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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603654N / <i>JNT Service EOD Development</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	628.527	33.974	36.304	44.766	-	44.766	34.069	31.597	32.067	32.221	Continuing	Continuing
0377: <i>JT Service Expl Ord Disp System</i>	378.289	8.609	10.337	12.259	-	12.259	11.776	11.582	11.711	11.946	Continuing	Continuing
1317: <i>Expeditionary Diving Systems</i>	128.458	1.957	4.032	4.321	-	4.321	2.420	2.461	2.512	2.482	Continuing	Continuing
3177: <i>Joint Counter Radio-Controlled IED Elec Warfare</i>	121.780	14.715	10.869	9.510	-	9.510	7.315	7.386	7.468	7.245	Continuing	Continuing
3447: <i>Mine Expeditionary Response Vehicle (MESR)</i>	0.000	8.693	11.066	18.676	-	18.676	12.558	10.168	10.376	10.548	Continuing	Continuing

Note

Maritime Expeditionary Standoff Response (MESR) was realigned from Project 4023 into new Project 3447 beginning in FY22. Project 4023 Expeditionary Underwater Systems was relocated from PE 0603654N to PE 0604028N beginning in FY22.

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 aimed at meeting National Defense Strategy guidance to build a more lethal force. The responsibility is assigned to the Navy as single service manager, per Department of Defense Directive 5160.62E of 8 May, 2011, 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 tools and equipment designed for modularity, scalability, and flexibility, while maintaining readiness to respond to contingencies and ensure long-term warfighting readiness.

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 supports the National Defense Strategy's objective of preventing terrorist and near peer operations against the US, allies, and partners by providing for the research and development of Electronic Warfare (EW) systems, equipment, procedures, and tactical aids for all military services against the threat posed

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by Radio-Controlled Improvised Explosive Devices (RCIEDs) and to prevent initiation of RCIEDs across the spectrum of Joint military operations. It utilizes Joint requirements to provide a system of systems approach for a suite of equipment for mounted, dismounted, and fixed site operations; provides a Joint Counter RCIED EW (CREW) development of equipment, procedures, and tactical aids to make rapid improvements to performance, supportability and affordability, while maintaining pace with the evolving RCIED global threat.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	34.785	36.496	39.109	-	39.109
Current President's Budget	33.974	36.304	44.766	-	44.766
Total Adjustments	-0.811	-0.192	5.657	-	5.657
• Congressional General Reductions	-	-0.192			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.811	0.000			
• Program Adjustments	0.000	0.000	-2.000	-	-2.000
• Rate/Misc Adjustments	0.000	0.000	7.657	-	7.657

Change Summary Explanation

FY2022: -\$0.811 SBIR

FY2023: N/A

FY2024: -\$2.000M Terminate Hemlock Program of Record; +\$0.864M rate adjustments. +\$6.59M to address MESR Deep Water Response Proof of Concept efforts.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development				Project (Number/Name) 0377 / JT Service Expl Ord Disp System			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
0377: JT Service Expl Ord Disp System	378.289	8.609	10.337	12.259	-	12.259	11.776	11.582	11.711	11.946	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Program Element (PE) Project (0377) provides funding for the detailed design, development, risk mitigation, issue resolution, integrations, test, test equipment, simulations and technology insertion of specialized equipment, tools and assessment of accessories that expand range of military operations required to support DoD's only Joint Explosive Ordnance Disposal (EOD) programs.

EOD exclusively executes world-wide missions for detection/location, identification, render-safe, recovery, field and laboratory evaluation, and disposal of hazards and 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) and devices using radiological and biological means with or without explosives.

As defined in DOD Directive 5160.62E, assigns the Secretary of the Navy (SECNAV) the responsibility of Executive Agent for Explosive Ordnance Disposal (EOD) Technology and Training (T&T) to include the Joint Service Explosive Ordnance Disposal Research and Development Program. EOD programs are designed to reduce the EOD operator's exposure to explosive hazards or limit the risk to an acceptable level. EOD operations range from hand entry of explosive devices by EOD technicians to robotic actions and sensing capabilities that provide a safe distance of the explosive hazard at a greatly reduced cost to trained and experienced EOD operators.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: ANALYSIS OF ALTERNATIVES/ EOD MODERNIZATION	8.036	10.337	12.259	0.000	12.259
Articles:	-	-	-	-	-
FY 2023 Plans:	EOD Modernization will leverage the results of the Analysis of Alternatives and advances in technology to rapidly assess and field capability solutions through a sets, kits, and outfits approach. Prototype development, testing, user evaluation, and a family of systems approach in FY2023 will begin to close identified capability gaps in EOD Modernization priorities to include: Standoff Render Safe and Disrupt (SRSD), Rapid Large Area Clearance (RLAC), Access Buried Munitions (ABM), and integration of EOD unmanned systems sensors and payloads. Plans include prototype testing, user evaluation of a compact laser neutralization system and program office transition into the SRSD Family of Systems. Funding will support the completion and approval of Capability Development Documents (CDDs) for each of the aforementioned EOD Modernization efforts. Funding also				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 0377 / JT Service Expl Ord Disp System

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>supports the modernization of EOD Unmanned Systems with sensors and payloads integration, testing, and user evaluation/assessment. EOD Modernization efforts include modeling and development of render safe procedures and insertion into associated Joint EOD publications.</p> <p>FY 2024 Base Plans: FY24 Plans for EOD Modernization will build upon the FY23 plan and advance EOD technology to rapidly assess and field capability solutions through a sets, kits, and outfits approach. Leverage FY23 prototype development, testing, user evaluation, and a family of systems (FoS) approach to close identified capability gaps in EOD Modernization priorities to include: Standoff Render Safe and Disrupt (SRSD), Rapid Area Detection (RAD) formerly Rapid Large Area Clearance (RLAC); Rapid Large Area Clearance (RLAC) Joint Capability Technology Demonstration (JCTD), Access Buried Munitions (ABM), Timed Firing Device, and integration of EOD unmanned systems sensors and payloads. Plans include capability development, prototype testing, user evaluation, and transition of SOF equipment. Funding will support the continuation of EOD Modernization efforts to support Joint EOD forces.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase of \$1.695M will support multiple EOD modernization efforts to address the Integrated Priorities Capability List (IPCL) and mitigate capability gaps in order to develop technology and equip Joint EOD Forces counter explosive hazards intended to harm both U.S. and our allies.</p>					
<p>Title: EOD ROBOTICS</p> <p align="right">Articles:</p>	0.573	0.000	0.000	0.000	0.000
<p>FY 2023 Plans: N/A</p> <p>FY 2024 Base Plans: N/A</p> <p>FY 2024 OCO Plans: N/A</p>	-	-	-	-	-
Accomplishments/Planned Programs Subtotals	8.609	10.337	12.259	0.000	12.259

