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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy Date: February 2015

Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	507.261	34.773	21.384	18.260	-	18.260	41.524	38.263	33.914	34.599	Continuing	Continuing
0377: JT Service Expl Ord Disp System	330.451	15.470	10.197	6.077	-	6.077	15.198	13.665	11.650	11.889	Continuing	Continuing
1317: EOD Diving System	100.867	2.585	2.050	2.612	-	2.612	5.528	5.119	4.498	4.588	Continuing	Continuing
4023: VSW MCM/Force Protection UUV	75.943	16.718	9.137	9.571	-	9.571	20.798	19.479	17.766	18.122	Continuing	Continuing

A. Mission Description and Budget Item Justification

This is a Joint Service Program. This program provides for the development of Explosive Ordnance Disposal tools and equipment for use by all military services. The responsibility is assigned to the Navy as single service manager, by Department of Defense Directive 5160.62 of 26 April 1989, for management of the Joint Service Explosive Ordnance Disposal Research and Development Program. Proliferation of sophisticated types of foreign and domestic ordnance and Improvised Explosive Devices necessitate a continuing development program to provide Explosive Ordnance Disposal personnel of all military services with the special equipment and tools required to support this mission. This program also provides life support related equipment necessary to support the performance of Navy Explosive Ordnance Disposal tasks underwater. This equipment must have inherently low acoustic and magnetic signatures in order to allow the Explosive Ordnance Disposal technician to safely approach, render-safe and dispose of sea mines and other underwater ordnance. This program also provides force protection of all military services against Radio Controlled Improvised Explosive Devices (RCIED) to prevent initiation. The Navy has been designated as DOD Executive Agent and Single Manager for Military Ground-Based Counter Radio-Controlled Improvised Explosive Electronic Warfare (CREW) Technology by DOD Directive 5101.14 of 11 June 2007, requiring RDT&E to develop capabilities that meet joint requirements.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	34.958	21.399	29.982	-	29.982
Current President's Budget	34.773	21.384	18.260	-	18.260
Total Adjustments	-0.185	-0.015	-11.722	-	-11.722
• Congressional General Reductions	-	-0.015			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.185	-			
• Program Adjustments	-	-	1.044	-	1.044
• Rate/Misc Adjustments	-	-	-12.766	-	-12.766

