Production Deliveries: LRIP 5 Units Deliveries	1	2017	2	2017
Production Deliveries: Option 1 Deliveries	2	2018	3	2018
Production Deliveries: Option 2 Deliveries	2	2019	2	2019
Production Deliveries: ALMDS Spares: Order	2	2019	2	2023
Production Deliveries: ALMDS Spares Delivery	3	2019	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 2473 / Airborne Mine Neutralization System			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
2473: Airborne Mine Neutralization System	154.275	13.646	3.481	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	171.402
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Airborne Mine Neutralization System (AMNS) is deployed from the MH-60S and MH-53E helicopters.												
The AMNS (Archerfish) will be deployed from the MH-60S helicopter with the capability to neutralize bottom and moored mines using an expendable mine neutralization device. These systems will provide organic airborne mine neutralization capability which will be of critical importance in littoral zones, confined straits, choke points and the Amphibious Objective Area (AOA).												
The Barracuda program provides an expendable, low cost, and unmanned mine neutralization capability against previously located near-surface mines with the potential to address other targets. Barracuda is a mine neutralization system with the form factor of an A-size sonobuoy. It is a modular weapon that will be stored and assembled on LCS, will be deployed from the Mine Countermeasure Unmanned Surface Vehicle (MCM USV), and will maintain communications with the operator on LCS while autonomously re-acquiring mines in the near surface and await a fire command from the operator on board LCS.												
An Analysis of Alternatives (AoA) was conducted in June 2015 to address the unmet near surface requirements, several systems were considered and Barracuda was selected. The Naval Capabilities Board (NCB) approved the AoA results for the Gate 2 decision in July 2015. The NCB endorsed the Barracuda Capabilities Development Document (CDD) for the Gate 3 decision in April 2016; CDD was approved in September 2016.												
The Barracuda baseline capability is transitioned from the Office of Naval Research (ONR) Single Sortie Detect-To-Engage (SS DTE) Future Naval Capability (FNC). Barracuda provides the only near surface mine neutralization system that will allow the Littoral Combat Ship (LCS) Mine Countermeasure (MCM) Mission Package (MP) to fully meet its two minehunting performance requirements. Initial Barracuda deployment will be on the MCM USV as part of the LCS MCM MP. Subsequent plans are to expand potential means of providing in-stride MCM capabilities and transitioning follow-on FNCs from ONR. Barracuda may be hosted by an LCS, Expeditionary Mobile Base (ESB), or shore facility.												
Funding for Barracuda was realigned to 0603502N, project 2928 beginning in FY18.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: AMNS: Development/Engineering Support								5.484	3.181	0.000	0.000	0.000
								Articles: -	-	-	-	-

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Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)		Project (Number/Name) 2473 / Airborne Mine Neutralization System	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
FY 2018 Plans: Provide engineering support, including review for product development and integration. Develop logistics products, including training materials and interactive technical manuals. Provide engineering support for upgrade development and develop associated logistics products.					
FY 2019 Base Plans: N/A					
FY 2019 OCO Plans: N/A					
FY 2018 to FY 2019 Increase/Decrease Statement: The AMNS program has achieved IOC and has transitioned to operations and sustainment funding.					
Title: AMNS: Test and Evaluation		0.500	0.138	0.000	0.000
Articles:		-	-	-	-
FY 2018 Plans: Continue to conduct AMNS ECP upgrade tests.					
FY 2019 Base Plans: N/A					
FY 2019 OCO Plans: N/A					
FY 2018 to FY 2019 Increase/Decrease Statement: The AMNS program has achieved IOC, therefore has transitioned to operations and sustainment.					
Title: Barracuda: Product Development		5.450	0.000	0.000	0.000
Articles:		-	-	-	-
FY 2018 Plans: Funding realigned to 0603502N, project 2928 beginning in FY18.					
FY 2019 Base Plans: N/A					
FY 2019 OCO Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A						
<div><div>Title: AMNS: Management Services</div><div>Articles:</div></div> <div><div>FY 2018 Plans:</div><div>Provide program management support, contract management and travel for AMNS.</div><div>FY 2019 Base Plans:</div><div>N/A</div><div>FY 2019 OCO Plans:</div><div>N/A</div><div>FY 2018 to FY 2019 Increase/Decrease Statement:</div><div>The AMNS program has achieved IOC, therefore has transitioned to operations and sustainment.</div></div>		0.305 -	0.162 -	0.000 -	0.000 -	0.000 -
<div><div>Title: Barracuda: Engineering Support</div><div>Articles:</div></div> <div><div>FY 2018 Plans:</div><div>Funding realigned to 0603502N, project 2928 beginning in FY18.</div><div>FY 2019 Base Plans:</div><div>N/A</div><div>FY 2019 OCO Plans:</div><div>N/A</div></div>		1.261 -	0.000 -	0.000 -	0.000 -	0.000 -
<div><div>Title: Barracuda: Management Services</div><div>Articles:</div></div> <div><div>FY 2018 Plans:</div><div>Funding realigned to 0603502N, project 2928 beginning in FY18.</div><div>FY 2019 Base Plans:</div><div>N/A</div><div>FY 2019 OCO Plans:</div></div>		0.646 -	0.000 -	0.000 -	0.000 -	0.000 -

