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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605856N / <i>Strategic Technical Support</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	0.000	4.068	3.742	3.813	-	3.813	3.904	3.995	4.086	4.168	Continuing	Continuing
0128: <i>Mgmt/Tech Supt Strategic</i>	0.000	1.163	1.226	1.501	-	1.501	1.532	1.564	1.596	1.629	Continuing	Continuing
1038: <i>Acoustic & Non-Acoustic Analysis Supt</i>	0.000	2.905	2.516	2.312	-	2.312	2.372	2.431	2.490	2.539	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element supports technical studies and analyses as directed by the Director for Submarine Warfare to support major policy and procurement decisions. This program is divided into two elements to support decision making in the areas of submarine and antisubmarine warfare and undersea surveillance.

B. Program Change Summary (\$ in Millions)

	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>
Previous President's Budget	4.231	3.742	3.815	-	3.815
Current President's Budget	4.068	3.742	3.813	-	3.813
Total Adjustments	-0.163	0.000	-0.002	-	-0.002
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.163	0.000			
• Rate/Misc Adjustments	0.000	0.000	-0.002	-	-0.002

Change Summary Explanation

Internal realignment between PU 0128 and PU 1038 in FY21-FY25 that supports additional effort directed towards Tactical Submarine Evolution Plan (TSEP) requirements development for VIRGINIA Class Block VI/VII and follow-on attack submarines (SSNs), TSEP Analysis of Alternatives and Subsea and Seabed Warfare and Undersea Constellation plan development and supporting studies.

FY21 increase in PU 0128 supports Unmanned Undersea Vehicle (UUV) inventory and capabilities modeling, and Subsea and Seabed Warfare requirements.

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Technical: N/A

Schedule: N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605856N / <i>Strategic Technical Support</i>				Project (Number/Name) 0128 / <i>Mgmt/Tech Supt Strategic</i>			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
0128: <i>Mgmt/Tech Supt Strategic</i>	0.000	1.163	1.226	1.501	-	1.501	1.532	1.564	1.596	1.629	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The project provides analytical support to the Director, Undersea Warfare Division as a basis for major policy, planning, and acquisition program decisions. It supports the development of the Submarine Force strategic vision to guide research and development investment strategy and future planning. Additionally, this line supports studies in the area of submarine and undersea surveillance missions, force structure, payloads and sensors, and force employment.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: MANAGEMENT AND TECHNICAL SUPPORT, STRATEGIC	1.163	1.226	1.501	0.000	1.501
Articles:	-	-	-	-	-
FY 2020 Plans:					
-Conduct analysis to identify and weigh options for addressing problems/challenges and assessing the impact across the strategic and conventional military spectrum.					
- Develop supporting strategic guidance in the undersea domain with regard to force structure, capabilities, and budgetary decisions with analysis. Anticipate emerging and future USW challenges, and lead effective assessment efforts to proactively address those challenges.					
-Provide analysis and support for development and implementation of the Undersea Constellation warfare area strategy.					
FY 2021 Base Plans:					
-Conduct analysis to identify and weigh options for addressing problems/challenges and assessing the impact across the strategic and conventional military spectrum with use of modeling and simulation, including projects such as Tactical Submarine Evolution Plan, Unmanned Undersea Vehicle (UUV)inventory and capabilities modeling, and Subsea and Seabed Warfare.					
- Anticipate emerging and future USW challenges, and lead effective assessment efforts to proactively address those challenges.					
-Provide analysis and support for development and implementation of the Undersea Constellation warfare area strategy.					
FY 2021 OCO Plans:					
N/A					
FY 2020 to FY 2021 Increase/Decrease Statement:					

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Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605856N / <i>Strategic Technical Support</i>	Project (Number/Name) 0128 / <i>Mgmt/Tech Supt Strategic</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
FY20 to FY21 increase due to internal realignment in the PE that supports additional effort directed towards Tactical Submarine Evolution Plan (TSEP) requirements development for VIRGINIA Class Block VI/VII and follow-on SSNs, TSEP Analysis of Alternatives and Subsea and Seabed Warfare and Undersea Constellation plan development and supporting studies. Funding increase also supports Unmanned Undersea Vehicle (UUV) inventory and capabilities modeling, and Subsea and Seabed Warfare requirements.					
Accomplishments/Planned Programs Subtotals	1.163	1.226	1.501	0.000	1.501