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev
<u>Change Summary Explanation</u> The FY 2016 funding request was reduced by \$8.6 million to account for the availability of prior year execution balances. Program Adjustments: FY16 \$11.722M in Other Rate Adjustments.		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy									Date: February 2015			
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev				Project (Number/Name) 0377 / JT Service Expl Ord Disp System			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0377: JT Service Expl Ord Disp System	330.451	15.470	10.197	6.077	-	6.077	15.198	13.665	11.650	11.889	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Provides Explosive Ordnance Disposal personnel of all military services with the specialized equipment and tools required to support their mission of detection/location, identification, render-safe, recovery, field and laboratory evaluation, and disposal of unexploded ordnance (UXO) that is a threat to military operations, installations, personnel, or material. UXO includes foreign and domestic, both conventional and non-conventional, including Improvised Explosive Devices (IEDs). High Fidelity Weapons Mass Destruction performs detection and identification of hazardous materials contained in devices using radiological and biological means. Advanced EOD Robot System (AEODRS) consists of multiple interoperable robot systems. The first class of robot and the architecture for the system will be developed first, then the other classes of robots will be developed.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: EOD FUTURE RADIOGRAPHIC SYSTEMS (FRS) AND EOD DECISION SUPPORT SYSTEMS (DSS) Articles:								5.227	1.762	1.643	-	1.643
								-	-	-	-	-
FY 2014 Accomplishments: Continued improvements to the JEOD Decision Support System (DSS) based upon user input, development of the Future Radiographic Systems (FRS) and provide Analysis of Alternatives for warfighter initiated improvements.												
FY 2015 Plans: Continue improvements to the JEOD Decision Support System (DSS) based on prioritized user input, and provide Analysis of Alternatives for warfighter initiated improvements.												
FY 2016 Base Plans: Continue limited improvements to JEOD Decision Support System (DSS) based on user input, provide Analysis of Alternatives for warfighter initiated improvements and conduct procurement, testing and evaluation of potential commercial non-development items (CNDI) meeting EOD warfighter needs.												
FY 2016 OCO Plans: N/A												
Title: HIGH FIDELITY WEAPONS MASS DESTRUCTION (WMD) IDENTIFICATION AND DETECTION Articles:								0.610	-	-	-	-
								-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy				Date: February 2015		
Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev		Project (Number/Name) 0377 / JT Service Expl Ord Disp System		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Continued to develop Weapons Mass Destruction (WMD) family of systems focused on development of the Explosives Identification Kit (ID).						
FY 2015 Plans: Evaluate WMD & Detection subsystems maturity for integration into single system to meet requirements.						
FY 2016 Base Plans: N/A						
FY 2016 OCO Plans: N/A						
Title: EOD ROBOTICS		8.633	7.435	4.234	-	4.234
Articles:		-	-	-	-	-
FY 2014 Accomplishments: Continued development of Advanced EOD Robotic Systems Increments 1,2 and 3 to fill capability gap and to replace existing EOD Robotic Platforms.						
FY 2015 Plans: Expand Advanced EOD Robotics Increment 1 architecture for use in Increments 2 & 3 resulting in prototype development and testing.						
FY 2016 Base Plans: Conduct development and test of Advanced EOD Robotics System Increments 1 first articles. Continue development of Advanced EOD Robotics System Increments 2 only.						
FY 2016 OCO Plans: N/A						
Title: TCM AN/PLT-XXX SYSTEMS		1.000	1.000	0.200	-	0.200
Articles:		-	-	-	-	-
FY 2014 Accomplishments: Continued upgrades to EOD TCM loadsets to account for continually changing threats.						
FY 2015 Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy				Date: February 2015		
Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev		Project (Number/Name) 0377 / JT Service Expl Ord Disp System		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Development of loadsets beyond current theater. Upgrade current theater loadsets to remain current with continually changing threats.						
FY 2016 Base Plans: Continue limited loadset upgrades for fielded EOD TCM systems to remain current with continually changing threats.						
FY 2016 OCO Plans: N/A						
Accomplishments/Planned Programs Subtotals		15.470	10.197	6.077	-	6.077
C. Other Program Funding Summary (\$ in Millions)						
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017
• OPN/5509: EOD Equipment (VN075)	8.080	-	12.712	-	12.712	18.655
						FY 2018
						6.721
						FY 2019
						9.050
						FY 2020
						9.360
						Cost To Complete
						-
						Total Cost
						74.381
Remarks						
D. Acquisition Strategy						
Analysis of Alternatives (AOA) studies are always conducted prior to the initiation of new subprojects. The AOA addresses and emphasizes acquisition strategies of the most cost-effective solution over the subprojects' life-cycle. The acquisition strategies observe the following hierarchy of alternatives: commercial item (including modification), non-developmental item (including modification), and lastly, developmental programs. Contracting for RDT&E, if required, is always competitive and when feasible, production options are included.						
E. Performance Metrics						
Processed 35 Joint Service EOD Decision Support System (DSS) change requests resulting in the release of 3718 Mobile Field Kit and Publication Suite Software copies to the Joint Services including USN. Completed TCM, AN/PLT-5 loadset upgrade for EOD use in-theatre based upon new IED/UXO threats seen during operations. Released AEODRS Increment 1 request for proposal (RFP). FRS first article acceptance and achieved full rate production. Completed ECPs to increase MTRS MK2 capability (added 360 degree camera and -universal real-time data & display (UDAD) kit, vision and fast pan & tilt camera and replaced existing data radio with suitable for rest of world. Completed AoA for Advanced Ordnance Locator.						

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev				Project (Number/Name) 0377 / JT Service Expl Ord Disp System					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Primary Hardware Development	WR	EODTD : Indian Head, MD	142.193	7.704	Oct 2013	5.684	Oct 2014	2.977	Oct 2015	-		2.977	Continuing	Continuing	Continuing
Software Development	WR	EODTD : Indian Head, MD	25.234	2.700	Oct 2013	1.528	Oct 2014	1.000	Oct 2015	-		1.000	Continuing	Continuing	Continuing
ILS	WR	EODTD : Indiah Head, MD	47.090	1.000	Oct 2013	0.500	Oct 2014	0.450	Oct 2015	-		0.450	Continuing	Continuing	Continuing
Subtotal			214.517	11.404		7.712		4.427		-		4.427	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Program Management Support	C/CPFF	ITT : Arlington, VA	6.997	0.436	Oct 2013	0.500	Oct 2014	0.250	Oct 2015	-		0.250	Continuing	Continuing	Continuing
Subtotal			6.997	0.436		0.500		0.250		-		0.250	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Developmental Test & Evaluation	WR	EODTD : Indian Head, MD	72.849	2.630	Oct 2013	1.000	Oct 2014	0.600	Oct 2015	-		0.600	Continuing	Continuing	Continuing
Operation Test & Evaluation	WR	EODTD : Indian Head, MD	10.483	0.500	Oct 2013	0.500	Oct 2014	0.500	Oct 2015	-		0.500	Continuing	Continuing	Continuing
Subtotal			83.332	3.130		1.500		1.100		-		1.100	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015		
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev				Project (Number/Name) 0377 / JT Service Expl Ord Disp System				

Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Program Management Support	WR	EODTD : Indian Head, MD	9.153	0.500	Oct 2013	0.485	Oct 2014	0.300	Oct 2015	-		0.300	Continuing	Continuing	Continuing
Miscellaneous	WR	EODTD : Indian Head, MD	16.452	-	Oct 2013	-	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Subtotal			25.605	0.500		0.485		0.300		-		0.300	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	330.451	15.470		10.197		6.077		-		6.077	-	-	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy

Date: February 2015

Appropriation/Budget Activity

1319 / 4

R-1 Program Element (Number/Name)

PE 0603654N / JT Service Explosive Ordn
Dev

Project (Number/Name)

0377 / JT Service Expl Ord Disp System

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EOD DECISION SUPPORT SYSTEM																												
Continuous Improvement																												
ELECTRONIC SAFE/ARM FUZE - IED/UXO																												
Technology Evaluation & Development																												
TCM, AN/PLT-XXX (CLASSIFIED III)																												
Continuous Improvement																												
EOD FUTURE RADIOGRAPHIC SYSTEM																												
Production																												
Increment I (DEV)																												
Increment I (TEST)																												
JSEOD WMD																												
Research																												
Testing																												
Procurement																												
Increment I (RESEARCH/TESTING)																												
Increment I (PROD READNESS MODEL)																												
ADVANCED EOD ROBOT SYSTEM																												
Testing (Increment #1)																												
Production Decision (Increment # 1)																												
Development (Increment # 2 & 3)																												
Testing (Increment #2 & 3)																												
Production (Increment # 1, 2 & 3)																												
Continuous Improvement																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev	Project (Number/Name) 0377 / JT Service Expl Ord Disp System	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0377				
Title: EOD DECISION SUPPORT SYSTEM	1	2014	4	2020
DSS Continous Improvement	1	2014	4	2020
Title: ELECTRONIC SAFE/ARM FUZE - IED/UXO	1	2014	4	2014
Technology Evaluation & Development	1	2014	4	2014
Title: TCM, AN/PLT-XXX (CLASSIFIED III)	1	2014	4	2020
AN/PLT-XXX Continous Improvement	1	2014	4	2020
Title: EOD FUTURE RADIOGRAPHIC SYSTEM	1	2014	4	2015
Production	1	2014	4	2015
Increment I (DEV)	1	2014	4	2014
Increment I (TEST)	2	2014	1	2015
Title: JS EOD WMD	1	2014	4	2020
Research	1	2014	4	2014
WMD Testing	1	2014	4	2014
Procurement	3	2014	2	2015
Increment I (RESEARCH/TESTING)	1	2014	4	2020
Increment I (PROD READNESS MODEL)	1	2019	4	2020
Title: ADVANCED EOD ROBOT SYSTEM	1	2014	4	2020
Testing (#1)	1	2014	3	2016
Production Decision (INCREMENT #1)	4	2016	4	2016
Development (INCREMENT # 2 & 3)	1	2014	3	2019
Testing (INCREMENT # 2 & 3)	2	2016	3	2019