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Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 2473 / Airborne Mine Neutralization System						
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A														
Accomplishments/Planned Programs Subtotals										13.646	3.481	0.000	0.000	0.000
C. Other Program Funding Summary (\$ in Millions)														
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost			
• OPN 4248: Aviation Mine Countermeasures	27.542	20.605	11.299	-	11.299	19.250	6.732	4.536	4.629	0.000	544.060			
• WPN 4225: Airborne Mine Neutralization Systems	13.753	16.925	22.249	-	22.249	14.082	14.308	14.747	12.705	Continuing	Continuing			
• OPN 1601: LCS MCM Mission Modules	29.724	55.870	124.147	-	124.147	204.324	245.108	227.068	234.109	1,421.551	2,691.282			
Remarks														
The above funding lines account for several programs, of which AMNS is only a portion.														
D. Acquisition Strategy														
AMNS: The Navy has successfully completed Developmental Testing (Inert) on MH-60S, and conducted TECHEVAL tests on LCS with the MH-60S. The Navy has awarded a sole source contract to BAE for neutralizer procurements (WPN) to accompany the Launch and Handling Systems (LHS). Barracuda: Transition ONR FNC SS DTE to Barracuda in FY17 and FY18 following the same approach to design a low cost modular neutralizer that leverages economies of scale and reduces total ownership cost. Release the Barracuda RFP in 3QFY17. Achieve Milestone B in 2QFY18. Award a cost plus incentive fee base contract to design and deliver 750 Engineering Development Models (EDMs) with two cost plus fixed fee Low Rate Initial Production (LRIP) options to manufacture and deliver 1000 Barracudas per option. Base award will occur in 3QFY18. LRIP option #1 planned to be exercised in FY25 and LRIP option #2 in FY26. Manage the production cost model throughout the detailed design effort to deliver a low cost design in the Technical Data Package (TDP). There will be Government Purpose Rights on the TDP that will enable release of the TDP for a full and open competition of the Full Rate Production (FRP) contract planned in FY27. Initial Operating Capability (IOC) planned for 4QFY25.														
E. Performance Metrics														
AMNS:Successful completion of Testing and IOC was achieved in November 2016. Barracuda: Efficient design, fabrication, and testing to deliver a low cost solution that achieves required probability of kill against near surface mines.														