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
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C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy

Joint Service acquisition strategies maximize, to the greatest extent, evolutionary open architecture and modular strategy for rapid acquisition of mature technology for the user. The evolutionary approach delivers baseline capability and subsequent increments, recognizing up front the need for future capability improvements. Each technology insertion is a militarily useful and supportable operational capability that can be developed, produced, deployed, and sustained. The evolutionary strategy allows for rapid block upgrades, pre-planned product improvements, new accessories that expand range of military operations that provide a significant increase in operational capability and improvements at the modular level and encourages competition and second sources to lower life cycle costs. Modeling and simulation can verify system level compliance in a laboratory, greatly reducing the cost to conduct expensive range testing. EOD Modernization increases technology advances for more capable diagnostics and render-safe systems and EOD tools. Contracting for RDT&E, if required, is always competitive and when feasible, production options are included.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy												Date: March 2023			
Appropriation/Budget Activity 1319 / 4				R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development				Project (Number/Name) 0377 / JT Service Expl Ord Disp System							
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	NSWCIHEODTD : Indian Head, MD	200.076	2.739	Nov 2021	3.829	Nov 2022	3.944	Dec 2023	-		3.944	Continuing	Continuing	Continuing
Primary Hardware Development	C/FFP	John Hopkins, MD : Laurel, MD	12.400	0.975	Nov 2021	0.600	Oct 2022	0.718	Dec 2023	-		0.718	0.000	14.693	-
Integrated Logistics Support	WR	NSWCIHEODTD : Indian Head, MD	50.190	0.000		0.750	Nov 2022	0.773	Dec 2023	-		0.773	Continuing	Continuing	Continuing
Primary Software Development	WR	ARL/Army : Aberdeen Proving Ground	5.555	0.150	Nov 2021	0.000		0.000		-		0.000	0.000	5.705	-
Primary Hardware Development	MIPR	Dept of Energy : Albuquerque, NM	1.750	0.273	Nov 2021	1.355	Nov 2022	1.396	Dec 2023	-		1.396	0.000	4.774	-
Primary Hardware Development	Various	ONR : Washington, DC	2.500	2.400	Nov 2021	1.280	Nov 2022	1.930	Dec 2023	-		1.930	0.000	8.110	-
Primary Hardware Development	WR	NSWC Crane Division : Crane, IN	0.000	0.000		0.345	Nov 2022	0.755	Dec 2023	-		0.755	0.000	1.100	-
Primary Hardware Development	WR	NSWC Dahlgren : Dahlgren, VA	0.000	0.000		0.365	Nov 2022	0.876	Dec 2023	-		0.876	0.000	1.241	-
Primary Hardware Development	WR	NSWC Panama City : Panama City, FL	0.000	0.255	Nov 2021	0.000		0.000		-		0.000	0.000	0.255	-
Subtotal			272.471	6.792		8.524		10.392		-		10.392	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 (DT&E)	WR	NSWCIHEODTD : Indian Head, MD	82.513	1.561	Nov 2021	1.607	Nov 2022	1.655	Dec 2023	-		1.655	Continuing	Continuing	Continuing
Operational Test & Evaluation (OT&E)	WR	NSWCIHEODTD : Indian Head, MD	11.608	0.200	Nov 2021	0.206	Nov 2022	0.212	Dec 2023	-		0.212	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	C/FFP	NRL : Washington, DC	0.200	0.056	Nov 2021	0.000	Nov 2022	0.000		-		0.000	0.000	0.256	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 0377 / JT Service Expl Ord Disp System
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Proj 0377	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
EOD MODERNIZATION	Materiel Solution Analysis SRSD																											
	SRSD (Precision Aim/Render Safe) Technology Maturation and Risk Reduction												SRSD (Precision Aim/Render Safe) Engineering Manufacturing and Develop															
	SRSD (Directed Energy) Technology Deployment Agreement (TDA)																											
	Analysis of Alternatives RAD				RLAC Joint Concept Technology Demonstration (JCTD)																							
					RAD Technology Maturation and Risk Reduction												RAD Engineering and Manufacturing Development											
					TFD Engineering and Manufacturing Development																							
	Material Development ABM																											
					Material Development EOD Unmanned Systems and Payloads																							

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 0377 / JT Service Expl Ord Disp System

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0377				
EOD MODERNIZATION: Materiel Solution Analysis Standoff Render Safe and Disrupt	1	2022	1	2023
EOD MODERNIZATION: Standoff Render Safe and Disrupt (Precision Aim/Render Safe) Technology Maturation and Risk Reduction	1	2022	2	2025
EOD MODERNIZATION: Standoff Render Safe and Disrupt (Precision Aim/Render Safe) Engineering Manufacturing and Development	3	2025	3	2027
EOD MODERNIZATION: Standoff Render Safe and Disrupt (SRSD) (Directed Energy) Technology Deployment Agreement (TDA)	1	2022	4	2023
EOD MODERNIZATION: Rapid Large Area Clearance (RLAC) Joint Concept Technology Demonstration (JCTD)	1	2023	4	2025
EOD MODERNIZATION: Analysis of Alternatives Rapid Area Detection (RAD)	1	2022	4	2022
EOD MODERNIZATION: Rapid Area Detection (RAD) Technology Maturation and Risk Reduction	1	2023	3	2026
EOD MODERNIZATION: Rapid Area Detection (RAD) Engineering and Manufacturing Development	4	2026	2	2028
EOD MODERNIZATION: Timed Firing Device (TFD) Engineering and Manufacturing Development	1	2023	4	2025
EOD MODERNIZATION: Material Development Access Buried Munitions	1	2022	4	2024
EOD MODERNIZATION: Material Development EOD Unmanned Systems and Payloads	2	2023	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development				Project (Number/Name) 1317 / Expeditionary Diving Systems			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
1317: Expeditionary Diving Systems	128.458	1.957	4.032	4.321	-	4.321	2.420	2.461	2.512	2.482	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