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015		
Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev		Project (Number/Name) 0377 / JT Service Expl Ord Disp System	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Production (INCREMENT 1, 2 & 3)		4	2016	4	2020
Continous Improvement 3		1	2017	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev				Project (Number/Name) 1317 / EOD Diving System			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1317: EOD Diving System	100.867	2.585	2.050	2.612	-	2.612	5.528	5.119	4.498	4.588	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Provides for development of Diver Safety/Life Support Equipment, Advanced Diver Integrated Sensors and Advanced Firing Systems to support Navy Explosive Ordnance Disposal (EOD) underwater operations and Expeditionary MCM Company establishment by US Fleet Forces Command. The equipment must have inherently low acoustic and magnetic signatures in order to allow the EOD divers to safely approach, render-safe, recover, exploit, and dispose of underwater explosive threats to include sea mines, limpet mines, underwater improvised explosive devices, and unexploded ordnance.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: DIVER SAFETY & LIFE SUPPORT SYSTEMS								1.056	1.600	2.362	-	2.362
Articles:								-	-	-	-	-
Description: Diver Safety & Life Support Systems: Develop diver safety tools to include more capable life support systems for EOD, and Mobile Diving & Salvage Units (MDSU) operations. Specific tools include but are not limited to Underwater Breathing Apparatus (UBA), specialized dive masks, heads-up displays, emergency life support systems and the ability to train divers and to evaluate Mine Countermeasures (MCM)/Explosive Ordnance Disposal (EOD) tools, tactics and procedures with regard to influence cleanliness against sea mines both at home and in controlled threat areas prior to commencing EOD operations.												
FY 2014 Accomplishments: Continued the EOD UBA AoA acquisition efforts to develop, test, and field future Expeditionary Mine Countermeasures (EUMCM) systems in accordance with approved OPNAV requirements.												
FY 2015 Plans: Continue EOD UBA acquisition initiative and develop improvements to Mine Warfare EOD Training and Readiness Evaluation Systems (METRES) tool set.												
FY 2016 Base Plans: Enter engineering and manufacturing development phase in progressing towards a production decision. Continue development, testing and evaluation of METRES product improvements.												
FY 2016 OCO Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy				Date: February 2015		
Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev		Project (Number/Name) 1317 / EOD Diving System		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A						
Title: ADVANCED DIVER INTEGRATED SENSORS		0.901	0.399	0.200	-	0.200
Articles:		-	-	-	-	-
Description: Develop Advanced Diver Integrated Sensors equipment to enhance EOD and MDSU ability to detect, access, neutralize and gather intelligence on underwater targets of interest. Requirements include Diver Hull Inspection Navigation System (DHINS) and improvements to the Underwater Imaging System (UIS).						
FY 2014 Accomplishments: Continued CIP integration with DHINS. Prepared documentation for initiation of UIS product improvement drawing on results of (AOA) conducted in FY13.						
FY 2015 Plans: Enter into risk reduction phase for the development of the next generation Advanced Integrated Sensor System for EOD divers as a replacement of the UIS. Continue CIP integration with DHINS.						
FY 2016 Base Plans: Initiate acquisition program for the next generation Advanced Integrated Sensor System for Expeditionary MCM forces.						
FY 2016 OCO Plans: N/A						
Title: ADVANCED FIRING SYSTEM		0.628	0.051	0.050	-	0.050
Articles:		-	-	-	-	-
Description: Develops product improvements to existing systems for below and above water neutralization of underwater threats to support EOD and MDSU operations.						
FY 2014 Accomplishments: Continued development, testing and evaluation of miniaturized Acoustic Firing Control Transmitter (AFCT).						
FY 2015 Plans: Begin fielding miniaturized AFCT to meet approved inventory objectives. Analyze and develop alternatives for improvement to acoustic firing device (AFD) receivers.						
FY 2016 Base Plans:						

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Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev		Project (Number/Name) 1317 / EOD Diving System							
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)											
	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total						
Complete testing, evaluation and fielding of AFCTs, and begin development and testing of product improvement to AFD receiver subsystems.											
FY 2016 OCO Plans: N/A											
Accomplishments/Planned Programs Subtotals	2.585	2.050	2.612	-	2.612						
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/0977a: Underwater EOD Program (Cost Code UQ034)	4.588	1.000	1.000	-	1.000	2.180	1.540	2.000	1.785	-	34.250
• OPN/0977b: UW EOD (UQ036)	2.000	-	0.338	-	0.338	1.650	0.805	2.500	8.410	-	16.903
Remarks											
D. Acquisition Strategy											
Analysis of Alternatives (AOA) studies are always conducted prior to the initiation of new sub-projects. The AOA addresses and emphasizes acquisition strategies of the most cost-effective solution over the sub-projects life-cycle. The acquisition strategies observe the following hierarchy of alternatives: commercial item (including modification), non-developmental item (including modification), and lastly, developmental programs. Contracting for RDT&E, if required, is always competitive and when feasible, production options are included.											
E. Performance Metrics											
Research and Develop technologies for the design of Diver Safety Systems, Advanced Diver Integrated Sensors and Advanced Underwater Firing Systems used to render safe, recover, exploit, and dispose of sea limpet mines and unexploded ordnance.											