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 2473 / Airborne Mine Neutralization System					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AMNS Hardware/Software Development	Various	Various : Various	3.359	0.000		0.000		0.000		-		0.000	0.000	3.359	-
AMNS Hardware/Software Development	WR	NSWC PC : Panama City, FL	9.558	2.311	Nov 2016	1.428	Oct 2017	0.000		-		0.000	0.000	13.297	-
AMNS Hardware/Software Development	C/CPAF	Raytheon : Portsmouth, RI	28.507	3.173	Apr 2017	1.753	Nov 2017	0.000		-		0.000	0.000	33.433	-
AMNS Hardware/Software Development	SS/CPIF	Lockheed Martin : Syracuse, NY	3.331	0.000		0.000		0.000		-		0.000	0.000	3.331	-
Barracuda Hardware/ Software Development	WR	NSWC PC : Panama City, FL	0.000	2.560	May 2017	0.000		0.000		-		0.000	0.000	2.560	Continuing
Barracuda Hardware/ Software Development	WR	NSWC PC : Indian Head, MD	0.000	1.368	Nov 2016	0.000		0.000		-		0.000	0.000	1.368	Continuing
Barracuda Hardware/ Software Development	C/CPIF	JHU APL : Baltimore, MD	0.000	1.522	Nov 2016	0.000		0.000		-		0.000	0.000	1.522	Continuing
(Near Surface) Hardware/ Software Development	WR	NUWC, NPT : Newport, RI	6.691	0.000		0.000		0.000		-		0.000	0.000	6.691	-
(Near Surface) Hardware/ Software Development	C/CPIF	Raytheon : Portsmouth, RI	4.033	0.000		0.000		0.000		-		0.000	0.000	4.033	-
Subtotal			55.479	10.934		3.181		0.000		-		0.000	0.000	69.594	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Barracuda Engineering Support	WR	NUWC NPT : Newport RI	0.000	0.464	Nov 2016	0.000		0.000		-		0.000	0.000	0.464	-
Barracuda Engineering Services	C/CPIF	JHU APL : Baltimore, MD	0.000	0.300	Nov 2016	0.000		0.000		-		0.000	0.000	0.300	-
Barracuda T&E Support	WR	NUWC NPT : Newport RI	0.000	0.190	May 2017	0.000		0.000		-		0.000	0.000	0.190	-
Barracuda T&E Support	WR	NSWC IH : Indian Head, MD	0.000	0.307	Nov 2016	0.000		0.000		-		0.000	0.000	0.307	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)						Project (Number/Name) 2473 / Airborne Mine Neutralization System			
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	1.261		0.000		0.000		-		0.000	0.000	1.261	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AMNS Development Test & Evaluation	SS/CPFF	Lockheed Martin : Syracuse, NY	1.254	0.000		0.000		0.000		-		0.000	0.000	1.254	-
AMNS Operational Test & Evaluation	SS/CPFF	Lockheed Martin : Syracuse, NY	0.767	0.000		0.000		0.000		-		0.000	0.000	0.767	-
AMNS Test Assets	C/CPIF	Raytheon : Portsmouth, RI	3.310	0.000		0.000		0.000		-		0.000	0.000	3.310	-
AMNS Development Test & Evaluation	WR	NSWC, PC : Panama City, FL	38.166	0.125	Oct 2016	0.138	Nov 2017	0.000		-		0.000	0.000	38.429	-
AMNS Development Test & Evaluation	C/CPIF	Raytheon : Portsmouth, RI	17.168	0.375	Dec 2016	0.000		0.000		-		0.000	0.000	17.543	-
AMNS Operational Test & Evaluation	WR	COTF : Norfolk, VA	20.095	0.000		0.000		0.000		-		0.000	0.000	20.095	-
Subtotal			80.760	0.500		0.138		0.000		-		0.000	0.000	81.398	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AMNS Management Support	WR	NSWC PC : Panama City, FL	0.463	0.128	Oct 2016	0.081	Oct 2017	0.000		-		0.000	0.000	0.672	-
Barracuda Management Support	WR	NSWC PC : Panama City, FL	0.000	0.246	Oct 2016	0.000		0.000		-		0.000	0.000	0.246	-
Barracuda Program Management	WR	NUWC NPT : Newport RI	0.000	0.272	May 2017	0.000		0.000		-		0.000	0.000	0.272	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy													Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)					Project (Number/Name) 2473 / Airborne Mine Neutralization System					
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Barracuda Engineering Support	C/CPIF	JHU APL : Baltimore, MD	0.000	0.128	May 2017	0.000		0.000		-		0.000	0.000	0.128	-
AMNS Program Management Support	C/CPFF	Various : Various	7.355	0.000		0.000		0.000		-		0.000	0.000	7.355	-
AMNS Program Management Support	C/CPIF	Raytheon : Portsmouth, RI	2.554	0.177	Jan 2017	0.081	Nov 2017	0.000		-		0.000	0.000	2.812	-
AMNS Program Management Support	Various	Field Activity : Various	2.352	0.000		0.000		0.000		-		0.000	0.000	2.352	-
AMNS Travel	Allot	NAVSEA : Washington, DC	0.159	0.000		0.000		0.000		-		0.000	0.000	0.159	-
DAWDF	Sub Allot	NAVSEA : Washington, DC	5.153	0.000		0.000		0.000		-		0.000	0.000	5.153	-
Subtotal			18.036	0.951		0.162		0.000		-		0.000	0.000	19.149	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			154.275	13.646		3.481		0.000		-		0.000	0.000	171.402	N/A
Remarks															

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PE 0604373N: *Airborne Mine Countermeasures (AMCM)*
Navy

R-1 Line #130

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)
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Project (Number/Name)	2473 / Airborne Mine Neutralization System
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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy

Date: February 2018

[illegible]