These resources support the development of equipment for the Navy's only comprehensive expeditionary detect to engage and exploitation Mine Countermeasures (MCM) capability. Specifically, it provides for development of Diver Safety/Life Support Equipment, Advanced Diver Integrated Sensors and Command Detonation Systems to support Navy Explosive Ordnance Disposal (EOD) underwater operations, expeditionary salvage, and Expeditionary MCM Company operations. The equipment must have inherently low acoustic and magnetic signatures in order to allow the EOD divers to safely detect, reacquire, 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: DIVER SAFETY & LIFE SUPPORT SYSTEMS	0.476	2.502	1.750	0.000	1.750
Articles:	-	-	-	-	-
<p>Description: Diver Safety & Life Support Systems: Develop diving equipment and diver safety tools to include life support systems for Explosive Ordnance Disposal (EOD), Expeditionary Mine Countermeasures (ExMCM), 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 capability to train divers and to evaluate ExMCM tools, tactics and procedures including control of signatures with regard to influence fired ordnance.</p> <p>FY 2023 Plans: FY23 efforts will commence the hydrospace, unmanned, and environmental testing of the Multi-Mission Underwater Breathing Apparatus (MMUBA). The MMUBA is a UBA required to support a variety of military diving operations and practices such as deep or shallow water diving, managing heavy and stationary workloads, and swimming appreciable distances. MMUBA is the replacement for the MK 16 MOD 1 Closed Circuit Mixed-Gas UBA, which is approaching the end of its service life. Successful completion of these test events will lead to the conduct of manned testing beginning in FY24, which is critical to demonstrating the safe and effective employment of these life support systems and achieving NAVSEA 00C Certification for use in the Fleet.</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 1317 / Expeditionary Diving Systems

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>Environmental testing will include magnetic signature characterization and testing in accordance with MIL-DTL-19595D</p> <p>FY 2024 Base Plans: FY24 efforts will focus on completion of the unmanned and environmental testing regimens and initiation of the manned testing of the production representative MMUBA units. These events are needed to achieve full system safety certification of these units. The combined efforts of unmanned, environmental, and manned testing are designed to ultimately support a NAVSEA 00C Certification in accordance with NAVSEA SS800-AG-MAN-010 of the selected MMUBA. A logistics assessment will be conducted in FY24 to verify program lifecycle sustainment plans. These combined results of these evaluations will determine the operational effectiveness and suitability characteristics of the MMUBA and will provide the Objective Quality Evidence (OQE) needed to enter full rate production.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY2023 due to the completion of Hydrospace testing in FY23 and the start-up costs associated with initiation of the unmanned and environmental testing in FY23.</p>					
<p>Title: ADVANCED DIVER INTEGRATED SENSORS (STRIDENT)</p> <p align="right">Articles:</p> <p>Description: Develop Advanced Diver Integrated Sensors equipment (STRIDENT) to enable EOD and MDSU ability to detect, access, neutralize and gather intelligence on underwater targets of interest in support of Expeditionary Mine Countermeasures (ExMCM) and Diving and Salvage missions. Requirements include the validated STRIDENT TLR.</p> <p>FY 2023 Plans: FY23 efforts will conclude the developmental test and evaluation and user evaluation events necessary to demonstrate readiness to enter production through a Knowledge Point (KP) #2 Production Decision. Additionally, a supportability review, and completion of environmental testing will be conducted with delivery of initial production units in late FY23.</p> <p>FY 2024 Base Plans:</p>	1.362	1.065	0.738	0.000	0.738
	-	-	-	-	-

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 1317 / Expeditionary Diving Systems

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>FY24 efforts will focus on delivery and acceptance testing of the initial production units to verify compliance with contractual performance requirements. Upon completion of acceptance testing and resolution of any remaining post-production issues, full rate production can commence. Acceptance testing will include magnetic signature characterization and testing in accordance with MIL-DTL-19595D. Fleet deliveries will commence in FY24.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY2023 due to completion of developmental Test & Evaluation testing in FY23 with associated reduction in FY24 costs.</p>					
<p>Title: COMMAND DETONATION SYSTEMS</p> <p align="right">Articles:</p> <p>Description: Develops next generation of remote underwater firing device to enable EOD technicians to neutralize or otherwise mitigate underwater ordnance hazards from a safe standoff distance. This capability enables a command firing signal to travel from the surface to an in-water receiver to detonate explosive tools ISO ExMCM missions. Improvements from previous underwater firing systems include the ability to encrypt the firing signal.</p> <p>FY 2023 Plans: FY23 efforts will include development of a comprehensive Concept of Operations (CONOPs) that encompasses the entire command detonation stockpile-to-target sequence. FY23 efforts will include development of the performance specification informed by the results of the market survey conducted in FY22, informed by the CONOPS, which defines the capability needed to meet the performance thresholds defined by the RUFIS CDD, expected to be approved in 2Q FY23.</p> <p>FY 2024 Base Plans: FY24 events will include release of a Commercial Solutions Offering (CSO) based on the CONOPS and performance specification leading to award of a Prototype OTA through Defense Innovation Unit (DIU). Delivery of prototypes as a result of the OTA award are anticipated in Q4 FY24.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p>	0.119	0.465	1.833	0.000	1.833
	-	-	-	-	-

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 1317 / Expeditionary Diving Systems

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Increase from FY23 to FY24 due to execution of prototype OTA in FY24.					
Accomplishments/Planned Programs Subtotals	1.957	4.032	4.321	0.000	4.321

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

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPN/0977a: Underwater EOD Program (Cost Code UQ034)	15.577	23.084	11.060	-	11.060	9.314	0.000	0.000	0.000	0.000	94.704