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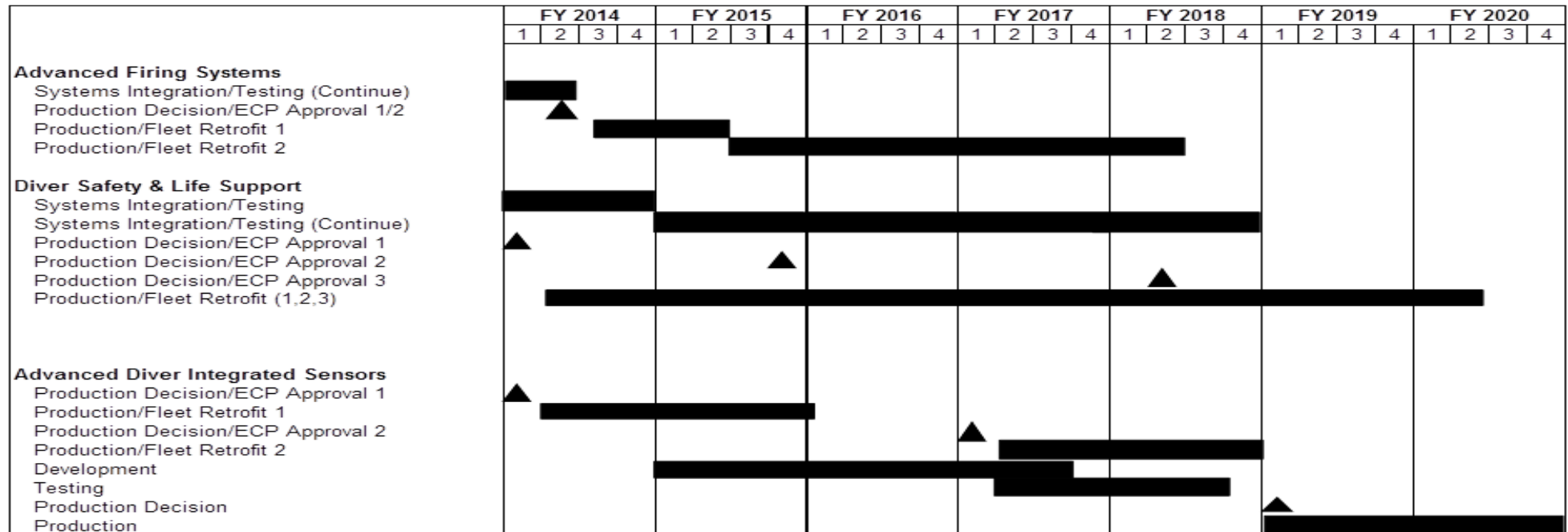
Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev				Project (Number/Name) 1317 / EOD Diving System					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Primary Hardware Development	WR	EODTECHDIV : IH, MD	40.612	0.654	Oct 2013	0.470	Oct 2014	0.467	Oct 2015	-		0.467	Continuing	Continuing	Continuing
Software Development	WR	EODTECHDIV : IH MD	4.299	0.218	Oct 2013	0.250	Oct 2014	0.689	Oct 2015	-		0.689	Continuing	Continuing	Continuing
Systems Engineering	WR	EODTECHDIV : IH MD	8.228	-		-		-		-		-	-	8.228	-
ILS	WR	EODTECHDIV : IH MD	11.916	-		-		-		-		-	-	11.916	-
Systems Engineering	WR	NSWC : Panama City	1.537	0.191	Oct 2013	0.200	Oct 2014	0.300	Oct 2015	-		0.300	Continuing	Continuing	Continuing
Systems Engineering	WR	SPAWAR : San Diego	2.881	0.381	Oct 2013	0.192	Oct 2014	0.180	Oct 2015	-		0.180	Continuing	Continuing	Continuing
Subtotal			69.473	1.444		1.112		1.636		-		1.636	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Program Management Support1	C/CPFF	ITT : Arlington VA	3.537	-		-		-		-		-	-	3.537	-
Program Management Support2	C/CPFF	ITT : Arlington VA	3.150	0.221	Oct 2013	0.250	Oct 2014	0.250	Oct 2015	-		0.250	Continuing	Continuing	Continuing
Integrated Logistics Support	WR	Not Specified : Not Specified	0.000	-		-		-		-		-	-	-	-
Configuration Management	WR	Not Specified : Not Specified	0.000	-		-		-		-		-	-	-	-
Technical Data	WR	Not Specified : Not Specified	0.000	-		-		-		-		-	-	-	-
GFE	WR	Not Specified : Not Specified	0.000	-		-		-		-		-	-	-	-
Award Fees	WR	Not Specified : Not Specified	0.000	-		-		-		-		-	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy													Date: February 2015		
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev				Project (Number/Name) 1317 / EOD Diving System					
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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			6.687	0.221		0.250		0.250		-		0.250	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Development Test & Evaluation	WR	EODTECHDIV : IH MD	6.914	0.572	Oct 2013	0.356	Oct 2014	0.338	Oct 2015	-		0.338	Continuing	Continuing	Continuing
Operational Test & Evaluation	WR	EODTECHDIV : IH MD	1.560	-		-		-		-		-	-	1.560	-
Subtotal			8.474	0.572		0.356		0.338		-		0.338	-	-	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Program Management Support	WR	EODTECHDIV : IH MD	9.373	0.252	Oct 2013	0.332	Oct 2014	0.328	Oct 2015	-		0.328	-	10.285	-
Miscellaneous	WR	NSWC, Activities : Not Specified	6.847	0.096	Oct 2013	-	Oct 2014	0.060	Oct 2015	-		0.060	-	7.003	-
Acquisition Workforce Fund	Various	Various : Various	0.013	-		-		-		-		-	-	0.013	-
Subtotal			16.233	0.348		0.332		0.388		-		0.388	-	17.301	-
			Prior Years	FY 2014	FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			100.867	2.585		2.050		2.612		-		2.612	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy			Date: February 2015		
Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev		Project (Number/Name) 1317 / EOD Diving System	