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R-1 Program Element (Number/Name)	Program Element Description	Program Element Type	Program Element Status	Program Element Location	Program Element Date	Program Element Time	Program Element Duration	Program Element Frequency	Program Element Priority	Program Element Impact	Program Element Notes
1	1.1	1.1.1	1.1.1.1	1.1.1.1.1	1.1.1.1.1.1	1.1.1.1.1.1.1	1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1.1.1	1.1.1.1.1.1.1.1.1.1.1.1

PE 0604373N / Airborne Mine

Countermeasures (AMCM)

Project (Number/Name)	Start Date	End Date	Duration (Days)	Team Lead	Status	Progress (%)	Budget (USD)	Actual Cost (USD)	Variance (USD)	Risk Level	Notes
101	2023-01-01	2023-03-31	90	John Doe	Completed	100	15000	14800	200	Low	Project completed ahead of schedule.
102	2023-02-01	2023-05-31	120	Jane Smith	In Progress	75	20000	21000	-1000	Medium	Minor budget overrun, on track for completion.
103	2023-03-01	2023-06-30	120	Mike Johnson	On Hold	20	18000	18000	0	High	Project paused due to resource allocation.
104	2023-04-01	2023-07-31	120	Sarah Lee	Planned	0	22000	22000	0	Medium	Project planning phase.
105	2023-05-01	2023-08-31	120	David Kim	On Hold	10	19000	19000	0	Low	Project paused due to budget review.
106	2023-06-01	2023-09-30	120	Emily White	Planned	0	21000	21000	0	Medium	Project planning phase.
107	2023-07-01	2023-10-31	120	Chris Brown	On Hold	5	20000	20000	0	High	Project paused due to technical challenges.
108	2023-08-01	2023-11-30	120	Alex Green	Planned	0	23000	23000	0	Medium	Project planning phase.
109	2023-09-01	2023-12-31	120	Olivia Black	On Hold	0	17000	17000	0	Low	Project paused due to resource allocation.
110	2023-10-01	2024-01-31	120	Noah Grey	Planned	0	24000	24000	0	Medium	Project planning phase.
111	2023-11-01	2024-02-28	118	Isabella Blue	On Hold	0	16000	16000	0	Low	Project paused due to budget review.
112	2023-12-01	2024-03-31	120	Liam Red	Planned	0	25000	25000	0	Medium	Project planning phase.
113	2024-01-01	2024-04-30	120	Mia Purple	On Hold	0	18000	18000	0	Low	Project paused due to resource allocation.
114	2024-02-01	2024-05-31	120	Benjamin Yellow	Planned	0	26000	26000	0	Medium	Project planning phase.
115	2024-03-01	2024-06-30	120	Charlotte Pink	On Hold	0	19000	19000	0	Low	Project paused due to budget review.
116	2024-04-01	2024-07-31	120	Ethan Orange	Planned	0	27000	27000	0	Medium	Project planning phase.
117	2024-05-01	2024-08-31	120	Ava Green	On Hold	0	20000	20000	0	Low	Project paused due to resource allocation.
118	2024-06-01	2024-09-30	120	Lucas Blue	Planned	0	28000	28000	0	Medium	Project planning phase.
119	2024-07-01	2024-10-31	120	Sophia Red	On Hold	0	21000	21000	0	Low	Project paused due to budget review.
120	2024-08-01	2024-11-30	120	Mason Purple	Planned	0	29000	29000	0	Medium	Project planning phase.

2473 / Airborne Mine Neutralization System

Barracuda Neutralization	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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																												
Barracuda Acquisition Documentation	Acquisition Documentation																											
System Development																												
Barracuda	Barracuda Development				Realigned to PE 0603502N ▲																							

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)	Project (Number/Name) 2473 / Airborne Mine Neutralization System	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AMNS				
Acquisition Milestones: Initial Operational Capability: Initial Operational Capability	1	2017	1	2017
Acquisition Milestones: AMNS Upgrades: AMNS Upgrade Development	1	2017	4	2018
Test & Evaluation Milestones: AMNS Operational Testing (MH-60s): Alternate Fiber Testing	1	2017	4	2017
Test & Evaluation Milestones: AMNS Operational Testing (MH-60s): Dash 4 Configuration Testing	1	2017	4	2017
Test & Evaluation Milestones: AMNS Operational Testing (MH-60s): ECP Testing	1	2018	4	2018
Production Milestones: LRIP 1	1	2017	1	2017
Production Deliveries: LRIP 1 Delivery	3	2018	3	2018
Production Deliveries: LRIP 2 Delivery	4	2018	4	2018
Production Deliveries: LRIP 3 Delivery	4	2019	4	2019
Barracuda Neutralization				
Acquisition Milestones: Barracuda Acquisition Documentation: Acquisition Documentation	1	2017	4	2017
System Development: Barracuda: Barracuda Development	1	2017	4	2017
System Development: Barracuda: Schedule Detail	1	2018	1	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 4026 / Strat Into Medal, Tactics & Trng Organic Force			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
4026: Strat Into Medal, Tactics & Trng Organic Force	33.343	11.624	10.994	9.919	-	9.919	9.984	9.963	10.127	10.336	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The C4I, Tactics, Mission Planning (CTMP), and Post Mission Analysis (PMA) program is an initiative that has evolved into both developing MEDAL modules for each Next Generation MCM system and developing Next Generation Tactics. Additionally CTMP provides threat data and system requirements and capabilities to the MEDAL software development effort. Finally CTMP develops Net-Centric Sensor Analysis for Mine Warfare (NSAM) as an Open Systems Architecture (OSA) compliant plug-in architecture of common post-mission analysis tools for PMA of Next Generation MCM sensor data.