Remarks

D. Acquisition Strategy

Analysis of Alternatives (AOA) studies and/or alternative system reviews (ASRs) are always conducted prior to the initiation of new sub-projects. The AOA/ASR processes address and emphasize 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. Maximum use of innovative contracting mechanisms will be assessed and pursued where applicable and in the best interest of the Navy. For example, this program is executing two of its acquisition efforts through the middle-tier acquisition (MTA) authorities to accelerate fielding of effective and suitable materiel solutions to the fleet.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy												Date: March 2023			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 4				PE 0603654N / JNT Service EOD Development				1317 / Expeditionary Diving Systems							
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Activities : Not Specified	46.624	0.200	Nov 2021	0.322	Nov 2022	0.370	Nov 2023	-		0.370	Continuing	Continuing	Continuing
Software Development	WR	Multiple Activites : Not Specified	7.156	0.100	Nov 2021	0.212	Nov 2022	0.276	Nov 2023	-		0.276	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWCIHEODTD : Indian Head, MD	8.328	0.080	Nov 2021	0.164	Nov 2022	0.193	Nov 2023	-		0.193	0.000	8.765	-
ILS	WR	Multiple Activities : Not Specified	11.916	0.000		0.000		0.000		-		0.000	0.000	11.916	-
Systems Engineering	WR	NSWC : Panama City	5.558	0.394	Nov 2021	0.537	Nov 2022	0.577	Nov 2023	-		0.577	Continuing	Continuing	Continuing
Systems Engineering	WR	NIWC : San Diego	7.305	0.395	Nov 2021	0.538	Nov 2022	0.588	Nov 2023	-		0.588	Continuing	Continuing	Continuing
Subtotal			86.887	1.169		1.773		2.004		-		2.004	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Support2	C/CPFF	PERATON : Herndon VA	9.515	0.300	Nov 2021	0.441	Nov 2022	0.459	Nov 2023	-		0.459	Continuing	Continuing	Continuing
Subtotal			9.515	0.300		0.441		0.459		-		0.459	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 (DT&E)	WR	Multiple Activities : Not Specified	12.296	0.205	Nov 2021	1.406	Nov 2022	1.422	Nov 2023	-		1.422	Continuing	Continuing	Continuing
Subtotal			12.296	0.205		1.406		1.422		-		1.422	Continuing	Continuing	N/A
Remarks															
Additional funded added in FY23 to enable testing for failed MMUBA rigs.															

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 1317 / Expeditionary Diving Systems

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1317				
DIVER SAFETY LIFE SUPPORT (MMUBA): Prototyping MTA Phase	1	2022	3	2025
DIVER SAFETY LIFE SUPPORT (MMUBA): Prod. Rep. T&E Units	3	2023	3	2023
DIVER SAFETY LIFE SUPPORT (MMUBA): Limited Production Contract	4	2022	3	2025
DIVER SAFETY LIFE SUPPORT (MMUBA): Hydrospace Testing 2	3	2023	3	2023
DIVER SAFETY LIFE SUPPORT (MMUBA): Unmanned Testing	3	2023	3	2024
DIVER SAFETY LIFE SUPPORT (MMUBA): Environmental/Signature Assessment	4	2023	3	2024
DIVER SAFETY LIFE SUPPORT (MMUBA): Manned Testing	3	2024	3	2025
DIVER SAFETY LIFE SUPPORT (MMUBA): Logistics Assessment	1	2024	1	2024
DIVER SAFETY LIFE SUPPORT (MMUBA): Certification Dive	3	2025	3	2025
DIVER SAFETY LIFE SUPPORT (MMUBA): KP 2: Fielding Decision	3	2025	3	2025
DIVER SAFETY LIFE SUPPORT (MMUBA): Production MTA Phase	3	2025	4	2028
DIVER SAFETY LIFE SUPPORT (MMUBA): Receipt of Certification	3	2025	3	2025
DIVER SAFETY LIFE SUPPORT (MMUBA): Full Rate Production Option	3	2025	3	2025
DIVER SAFETY LIFE SUPPORT (MMUBA): First Article Delivery	2	2026	2	2026
DIVER SAFETY LIFE SUPPORT (MMUBA): Government Acceptance Testing (GAT)/ Factory Acceptance Testing (FAT)	2	2026	4	2028
DIVER SAFETY LIFE SUPPORT (MMUBA): IOC	3	2026	3	2026
DIVER SAFETY LIFE SUPPORT (MMUBA): Fleet Deliveries	3	2026	4	2028
DIVER SAFETY LIFE SUPPORT (MMUBA): Option Award #1	3	2026	3	2026
DIVER SAFETY LIFE SUPPORT (MMUBA): Option Award #2	3	2027	3	2027
DIVER SAFETY LIFE SUPPORT (MMUBA): Option Award #3	3	2028	3	2028

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 1317 / Expeditionary Diving Systems
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ADVANCED INTEGRATED DIVER SENSORS: Prototyping Phase (STRIDENT)	1	2022	2	2023
ADVANCED INTEGRATED DIVER SENSORS: DT&E (STRIDENT)	1	2022	3	2023
ADVANCED INTEGRATED DIVER SENSORS: FCA/SVR TIM (STRIDENT)	2	2022	2	2022
ADVANCED INTEGRATED DIVER SENSORS: Fleet Utility Assessment (FUA#1)/COTF Observation	2	2022	2	2022
ADVANCED INTEGRATED DIVER SENSORS: FUA #2 (STRIDENT)	1	2023	1	2023
ADVANCED INTEGRATED DIVER SENSORS: OTA Completions (STRIDENT)	1	2023	1	2023
ADVANCED INTEGRATED DIVER SENSORS: KP2: Production Decision/ECP Approval (STRIDENT)	2	2023	2	2023
ADVANCED INTEGRATED DIVER SENSORS: RFQ Release (STRIDENT)	2	2023	2	2023
ADVANCED INTEGRATED DIVER SENSORS: Supportability Review (STRIDENT)	3	2023	3	2023
ADVANCED INTEGRATED DIVER SENSORS: PCA (STRIDENT)	4	2023	4	2023
ADVANCED INTEGRATED DIVER SENSORS: Production & Fielding Phase (STRIDENT)	3	2023	4	2028
ADVANCED INTEGRATED DIVER SENSORS: Production Award (STRIDENT)	3	2023	3	2023
ADVANCED INTEGRATED DIVER SENSORS: Acceptance Testing and User Feedback (STRIDENT)	4	2023	4	2028
ADVANCED INTEGRATED DIVER SENSORS: Fleet Deliveries (STRIDENT)	2	2024	4	2028
ADVANCED INTEGRATED DIVER SENSORS: IOC (STRIDENT)	2	2025	2	2025
COMMAND DETONATION SYSTEMS: Market Research	1	2022	2	2023
COMMAND DETONATION SYSTEMS: CDD Approval - Remote Underwater Firing Initiation System (RUFIS)	2	2023	2	2023
COMMAND DETONATION SYSTEMS: Foreign Comparative Test (FCT)/Prototype Evaluations	2	2023	3	2024
COMMAND DETONATION SYSTEMS: CONOPS Development	2	2023	4	2028
COMMAND DETONATION SYSTEMS: Specification Development	3	2023	4	2023
COMMAND DETONATION SYSTEMS: Prototype CSO Release	4	2023	4	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 1317 / Expeditionary Diving Systems
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
COMMAND DETONATION SYSTEMS: Prototype OTA Award	2	2024	2	2024
COMMAND DETONATION SYSTEMS: Prototype Delivery	2	2024	2	2024
COMMAND DETONATION SYSTEMS: DT&E (including low-mu & environmental)	1	2025	2	2028
COMMAND DETONATION SYSTEMS: OT&E	1	2028	2	2028
COMMAND DETONATION SYSTEMS: WSESRB Review	3	2025	4	2027
COMMAND DETONATION SYSTEMS: Production Decision	1	2028	1	2028
COMMAND DETONATION SYSTEMS: First Article Delivery	3	2028	3	2028
COMMAND DETONATION SYSTEMS: Fleet Deliveries	4	2028	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development				Project (Number/Name) 3177 / Joint Counter Radio-Controlled IED Elec Warfare			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3177: Joint Counter Radio-Controlled IED Elec Warfare	121.780	14.715	10.869	9.510	-	9.510	7.315	7.386	7.468	7.245	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Funding for the DRAKE Counter Unmanned Aircraft Systems (CUAS) moved to PE 0604636N/Project 2073 beginning in FY23.