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev	Project (Number/Name) 1317 / EOD Diving System	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1317				
Title: ADVANCED FIRING SYSTEMS	1	2019	4	2019
Systems Integration/Testing (Continue)	1	2014	2	2014
Production Decision/ECP Approval 1/2	2	2014	2	2014
Production/Fleet Retrofit 1	3	2014	2	2015
Production/Fleet Retrofit 2	3	2015	2	2018
Title: DIVER SAFETY & LIFE SUPPORT	1	2019	4	2019
Systems Integration/Testing	1	2014	4	2014
System Integration/Testing (Continue)	1	2015	4	2018
"Production Decision/ECP Approval 1"	1	2014	1	2014
"Production Decision/ECP Approval 2"	4	2015	4	2015
Production Decision/ECP Approval 3	2	2018	2	2018
Production/Fleet Retrofit (1,2,3)	2	2014	2	2020
Title: ADVANCED DIVER INTEGRATED SENSORS	1	2019	4	2019
Production Decision/ECP Approval 1	1	2014	1	2014
Production/Fleet Retrofit 1	2	2014	4	2015
Production Decision/ECP Approval 2	1	2017	1	2017
Production/Fleet Retrofit 2	2	2017	4	2018
Development	1	2015	3	2017
Testing	2	2017	3	2018
Production Decision	1	2015	1	2015
Production	1	2019	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev				Project (Number/Name) 4023 / VSW MCM/Force Protection UUV			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
4023: VSW MCM/Force Protection UUV	75.943	16.718	9.137	9.571	-	9.571	20.798	19.479	17.766	18.122	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Provides for development of affordable expeditionary, unmanned underwater systems to support Navy Expeditionary forces including Explosive Ordnance (EOD). Mobile Diving and Salvage Units, and Shallow Water (SW), Very Shallow Water (VSW) and Underwater Mine Countermeasures (UMCM) mission operations. The equipment must be highly portable in order to support the Navy EOD technician to safely approach, render safe, recover, exploit and dispose of underwater explosive threats to include sea mines, limpet mines and unexploded ordnance. Provides support for the Navy's high priority missions of Maritime Homeland Defense, MCM, including clandestine reconnaissance and mine clearance in support of amphibious operations. Development of Expeditionary UUV systems to support localization render-safe and detailed intelligence gathering of UXO including Underwater Improvised Explosive Devices. This project supports CNO N957 MCM UUV Roadmap.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: VSW MCM/Force Protection UUV Articles:								16.718	9.137	9.571	-	9.571
								-	-	-	-	-
Description: This program supports development, testing and Fleet approval for evolving generations of affordable, expeditionary Unmanned Underwater Vehicles (UUV), support equipment, and Common Operator Interface Navy (COIN) systems to address validated requirements in support of Expeditionary SW and VSW UMCM mission areas. Mission areas include: open and confined areas, hulls, piers and pilings to search, classify, map, re-acquire, identify, and neutralize sea and limpet mines and underwater improvised explosive devices.												
FY 2014 Accomplishments:												
FY14 plans leveraged prior UOES testing and ONR Science and Technology (S&T) investments in standoff neutralization capabilities to prepare for initiation of a 1st increment of UUV-Neutralization (UUV-N program) to counter naval mines and other underwater explosive threats. Developed Joint Capability Integration Development System (JCIDS) documentation as required to support future improvements. Continued to enhance the MK 18 MOD 2 MCM UUV's and the MK 19 MOD 0 HULS with pre-planned product improvements to meet approved OPNAV operational requirements. UOES and RCT&E were used to validate operational capabilities.												
FY 2015 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy				Date: February 2015	
Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev		Project (Number/Name) 4023 / VSW MCM/Force Protection UUV	

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue to develop, test and evaluate mature technology solutions to support integration into block upgrades via ECP retrofits to fielded MK 18 MOD 1 UUV and HULS, and to development and execution of MK 18 MOD 2 UUV systems capability increments, and Neutralization systems. Plan and execute structured UOES and requirements compliance testing and evaluation associated with program execution (RCT&E) to evaluate effectiveness, supportability and suitability of prototype block upgrade retrofit kits. <i>FY 2016 Base Plans:</i> Continue testing evaluation, fielding and installation of MK 18 MOD 1 and MOD 2 UUV Systems to meet US Fleet Forces Command inventory objectives in support of the Expeditionary MCM Company capability establishment. Continue testing and evaluation of MK 18 UUV family of systems (FoS) capability increments and HULS ECP product improvements. Initiate acquisition of Expeditionary UUV Neutralization System (EUNS) program to develop standoff explosives threat object investigation, assessment, neutralization and battle damage assessment capabilities. <i>FY 2016 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	16.718	9.137	9.571	-	9.571

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/0977: Underwater EOD Program (Cost Code UQ034)	14.400	41.362	33.706	-	33.706	12.296	31.204	28.471	23.493	-	215.152
Remarks											
D. Acquisition Strategy											
Analysis of Alternatives (AOA) studies are always conducted prior to the initiation of new sub-projects. The AOA addresses and emphasizes acquisitions strategies of the most cost-effective solution over the sub-projects' life -cycle. The acquisition strategies observe the following hierarchy of alternatives: commercial item (including modifications), non-developmental item (including modifications), and lastly, developmental programs. Contracting for RDT&E, if required is always competitive and when feasible, production options are included.											