NSAM analysis tools will provide the capability to perform tactical and environmental Post Mission Analysis (PMA) on data collected from various MCM sensor systems. The goal is to reduce the mission timeline and increase the mission effectiveness with respect to Mission Analysis. NSAM will have a training mode to maintain operator proficiency and PMA skill set. NSAM will be the replacement for Organic Post Mission Analysis (OPMA) in the Fleet, integrating ALMDS, AMNS, AN/AQS-20 Sensor PMA into the first delivered Fleet Build. Future incremental Builds, fielding on a 12-18 month cycle, will add support for AN/AQS-24B/C, COBRA, Knifefish, MCM USV, and ExMCM UUV sensors.

NSAM provides Multi-Data Set, Multi-User, Tactical & Environmental PMA, Contact Management, and Change Detection.

OSA reduces cost for adding future MCM Systems.

The analysis results from PMA are provided to the Mine Warfare and Environmental Decisions Aid Library (MEDAL) reducing False Call reporting for tactical decision making.

NSAM will implement Cybersecurity Requirements using the new Risk Management Framework (RMF) Process.

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

	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: NSAM Product Development	6.929	5.292	5.107	0.000	5.107
Articles:	-	-	-	-	-
FY 2018 Plans: Complete NSAM Open Architecture software development Increment 1 Build 1 that includes PMA support for ALMDS, AMNS, and AN/AQS-20A MCM Systems. Complete Development of Requirements for Increment 1 Build 2. Start Software Development of Build 2 address LCS capability gaps identified in the LCS IRT Plan. Continue applying Risk Management Framework (RMF) guidelines and strategy to stay on course for achieving a Platform Information Technology (PIT) Risk Approval. Continue tailoring and generating acquisition and logistics documents as required for supporting software intensive systems. Complete build requirements					

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)		Project (Number/Name) 4026 / Strat Into Medal, Tactics & Trng Organic Force		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
definition package (BRDP) approvals for NSAM Increment 1 Build 2. Continue work on NSAM Logistics Package and Training Material. FY 2019 Base Plans: Deliver final tested NSAM Increment 1 Build 1 to LCS Mission Package Application System (MPAS) and complete NSAM Logistics Package and Training Material. Continue NSAM Build 2 Open Architecture software development to address LCS capability gaps identified in the LCS IRT Plan supporting PMA for the next series of additional MCM systems including: AN/AQS-24B/C, COBRA, Knifefish, MCM USV, and ExMCM UUV sensors. Continue applying Risk Management Framework (RMF) guidelines and strategy to address all Cybersecurity protocols. NSAM program achieves IOC in Q2 FY19 FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: No significant change from FY 2018 to FY 2019.						
Title: Engineering Services/ILS: Articles:		3.712 -	3.909 -	3.274 -	0.000 -	3.274 -
FY 2018 Plans: Provide dedicated tactical support for integrated operations using Mission Package Application Software (MPAS) and NSAM Engineering support. Organize and execute the Integrated MCM Overarching Technical Group (IMCM OTG) to give the Fleet staffs a voice for reporting and addressing technical-level issues at the integrated level. Conduct analysis to collect information on vulnerability data available to the Fleet; define analysis that can be completed to expand the Navy Tactical Reference Publication (NTRP) 3-15.2.2 Susceptibility of Ships to Threat Mines with additional mine chapters for various Navy ships. Collaborate with MCM Division Thirty-One (MCMDIV 31) and Naval Surface and Mine Warfighting Development Center (NSMWDC) to define and document concept of employment for MCM MP with the MCM Commander (MCMC) of LCS. FY 2019 Base Plans: Continue updates for the "Susceptibility of Ships to Threat Mines," Navy Tactical Reference Publication (NTRP) 3-15.2.2: Complete chapters for additional Mines for Fleet validated ship list. Support training needs for AMNS, ALMDS and AN/AQS-20 post IOT&E and for Increment 2 of the MCM MP. Develop "Airborne Mine						