A. Mission Description and Budget Item Justification

This project supports the defense objective of preventing terrorist and near peer operations against the US, allies, and partners. It provides for the research and development of Electronic Warfare (EW) systems, equipment, procedures, and tactical aids for all military services to counter the threat posed by Radio-Controlled Improvised Explosive Devices (RCIEDs) and to prevent initiation of RCIEDs across the spectrum of Joint military operations. It utilizes Joint requirements to provide a system of systems approach for a suite of equipment for mounted, dismounted, and fixed site operations, and develops equipment, procedures, and tactical aids to make rapid improvements to performance, supportability and affordability, while maintaining pace with the evolving global RCIED threat.

Joint Counter RCIED electronic Warfare (JCREW), Increment 1 Block 1 (I1B1) is the next generation of counter RCIED system of systems. JCREW includes fixed site, mounted and dismounted units, which provide countermeasures against the global RCIED threat. Key system design features include significant performance increases over current legacy systems, a modular open architecture system design to facilitate improvements to address current and future advanced threats, robust information assurance and security, and is net-capable for improved Communications and Control (C2). JCREW I1B1 supports global deployment and sustainment for all combatant commands providing increased protection to Warfighter against the evolving worldwide RCIED threats. This project also provides for the research, development, and systems engineering of related CREW systems, providing capability improvements to fielded systems based on ever-changing RCIED threats against EOD technicians. And it provides for research, development, and systems engineering of electronic forensic capabilities related to the technical exploitation of asymmetric threats, including RCIEDs, unmanned systems, and underwater mines. The information generated is used to increase the performance of CREW and other counter-IED systems, as well as enable development of new countermeasure capabilities.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Joint Counter Radio-Controlled IED Elec Warfare	13.462	10.403	9.030	0.000	9.030
Articles:	-	-	-	-	-
Description: Supports the development, integration and test of Technology Insertion hardware, software, and advanced techniques into JCREW systems. Technology Insertion candidates include Office of Naval Research (ONR) sponsored technologies ready for transition to JCREW including the ENabling Dynamic Operational RF (ENDOR) Future Naval Capability (FNC); and techniques, hardware and software performance improvements					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 3177 / Joint Counter Radio-Controlled IED Elec Warfare

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>developed by United States Government (USG) laboratories, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and the JCREW prime contractor. Analysis of Alternatives (AoA) will be conducted to evaluate and select Tech Insertion candidates based on technical maturity, cost, and performance. Hardware and software updates will be integrated, tested, and implemented into CREW systems through Engineering Change Proposals (ECPs).</p> <p>Develop CREW load sets to remain current with continually changing CONUS and OCONUS threats. Develop hardware and software capabilities to enable enhanced cyber and electronics forensics and exploitation of evolving RCIED threats.</p> <p>FY 2023 Plans: Complete technology insertion package 3 efforts, including integration of the control display unit phase 4 software and advanced techniques Quattro Inc 2 and Starfish Inc 0 in OP 7.6. Continue technology insertion package 4 efforts, including build and test of the NextGen SDR production validation systems and development of several advanced techniques for dismounted and mounted JCREW I1B1 systems to stay current with CONUS and OCONUS threats. Transition the Office of Naval Research Future Naval Capability Electronic Warfare Operating Kit (EWOK) to PMS408 and begin integration with the NextGen SDR software. Continue to provide systems engineering for JCREW Technology Insertion.</p> <p>FY 2024 Base Plans: Complete technology insertion package 4 development and test. Perform technology insertion package 5 analysis of alternatives and begin development. Continue to develop, integrate, test, field hardware / software upgrades and advanced techniques for JCREW systems in support of technology insertion and technology refresh efforts to address evolving JCREW threats.</p> <p>FY 2024 OCO Plans:</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 3177 / Joint Counter Radio-Controlled IED Elec Warfare

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease of \$1.373M from FY2023 to FY2024 due to reduction of JCREW communications interoperability and jamming techniques development requirements.					
Title: EOD CREW	0.442	0.466	0.480	0.000	0.480
Articles:	-	-	-	-	-
FY 2023 Plans: Provide systems engineering support for EOD CREW systems. Develop and validate AN/PLT-4A replacement requirements.					
FY 2024 Base Plans: Provide systems engineering support for EOD CREW systems. Continue to refine and validate AN/PLT-4A requirements and support Army testing and evaluation efforts. Collaborate with US Army to perform testing and evaluation on AN/PLT-4A prototype.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: N/A					
Title: HEMLOCK	0.811	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2023 Plans: N/A					
FY 2024 Base Plans: N/A					
FY 2024 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	14.715	10.869	9.510	0.000	9.510

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 3177 / Joint Counter Radio-Controlled IED Elec Warfare

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

Line Item	FY 2022	FY 2023	FY 2024	FY 2024	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Cost To	Total Cost
			Base	OCO	Total					Complete	
• OPN/5509(b): Explosive Ordnance Disposal Equip	0.894	20.912	20.931	-	20.931	0.950	0.000	0.000	0.000	0.000	206.567