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / <i>JT Service Explosive Ordn Dev</i>	Project (Number/Name) 4023 / <i>VSW MCM/Force Protection UUV</i>
This ongoing program capitalizes on a User Operational Evaluation System (UOES) effort involving Fleet operators engaged in tactical experimentation with prototype UUVs prior to fielding baseline systems and capability improvement package increments. These UUV operators also participate in detailed requirements analyses and definition. Operational capabilities with UUV have been realized at designated operational units, with a competitive acquisition strategy. The addition of enhanced capabilities through an evolutionary acquisition approach to the UUV toolbox is programmed for delivery in accordance with approved CNO requirements and ONR TTAs. Further improvements to the toolbox to add basic mine and underwater explosive threats neutralization capabilities will be pursued. <u>E. Performance Metrics</u> Research and Develop technologies for the design of Unmanned Underwater Systems to provide enhanced fleet capabilities to locate, classify, identify, assess, neutralize and conduct post-neutralization battle damage assessment/verification of mines and unexploded ordnance.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev				Project (Number/Name) 4023 / VSW MCM/Force Protection UUV					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Primary Hardware Development	WR	Multiple Activites : Not Specified	11.759	4.227	Oct 2013	1.896	Oct 2014	2.017	Oct 2015	-		2.017	-	19.899	-
Systems Engineering	WR	NSWC, Activities : Not Specified	6.093	4.004	Oct 2013	1.615	Oct 2014	1.912	Oct 2015	-		1.912	-	13.624	-
Primary Hardware Development	WR	EODTECHDIV : IH, MD	16.238	-		-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering	WR	EODTECHDIV : IH, MD	15.144	2.893	Oct 2013	2.064	Oct 2014	2.051	Oct 2015	-		2.051	Continuing	Continuing	Continuing
Subtotal			49.234	11.124		5.575		5.980		-		5.980	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Technical Support	C/CPFF	ITT : ARLINGTON, VA	4.523	0.505	Oct 2013	0.355	Oct 2014	0.315	Oct 2015	-		0.315	Continuing	Continuing	Continuing
Subtotal			4.523	0.505		0.355		0.315		-		0.315	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Developmental Test & Evaluation	WR	Multiple Activities : Not Specified	7.106	3.037	Oct 2013	1.800	Oct 2014	1.684	Oct 2015	-		1.684	-	13.627	-
Operational Test & Evaluation	WR	NSWC, Activities : Not Specified	1.100	0.748	Oct 2013	0.544	Oct 2014	0.763	Oct 2015	-		0.763	-	3.155	-
Developmental Test & Evaluation	WR	EODTECHDIV : IH, MD	7.446	0.617	Oct 2013	0.456	Oct 2014	0.529	Oct 2015	-		0.529	Continuing	Continuing	Continuing
Operational Test & Evaluation	WR	EODTECHDIV : IH, MD	1.424	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			17.076	4.402		2.800		2.976		-		2.976	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev				Project (Number/Name) 4023 / VSW MCM/Force Protection UUV					

Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Program Management Support	WR	EODTECHDIV : IH, MD	3.016	0.460	Oct 2013	0.407	Oct 2014	0.200	Oct 2015	-		0.200	Continuing	Continuing	Continuing
Miscellaneous	WR	NSWC, Activities : Not Specified	2.076	0.227	Oct 2013	-	Oct 2014	0.100	Oct 2015	-		0.100	Continuing	Continuing	Continuing
DAWDF	Various	Not Specified : Not Specified	0.018	-		-		-		-		-	-	0.018	-
Subtotal			5.110	0.687		0.407		0.300		-		0.300	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	75.943	16.718		9.137		9.571		-		9.571	-	-	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy