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605856N / <i>Strategic Technical Support</i>					Project (Number/Name) 1038 / <i>Acoustic & Non-Acoustic Analysis Supt</i>		
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
1038: <i>Acoustic & Non-Acoustic Analysis Supt</i>	0.000	2.905	2.516	2.312	-	2.312	2.372	2.431	2.490	2.539	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides analytical support to the Director, Undersea Warfare as a basis for major policy, planning, and acquisition program decisions. It supports studies in the area of undersea surveillance missions, sensor system communications, and acoustic performance prediction systems, environmental and medical effects of acoustic systems, operational security, and future threat analysis. Supports synthetic mission lay down simulations for Integrated Undersea Surveillance System (IUSS) strategic planning and resource allocation. Supports continued development and documentation of architecture for future undersea surveillance capabilities and systems. Supports studies to determine long-term impact of IUSS active sensors on marine animals and development of Surveillance Towed Array Sensor System (SURTASS) Low Frequency Active (LFA), and Compact LFA (CLFA).

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: ACOUSTIC AND NON-ACOUSTIC ANALYSIS SUPPORT	2.905	2.516	2.312	0.000	2.312
Articles:	-	-	-	-	-
FY 2020 Plans:					
- Transfer execution of the Surveillance Engineering Measurements Program (SEMP) to the Maritime Surveillance Systems Program Office (PMS 485). Continue to provide critical analytic insight into engineering and operational performance components of the IUSS shore based, fixed, and mobile systems as directed and resourced by PMS 485.					
- Continue comprehensive case analyses to establish a basis for understanding what impact, both positive and negative, our legacy tactical sonar systems and new ASB capability deliveries have on fleet operations. Continue to contribute to OWR.					
- Continue data set identification and production as the sole source for real-world data to enable advanced development initiatives which span Defense Advanced Research Projects Agency (DARPA), Office of Naval Research (ONR), Integrated Warfare Systems (IWS), Space & Naval Warfare Systems Command (SPAWAR), Naval Research Laboratory (NRL), and others to bring critically needed new capabilities and capability improvements to the IUSS community.					
- Provide support for requirements development for the Integrated Undersea Surveillance Systems family of systems provided by fixed, mobile, deployable sensors, integrated common processor, and the advanced surveillance builds.					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
<p>- Provide support on IUSS systems in the gate and JCIDS process, including IUSS Deployable family of systems.</p> <p>- Provide analyses in support of IUSS Future Plan and Maritime Surveillance Evolution Plan.</p> <p>- Provide analysis and support for development and implementation of the Undersea Constellation warfare area strategy.</p> <p><i>FY 2021 Base Plans:</i></p> <p>- Continue comprehensive case analyses to establish a basis for understanding what impact, both positive and negative, our legacy tactical sonar systems and new ASB capability deliveries have on fleet operations. Continue to contribute to OWR.</p> <p>- Continue data set identification and production as the sole source for real-world data to enable advanced development initiatives which span Defense Advanced Research Projects Agency (DARPA), Office of Naval Research (ONR), Integrated Warfare Systems (IWS), Space & Naval Warfare Systems Command (SPAWAR), Naval Research Laboratory (NRL), and others to bring critically needed new capabilities and capability improvements to the IUSS community.</p> <p>- Provide support for requirements development for the Integrated Undersea Surveillance Systems family of systems provided by fixed, mobile, deployable sensors, integrated common processor, and the advanced surveillance builds.</p> <p>- Provide support on IUSS systems in the gate and JCIDS process, including IUSS Deployable family of systems.</p> <p>- Provide analyses in support of IUSS Future Plan and Maritime Surveillance Evolution Plan.</p> <p>- Provide analysis and support for development and implementation of the Undersea Constellation warfare area strategy.</p> <p><i>FY 2021 OCO Plans:</i> N/A</p> <p><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> FY20 to FY21 decrease is due to internal realignment within the PE that supports additional effort directed towards Tactical Submarine Evolution Plan (TSEP) requirements development for VIRGINIA Class Block VI/VII and follow-on SSNs, TSEP Analysis of Alternatives.</p>					
Accomplishments/Planned Programs Subtotals	2.905	2.516	2.312	0.000	2.312

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

N/A

Remarks

D. Acquisition Strategy

N/A