Remarks

D. Acquisition Strategy

Develop, integrate, test, and field hardware and software upgrades, and advanced techniques in JCREW systems through the JCREW Technology Insertion and Technology Refresh process. Technology insertion candidates include the Office of Naval Research (ONR) the ENabling Dynamic Operational RF (ENDOR) Future Naval Capability (FNC); and techniques, hardware and software performance improvements developed by United States Government (USG) laboratories, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and the JCREW prime contractor. Analysis of Alternatives (AoA) will be conducted to evaluate and select Tech Insertion candidates based on technical maturity, cost, and performance. Hardware and software updates will be integrated, tested, and implemented in JCREW via Engineering Change Proposals (ECPs).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 3177 / Joint Counter Radio-Controlled IED Elec Warfare
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	C/FFP	Northrop Grumman / : San Diego, CA	22.448	2.749	Jan 2022	2.246	Jan 2023	2.062	Jan 2024	-		2.062	Continuing	Continuing	Continuing
Systems Engineering	C/FFP	Northrop Grumman : San Diego, CA	12.707	1.370	Jan 2022	1.394	Jan 2023	1.036	Jan 2024	-		1.036	Continuing	Continuing	Continuing
Software Development	C/FFP	Northrop Grumman : San Diego, CA	13.940	1.670	Jan 2022	1.489	Jan 2023	1.120	Jan 2024	-		1.120	Continuing	Continuing	Continuing
System Integration	C/FFP	Northrop Grumman : San Diego, CA	8.334	1.227	Jan 2022	0.963	Jan 2023	0.768	Jan 2024	-		0.768	Continuing	Continuing	Continuing
Subtotal			57.429	7.016		6.092		4.986		-		4.986	Continuing	Continuing	N/A

Remarks
FY23 to FY24 decrease due to removal of CUAS product development into a new budget line.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Loadset Development	FFRDC	JHU/APL : Laurel, MD	9.921	1.134	Nov 2021	0.792	Nov 2022	0.740	Nov 2023	-		0.740	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Various	24.035	2.674	Nov 2021	1.804	Nov 2022	1.632	Nov 2023	-		1.632	Continuing	Continuing	Continuing
Program Management Support	WR	IHEODTD : Indian Head, MD	3.474	0.475	Nov 2021	0.301	Nov 2022	0.290	Nov 2023	-		0.290	Continuing	Continuing	Continuing
Subtotal			37.430	4.283		2.897		2.662		-		2.662	Continuing	Continuing	N/A

Remarks
FY23 to FY24 decrease due to termination of Hemlock Program.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy											Date: March 2023				
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development					Project (Number/Name) 3177 / Joint Counter Radio-Controlled IED Elec Warfare				

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	WR	NSWC : Various	12.676	1.741	Nov 2021	1.880	Nov 2022	1.862	Nov 2023	-		1.862	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	MIPR	YPG : Yuma, Arizona	9.971	0.990	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			22.647	2.731		1.880		1.862		-		1.862	Continuing	Continuing	N/A

Remarks
FY23 to FY24 decrease due to reduction of JCREW communications interoperability and jamming techniques development requirements.

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C/CPFF	Cydecor : Various	1.795	0.286	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Miscellaneous	WR	NSWC : Various	2.479	0.399	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			4.274	0.685		0.000		0.000		-		0.000	Continuing	Continuing	N/A

Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract			
Project Cost Totals			121.780	14.715	10.869	9.510	-	9.510	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 3177 / Joint Counter Radio-Controlled IED Elec Warfare

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028																			
	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																
Proj 3177																																												
JCREW I1B1: Full Rate Production																																												
JCREW I1B1: TECH INSERTION 3																																												
JCREW I1B1: Tech Refresh Development (3)																																												
JCREW I1B1: Tech Refresh Implementation and Test (3)																																												
JCREW I1B1: TECH INSERTION 4																																												
JCREW I1B1: Tech Refresh Analysis of Alternatives (4)																																												
JCREW I1B1: Tech Refresh Development (4)																																												
JCREW I1B1: Tech Refresh Implementation and Test (4)																																												
JCREW I1B1: TECH INSERTION 5																																												
JCREW I1B1: Tech Refresh Analysis of Alternatives (5)																																												
JCREW I1B1: Tech Refresh Development (5)																																												
JCREW I1B1: Tech Refresh Implementation and Test (5)																																												
JCREW I1B1: TECH INSERTION 6																																												
JCREW I1B1: Tech Refresh Analysis of Alternatives (6)																																												
JCREW I1B1: Tech Refresh Development (6)																																												
JCREW I1B1: Tech Refresh Implementation and Test (6)																																												
JCREW I1B1: Counter Unmanned Aerial System Development																																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 3177 / Joint Counter Radio-Controlled IED Elec Warfare

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3177				
JCREW I1B1: Full Rate Production	1	2022	4	2024
JCREW I1B1: TECH INSERTION 3	1	2022	2	2023
JCREW I1B1: Tech Refresh Development (3)	1	2022	2	2023
JCREW I1B1: Tech Refresh Implementation and Test (3)	2	2023	2	2023
JCREW I1B1: TECH INSERTION 4	2	2022	4	2024
JCREW I1B1: Tech Refresh Analysis of Alternatives (4)	1	2022	1	2022
JCREW I1B1: Tech Refresh Development (4)	2	2022	4	2024
JCREW I1B1: Tech Refresh Implementation and Test (4)	4	2024	4	2024
JCREW I1B1: TECH INSERTION 5	1	2024	2	2026
JCREW I1B1: Tech Refresh Analysis of Alternatives (5)	1	2024	3	2024
JCREW I1B1: Tech Refresh Development (5)	4	2024	2	2026
JCREW I1B1: Tech Refresh Implementation and Test (5)	2	2026	2	2026
JCREW I1B1: TECH INSERTION 6	3	2026	2	2028
JCREW I1B1: Tech Refresh Analysis of Alternatives (6)	3	2026	1	2027
JCREW I1B1: Tech Refresh Development (6)	3	2026	2	2028
JCREW I1B1: Tech Refresh Implementation and Test (6)	2	2028	2	2028
JCREW I1B1: Counter Unmanned Aerial System Development	1	2022	4	2022
JCREW I1B1: C-UAS Improvement Program	4	2022	4	2022
EOD CREW: EOD CREW Development	1	2022	4	2024
EOD CREW: AN/PLT 4 Replacement Development	1	2022	4	2024
EOD CREW: Hemlock Hardware/Software Development	1	2022	4	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development				Project (Number/Name) 3447 / Mine Expeditionary Response Vehicle (MESR)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3447: Mine Expeditionary Response Vehicle (MESR)	0.000	8.693	11.066	18.676	-	18.676	12.558	10.168	10.376	10.548	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