Date: February 2015

Appropriation/Budget Activity

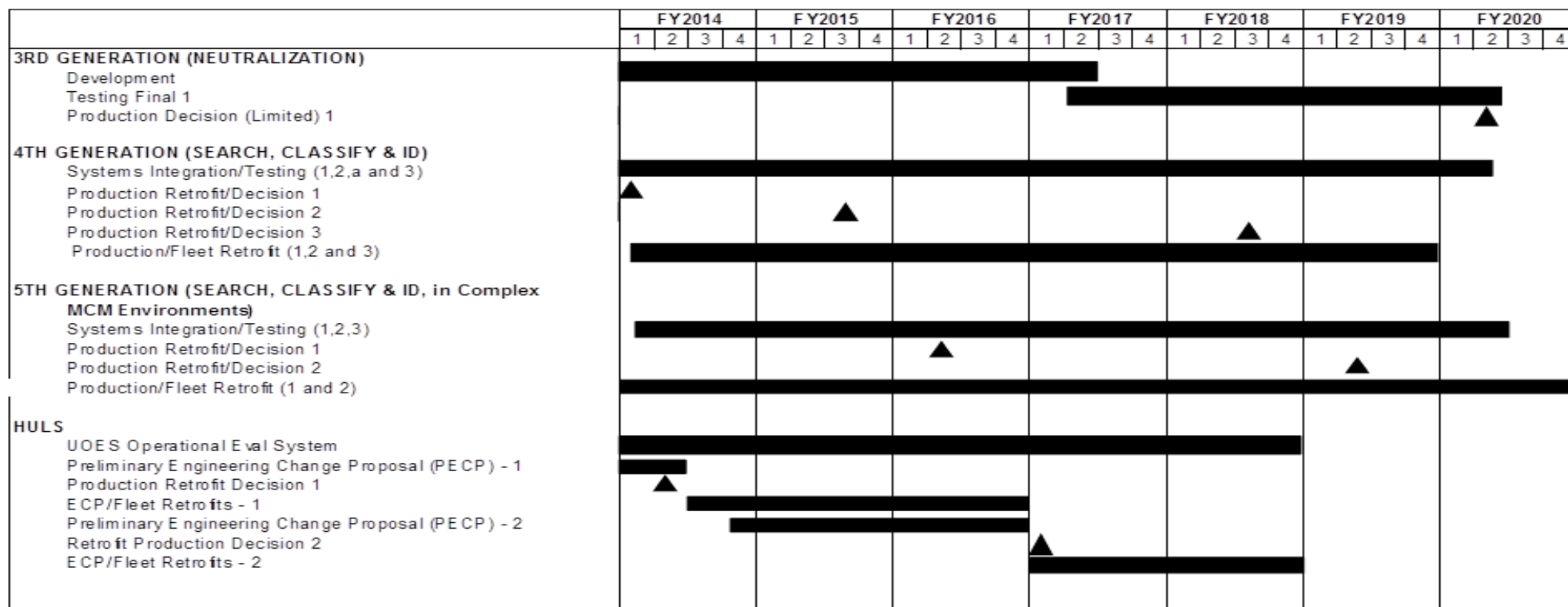
1319 / 4

R-1 Program Element (Number/Name)

PE 0603654N / JT Service Explosive Ordn
Dev

Project (Number/Name)

4023 / VSW MCM/Force Protection UUV



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev	Project (Number/Name) 4023 / VSW MCM/Force Protection UUV	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4023				
3RD GENERATION (NEUTRALIZATION)	1	2014	4	2020
Development	1	2014	2	2017
Testing Final 1	2	2017	2	2020
Production Decision (Limited) 1	2	2020	2	2020
Title: 4th GENERATION (SEARCH-CLASSIFY & ID)	1	2014	4	2020
Systems Integration/Testing (1,2,and 3)	1	2014	2	2020
Production/Retrofit/Decision 1	1	2014	1	2014
Production/Retrofit Decision 2	2	2015	2	2015
Production/Retrofit Decision 3	3	2018	3	2018
Production/Fleet Retrofit (1,2,and 3)	2	2014	1	2018
5th GENERATION (SEARCH, CLASSIFY & ID, IN COMPLEX MCM ENVIRONMENTS)	1	2014	4	2020
Systems Integration/Testing (1,2,3)	2	2014	3	2020
Production Retrofit/Decision 1	2	2016	2	2016
Production Retrofit/Decision 2	2	2019	2	2019
Production/Fleet Retrofit (1 and 2)	1	2014	4	2020
Title: HULS	1	2014	4	2020
UOES Operational Eval System	1	2014	4	2018
Preliminary Engineering Change Proposal (PECP) - 1	1	2014	2	2014
Production Retrofit Decision 1	2	2014	2	2014
ECP/Fleet Retrofits - 1	3	2014	4	2016
Preliminary Engineering Change Proposal (PECP) - 2	4	2014	4	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015		
Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603654N / JT Service Explosive Ordn Dev		Project (Number/Name) 4023 / VSW MCM/Force Protection UUV	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Retrofit Production Decision 2		1	2017	1	2017
ECP/Fleet Retrofits - 2		1	2017	4	2018