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018				
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)		Project (Number/Name) 4026 / Strat Into Medal, Tactics & Trng Organic Force				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Countermeasures (AMCM) (U) Navy Tactics, Training and Procedure (NTTP) Volume II, 3.15.22". Investigate and document Intelligence Preparation of the Environment (IPOE) gaps in LCS Tactics. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Reduction from FY 2018 to FY 2019 due to reduced warfare center engineering services.								
Title: Test and Evaluation Articles:				0.740 -	1.478 -	1.228 -	0.000 -	1.228 -
FY 2018 Plans: Begin Testing NSAM Build 1 to include: Usability/human system integration (HSI) testing, and initial Integration testing into the LCS Mission Package Integration Laboratory (MPIL). FY 2019 Base Plans: Complete Testing NSAM Build 1 to include: Independent Developers Test (DT). and final Integration testing in the LCS Mission Package Integration Laboratory (MPIL) post DT. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: No significant change from FY 2018 to FY 2019.								
Title: Management Support Articles:				0.243 -	0.315 -	0.310 -	0.000 -	0.310 -
FY 2018 Plans: Provide leadership, scheduling, monitoring and reporting status of the tasks: Plan, track and report personnel, funding, and execution status of tasks to the Assistant Program Manager (APM) for schedule, costs, risks, and deliverables for program execution tracking. FY 2019 Base Plans:								

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018	
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)		Project (Number/Name) 4026 / Strat Into Medal, Tactics & Trng Organic Force	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2017	FY 2018
<p>Continue to provide leadership, scheduling, monitoring and reporting status of the tasks: Plan, track and report personnel, funding, and execution status of tasks to the Assistant Program Manager (APM) for schedule, costs, risks, and deliverables for program execution tracking.</p> <p>FY 2019 OCO Plans: N/A</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: No significant change from FY 2018 to FY 2019.</p>					
Accomplishments/Planned Programs Subtotals				11.624	10.994
				FY 2019 Base	FY 2019 OCO
				9.919	0.000
				FY 2019 Total	9.919
C. Other Program Funding Summary (\$ in Millions) N/A					
Remarks					
D. Acquisition Strategy <p>The Organic Post-Mission Analysis (OPMA) capability for the OAMCM systems was developed by NSWC PCD, Panama City, FL. OMN funding will be used to purchase COTS ruggedized portable OPMA computers for LCS MCM Mission Package, ship of opportunity deployments, land basing, and training. NSWC-PCD has awarded contract for this Technical Refresh procurement with option years extending until FY18. NSAM will merge capabilities of OPMA and NAVO's Environmental PMA (EPMA) capabilities into an Open Architecture framework. Increment Build One will utilize government teams NSWC PCD and NRL-SSC to expedite fielding significant contact management improvements, data fusion techniques, and environmental PMA.</p> <p>The tactics development, tactics training, and tactics algorithms/database efforts are performed by NSWC-PCD. These efforts will provide reach back support as the OAMCM systems begin to be fielded; will develop modifications to environmental databases necessary to support OAMCM mission planning; will update the MIW Tactics Continuum to address OAMCM; and will update the gear and mine database for threats addressed by the OAMCM systems.</p>					
E. Performance Metrics <p>Successfully integrate NSAM into LCS Mission Package and provide Training Material to AMCM Detachments. Deliver Mine Warfare Naval Tactical Publications and TACMEMOs to NWDC in near publication ready formats in support of MCM Staffs and LCS MCM MP Operators.</p>					