MESR realigned from Project 4023 beginning in FY22

A. Mission Description and Budget Item Justification

Funding supports the development of unmanned systems for the Navy's expeditionary unmanned underwater Explosive Ordnance Disposal (EOD) and Mine Countermeasures (MCM) capability. Specifically, it provides for development of affordable expeditionary remote stand-off underwater systems to support Navy Expeditionary forces including EOD, Mobile Diving and Salvage, Underwater Construction Teams (UCT), and Expeditionary Mine Countermeasures (ExMCM) mission operations. The equipment must be highly portable in order to support the Navy EOD technician to safely detect, approach, render safe, recover, exploit, and dispose of underwater explosive threats to include sea mines, limpet mines, maritime IEDs, and unexploded ordnance. Provides support for the Navy's high priority missions of Maritime Homeland Defense and MCM. This project directly supports Department of the Navy Strategic Roadmap for Unmanned Systems promulgated in March 2018 and addresses capability gaps defined by the Joint Service EOD (JSEOD) Initial Capabilities Document (ICD), Serial Number 671-75-05 of 3 June 2005, Joint Improvised Explosive Device (IED) Defeat Initial Capabilities Document (ICD) of 23 February 2006/JROCM 070-06, and the Expeditionary MCM ICD of June 2017. This project is being executed in accordance with approved CNO N9I Requirement #056-95-19, "Capability Development Document (CDD) for Maritime Expeditionary Standoff Response Family of Systems (MESR)," July 23, 2019.

Additional efforts continue to execute the open competition process necessary to acquire and verify an EOD Response ROV capability focusing on user effectiveness and operational suitability to provide a ROV based target interdiction capability to address the capability gaps assessed in the previously conducted Expeditionary UUV Neutralization System (EUNS) AoA. This next generation capability is developed to decrease risk when reacquiring/investigating a potential threat (i.e. sea mine or maritime IED). In response to emergent maritime threat assessments ISO of INDOPAC Global Power Competition (GPC) scenarios, the MESR Program of Record (PoR) will initiate and conduct a Proof-of-Concept effort to demonstrate the potential ability to counter deep-water explosive threats as an ExMCM enabling capability ISO Joint Force Maneuver.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: EOD Response ROVs and Maritime Expeditionary Standoff Response System of Systems	8.693	11.066	18.676	0.000	18.676
Articles:	-	-	-	-	-
Description: This program supports development, testing and evaluation of technologies and commercial systems that will provide needed capabilities to EOD and Expeditionary forces in responding to the wide range					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 3447 / Mine Expeditionary Response Vehicle (MESR)

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>of underwater threats and operational environments encountered in assigned mission areas to include: confined areas, hulls, piers and pilings to detect, search, classify, map, re-acquire, identify, and neutralize sea and limpet mines and underwater improvised explosive devices.</p> <p>FY 2023 Plans: FY23 efforts will focus on completion of the platform and payload integration testing leading to the Critical Design Review (CDR). Following a successful CDR, full system test and evaluation will be conducted to demonstrate complete compliance with the MESR Increment I CDD KPP thresholds and system performance specification requirements. Environmental testing will also be conducted in FY23 to verify ability to withstand the operational and physical environments in which the system will be employed. Additional efforts in FY23 will continue with DIU cooperative autonomy projects and ensuring system design considers cybersecurity compliance and achieving final Weapon System Explosive Safety Review Board (WSESRB) concurrence.</p> <p>FY 2024 Base Plans: FY24 efforts will focus on completing the events and actions necessary to achieve a production decision for MESR Increment I. Following a successful decision, award of the initial production lot will occur, followed by delivery and acceptance testing of the first lot of production units. Additionally, based on the results of the Alternative Systems Review (ASR) conducted in FY22 and the acquisition of initial Increment II payloads in FY23, developmental testing and evaluation of candidate payloads for integration into prototype Increment II platforms will continue in FY24. The Deep Water Threat Response effort will initiate in FY24 including CONOPS development, platform hardening, and component analysis and selection.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase from FY2023 required to develop expeditionary capabilities for semi-autonomous deep water naval mine reacquisition, localization and neutralization. FY24 funding will help close the deep water capability gap and increase explosive standoff and reduces operational risk during execution of mine and IED detection, localization, and neutralization missions. In addition to initial design and testing, required funding will procure depth-hardened ROVs and actuation prototypes.</p>					
Accomplishments/Planned Programs Subtotals	8.693	11.066	18.676	0.000	18.676

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2022	FY 2023	FY 2024	FY 2024	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Cost To	
			Base	OCO	Total					Complete	Total Cost
• OPN/0977: UNDERWATER EOD EQUIPMENT	24.146	35.417	19.549	-	19.549	16.778	23.861	24.221	24.789	Continuing	Continuing

Remarks

BLI 0977 funding covers several EOD program efforts to include, ROVs, STRIDENT, Command Detonation Systems, and MESR.

D. Acquisition Strategy

Analysis of Alternatives (AOA) studies and/or Alternative System Reviews (ASRs) are 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 competitive and when feasible, production options are included. This ongoing program capitalizes on a User Operational Evaluation System (UOES) effort involving Fleet operators engaged in tactical experimentation with prototype EOD Response vehicles prior to fielding baseline systems and capability improvement package increments. Operational capabilities with ROVs have been realized at designated operational units, using a competitive, innovative acquisition strategy. The addition of enhanced capabilities through an evolutionary acquisition approach to the EOD Response toolbox is programmed for delivery in accordance with approved CNO requirements and ONR Technology Deployment Agreements (TDAs) which close capability gaps. Further improvements to the toolbox to add basic mine and underwater explosive threats neutralization capabilities will continue to be pursued, including expansion of EOD Response capabilities employing Remotely Operated Vehicles (ROVs) in areas where current UUVs cannot operate. Streamlined acquisition initiatives are in place to quickly evaluate candidate EOD response capabilities while the longer term MESR Family of Systems is developed. A key attribute for these systems is minefield suitability and control of system signatures to counter influence fired ordnance. Influence signatures of subject ROVs will be characterized as a vital component of the acquisition initiatives. Maximum use of innovative contracting mechanisms will be assessed and pursued where applicable and in the best interest of the Navy.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	Various : Various	0.000	1.228	Nov 2021	1.364	Nov 2022	3.298	Nov 2023	-		3.298	Continuing	Continuing	Continuing
System Engineering	WR	Various : Various	0.000	2.727	Nov 2021	3.920	Nov 2022	5.486	Nov 2023	-		5.486	Continuing	Continuing	Continuing
Subtotal			0.000	3.955		5.284		8.784		-		8.784	Continuing	Continuing	N/A

Remarks
Increased funding in FY24 will enable procurement of hardware and software necessary for depth-hardened ROVs and actuation prototype.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	PERATON : Herndon, VA	0.000	0.450	Nov 2021	0.564	Nov 2022	1.014	Nov 2023	-		1.014	Continuing	Continuing	Continuing
Subtotal			0.000	0.450		0.564		1.014		-		1.014	Continuing	Continuing	N/A

Remarks
Increased funding in FY24 will enable support of power analysis, onboard autonomy, navigation, communication and influence characterization of depth-hardened ROVs and actuation.

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 (DT&E)	WR	VARIOUS : Various	0.000	4.288	Nov 2021	5.218	Nov 2022	8.878	Nov 2023	-		8.878	Continuing	Continuing	Continuing
Subtotal			0.000	4.288		5.218		8.878		-		8.878	Continuing	Continuing	N/A

Remarks
Increased funding will enable the test and evaluation of power analysis, onboard autonomy, navigation, communication and influence characterization of depth-hardened ROVs and actuation prototypes.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

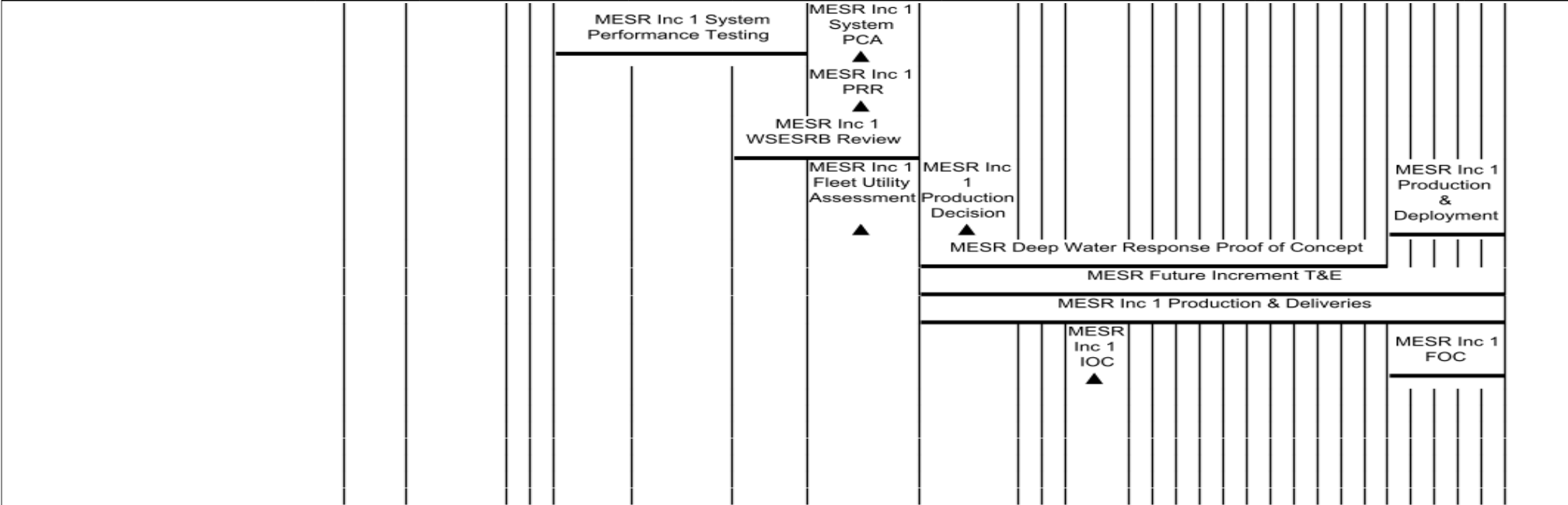
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 3447 / Mine Expeditionary Response Vehicle (MESR)
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Proj 3447 EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
	MOTS ROV Fleet Deliveries																											
	MOTS ROV EOD Extended UOES																											
	MOTS ROV EOD Response Production OT Lot #1 ▲				MOTS ROV EOD Response Production OT Lot #2 ▲				MOTS ROV EOD Transition to MESR Inc 1 ▲																			
	MESR Inc 1 ONR LO/NCD FNC																											
	MESR Inc 1 Platform and Payload Integration Testing																											
	MESR Inc 1 EMD Phase																											
MESR Inc 1 PDR TIM ▲	MESR Inc 1 Alternative Systems Review																											
	MESR Inc 1 Environmental Testing																											
					MESR Inc 1 SVR ▲				MESR Inc 2 Initiation ▲																			
					MESR Inc 1 CDR TIM ▲				MESR Deep Water Response Planning																			
					MESR Inc 1 Platform PCA ▲																							

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3447				
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MOTS ROV Fleet Deliveries	1	2022	4	2024
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MOTS ROV EOD Extended UOES	1	2022	1	2024
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MOTS ROV EOD Response Production OT Lot #1	2	2022	2	2022
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MOTS ROV EOD Response Production OT Lot #2	2	2023	2	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MOTS ROV EOD Transition to MESR Inc I	1	2024	1	2024
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 ONR LO/NCD FNC	1	2022	2	2024
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 Platform and Payload Integration Testing	1	2022	2	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 EMD Phase	1	2022	4	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 PDR TIM	1	2022	1	2022
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 Alternative Systems Review	2	2022	3	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 Environmental Testing	2	2022	3	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 2 Initiation	3	2023	3	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603654N / JNT Service EOD Development	Project (Number/Name) 3447 / Mine Expeditionary Response Vehicle (MESR)
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Deep Water Response Planning	3	2023	4	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 SVR	1	2023	1	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 CDR TIM	1	2023	1	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 Platform PCA	1	2023	1	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 System Performance Testing	1	2023	3	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 System PCA	4	2023	4	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 PRR	4	2023	4	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 WSESRB Review	3	2023	4	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 Fleet Utility Assessment	4	2023	4	2023
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 Production Decision	1	2024	1	2024
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 Production & Deployment	4	2027	4	2028
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Deep Water Response Proof of Concept	1	2024	3	2027
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Future Increment T&E	1	2024	4	2028
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 Production & Deliveries	1	2024	4	2028

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 IOC	4	2024	4	2024
EOD Response ROVs and Maritime Expeditionary Standoff Response Family of Systems: MESR Inc 1 FOC	4	2027	4	2028