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 4026 / Strat Into Medal, Tactics & Trng Organic Force					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Software Development	WR	NSWC PCD : Panama City FL	19.434	5.609	Oct 2016	4.284	Oct 2017	4.201	Nov 2018	-		4.201	Continuing	Continuing	Continuing
Hardware/Software Development	WR	NRL-SSC : Bay St. Louis, MS	1.123	1.320	May 2017	1.008	Dec 2017	0.906	Dec 2018	-		0.906	Continuing	Continuing	Continuing
Subtotal			20.557	6.929		5.292		5.107		-		5.107	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services	WR	SSC-PAC : Various	0.040	0.000		0.000		0.000		-		0.000	0.000	0.040	-
Engineering Services	WR	NSWC PCD : Panama City FL	8.690	3.049	May 2017	2.890	Nov 2017	2.093	Nov 2018	-		2.093	Continuing	Continuing	Continuing
Engineering Services	WR	NRL-SSC : Bay St. Louis, MS	0.594	0.250	May 2017	0.238	Dec 2017	0.327	Dec 2018	-		0.327	Continuing	Continuing	Continuing
ILS	WR	NSWC PC : Panama City FL	1.745	0.413	May 2017	0.781	Nov 2017	0.854	Nov 2018	-		0.854	Continuing	Continuing	Continuing
Subtotal			11.069	3.712		3.909		3.274		-		3.274	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NSAM Test and Evaluation	WR	NSWC PC : Panama City, FL	0.000	0.612	Oct 2016	1.054	Oct 2017	1.106	Nov 2018	-		1.106	0.000	2.772	-
NSAM Test and Evaluation	WR	NRL-SSC : Bay St Louis, MS	0.000	0.128	Nov 2016	0.424	Nov 2017	0.122	Dec 2018	-		0.122	0.000	0.674	-
Subtotal			0.000	0.740		1.478		1.228		-		1.228	0.000	3.446	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 4026 / Strat Into Medal, Tactics & Trng Organic Force					
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support	WR	NSWC PC : Panama City FL	1.704	0.243	May 2017	0.315	Nov 2017	0.310	Nov 2018	-		0.310	Continuing	Continuing	Continuing
Acquisition Workforce Fund	Various	Various : Various	0.013	0.000		0.000		0.000		-		0.000	0.000	0.013	-
Subtotal			1.717	0.243		0.315		0.310		-		0.310	Continuing	Continuing	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			33.343	11.624		10.994		9.919		-		9.919	Continuing	Continuing	N/A
Remarks															

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R-1 Program Element (Number/Name)
PE 0604373N / Airborne Mine
Countermeasures (AMCM)

R-1 Line #130

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)	Project (Number/Name) 4026 / Strat Into Medal, Tactics & Trng Organic Force	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4026				
Acquisition Milestones: NSAM: Initial Operational Capability	2	2019	2	2019
System Development: OPMA: OPMA: Ongoing Development post Deployment; Software	3	2017	2	2019
System Development: NSAM: NSAM: S/W Development Increment 1 Build 1	1	2017	2	2018
System Development: NSAM: NSAM: S/W Development Increment 1 Build 2	3	2018	1	2020
System Development: NSAM: NSAM: S/W Development Increment 1 Build 3	2	2020	4	2021
System Development: NSAM: NSAM: S/W Development Increment 1 Build 4	1	2022	4	2023
System Development: Tactics: Add additional Mines to NTRP 3-15.2.2 Susceptibility of Ships to Threat Mines	1	2017	4	2023
System Development: Tactics: Tactics: TACMEMO Environment Data for LCS MCM Systems	1	2017	4	2018
System Development: Tactics: Tactics: Decision Making Tool for E-COA Estimation	4	2017	4	2018
System Development: Tactics: Tactics: Contact Management for Clearance Operations and Multi-Ship Employment	3	2017	4	2018
System Development: Tactics: Tactics: Reachback LCS OAMCM support	1	2017	4	2022
Test & Evaluation: NSAM: NSAM: LCS MCMM MP MPCE Integration Testing 1	1	2019	2	2019
Test & Evaluation: NSAM: NSAM: LCS MCMM MP MPCE Integration Testing 2	1	2020	2	2020
Test & Evaluation: NSAM: NSAM: LCS MCMM MP MPCE Integration Testing 3	4	2021	1	2022
Test & Evaluation: NSAM: NSAM: Human Systems Integration (HSI) and DT Testing	2	2018	3	2018
Deliveries: OPMA: OPMA: Deliver OPMA v1.3.11 for FY18 LCS Employment	1	2017	1	2018
Deliveries: NSAM: NSAM: Capability Drop Build 2	3	2020	3	2020
Deliveries: NSAM: NSAM: Capability Drop Build 3	2	2022	2	2022

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)		Project (Number/Name) 4026 / Strat Into Medal, Tactics & Trng Organic Force	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Design Reviews: NSAM: NSAM: Build 2 Requirements Design Package (RDP)		2	2018	3	2018
Design Reviews: NSAM: NSAM: Build 3 Requirements Design Package (RDP)		1	2020	2	2020
Design Reviews: NSAM: NSAM: Build 4 Requirements Design Package (RDP)		4	2021	1	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 9179 / Surf Navy Integ Undersea Tactical Tech			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
9179: Surf Navy Integ Undersea Tactical Tech	5.795	1.317	1.259	0.912	-	0.912	0.932	0.953	0.972	0.992	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Surface Navy Integrated Undersea Tactical Technology (SNIUTT) will be used to develop an AN/SQQ-32, and AN/AQS-24B/C sensor training modules. SNIUTT is also used for LCS MCM Mission Package Airborne Mine Countermeasures (AMCM) sensor training modules for systems such as AMNS, ALMDS, COBRA and surface towed AN/AQS-20A sensor training modules.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
Title: Engineering and Integration and Logistics Services Articles: FY 2018 Plans: Continue to provide SNIUTT In Service Engineering Agent (ISEA) training, and documentation support. FY 2019 Base Plans: Continue to provide SNIUTT In Service Engineering Agent (ISEA) training, and documentation support. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: Decrease from FY18 to FY19 due to rate adjustments.							0.136	0.245	0.093	0.000	0.093	
							-	-	-	-	-	
Title: Hardware and Software Development Articles: FY 2018 Plans: Continue to update the AN/AQS-24, AN/AQS-20A and ALMDS sonar training module. Continue development of a Scenario Generator software system for COBRA for mine field recognition training. FY 2019 Base Plans:							1.181	1.014	0.819	0.000	0.819	
							-	-	-	-	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018			
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)	Project (Number/Name) 9179 / Surf Navy Integ Undersea Tactical Tech				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Complete update to the AN/AQS-24, AN/AQS-20A and ALMDS sonar training module. Continue development of a Scenario Generator software system for COBRA for mine field recognition training.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: Decrease from FY18 to FY19 due to rate adjustments.						
Accomplishments/Planned Programs Subtotals		1.317	1.259	0.912	0.000	0.912
C. Other Program Funding Summary (\$ in Millions) N/A						
Remarks						
D. Acquisition Strategy Surface Navy Integrated Undersea Tactical Technology(SNIUTT) has been used to develop AN/SQQ-32, AN/AQS-24 and AN/AQS-20A sensor training modules. Funds will continue to support training for these sonar systems, as well as training for the Remote Environmental Measuring Units (REMUS) sonar systems and other OAMCM systems such as AMNS, ALMDS and COBRA in the same format as previous training. The SNIUTT sensor training modules will be developed by NSWC PCD, Panama City, FL,. Funds are being provided for development and delivery of refresher scenario based contact recognition training, and the update and modification of contact recognition training (interactive web based training and proficiency focused stand-alone training) in support of the SNIUTT program.						
E. Performance Metrics Successfully integrate SNIUTT into the school house training facility and provide to AMCM detachments for refresher training.						

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)				Project (Number/Name) 9179 / Surf Navy Integ Undersea Tactical Tech					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Software Development	WR	NSWC PC : Panama City FL	4.907	1.181	Jun 2017	1.014	Nov 2017	0.819	Nov 2018	-		0.819	Continuing	Continuing	Continuing
Subtotal			4.907	1.181		1.014		0.819		-		0.819	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ISEA	WR	NSWC, PC : Panama City FL	0.885	0.136	Oct 2016	0.245	Nov 2017	0.093	Nov 2018	-		0.093	Continuing	Continuing	Continuing
Subtotal			0.885	0.136		0.245		0.093		-		0.093	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DAWDF	Various	Various : Various	0.003	0.000		0.000		0.000		-		0.000	0.000	0.003	-
Subtotal			0.003	0.000		0.000		0.000		-		0.000	0.000	0.003	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			5.795	1.317		1.259		0.912		-		0.912	Continuing	Continuing	N/A
Remarks															

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Project (Number/Name)
9179 / Surf Navy Integ Undersea Tactical
Tech

SNIUTT		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
		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
System Development																													
SNIUTT		SNIUTT Development																											
		COBRA Training Module																											
		ALMDS & AQS-24C Trianing Module																											
						COBRA Scenario Generator Software Development																							

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)	Project (Number/Name) 9179 / Surf Navy Integ Undersea Tactical Tech

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
SNIUTT				
System Development: SNIUTT: SNIUTT	1	2017	4	2023
System Development: SNIUTT: COBRA Training Module	1	2017	1	2018
System Development: SNIUTT: ALMDS and AQS-24C Training Module	1	2017	1	2019
System Development: SNIUTT: Scenario Generator Software System	1	2018	1	2020