Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy	Date: March 2019
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605856N *I Strategic Technical Support*

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	0.000	3.909	4.231	3.742	-	3.742	3.815	3.906	3.997	4.087	Continuing	Continuing
0128: *Mgmt/Tech Supt Strategic*	0.000	1.111	1.210	1.226	-	1.226	1.252	1.278	1.305	1.331	Continuing	Continuing
1038: *Acoustic & Non-Acoustic Analysis Supt*	0.000	2.798	3.021	2.516	-	2.516	2.563	2.628	2.692	2.756	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)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	4.313	4.231	4.242	-	4.242
Current President's Budget	3.909	4.231	3.742	-	3.742
Total Adjustments	-0.404	0.000	-0.500	-	-0.500
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.138	0.000			
• Program Adjustments	0.000	0.000	-0.500	-	-0.500
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions Adjustments	-0.266	-	-	-	-

Change Summary Explanation

PRJ 0128 - Increase $16K from FY 2019 to FY 2020 supports the development of a 30-Year Unmanned Undersea Vehicle (UUV) and Core Technology Evolution Plan to support fleet operational planning.

PRJ 1038 - Decrease $500K from FY 2019 to FY 2020 is a result of transition of Action Proponent from Undersea Capability Warfare to Deputy Chief Naval Officer (DCNO) Fleet Readiness and Logistics. Funds transferred to BA 01, Warfare Tactics (1C4C) properly align environmental compliance support actions related to SURTASS Low Frequency Active (LFA) sonar systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy	Date: March 2019
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605856N *I Strategic Technical Support*

Technical: N/A

Schedule: N/A

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605856N / *Strategic Technical Support*	Project (Number/Name) 0128 / *Mgmt/Tech Supt Strategic*	

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
0128: *Mgmt/Tech Supt Strategic*	0.000	1.111	1.210	1.226	-	1.226	1.252	1.278	1.305	1.331	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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: MANAGEMENT AND TECHNICAL SUPPORT, STRATEGIC	1.111	1.210	1.226	0.000	1.226
Articles:	-	-	-	-	-
FY 2019 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, UUV inventory modeling and Integrated Mast and Antenna Plan. - Develop supporting strategic guidance in the undersea domain with regard to force structure, capabilities and budgetary decisions with analysis. Anticipate emerging and future Undersea Warfare (USW) challenges, and lead effective assessment efforts to proactively address those challenges.					
FY 2020 Base Plans: - Conduct analysis to identify and weigh options for addressing problems/challenges and assessing the impact across the strategic and conventional military spectrum. - Anticipate emerging and future Undersea Warfare (USW) challenges, and lead effective assessment efforts to proactively address those challenges. -Develop a 30-Year Unmanned Undersea Vehicle (UUV) and Core Technology Evolution Plan to support fleet operational planning.					
FY 2020 OCO Plans: N/A					
FY 2019 to FY 2020 Increase/Decrease Statement: Increase $16K from FY 2019 to FY 2020 supports the development of a 30-Year Unmanned Undersea Vehicle (UUV) and Core Technology Evolution Plan to support fleet operational planning.					
Accomplishments/Planned Programs Subtotals	1.111	1.210	1.226	0.000	1.226

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605856N / *Strategic Technical Support*	**Project (Number/Name)** 0128 / *Mgmt/Tech Supt Strategic*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This project supports studies in the area of undersea surveillance missions, sensor system, payloads, force employment, communications, acoustic performance prediction systems, environmental and medical effects of acoustics systems including installations/removals, operational security and future threat analysis. Project success is measured through analytical results and constant interaction with the contractors that enable the Director for Submarine Warfare to make decisions effectively.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605856N / *Strategic Technical Support*	Project (Number/Name) 1038 / *Acoustic & Non-Acoustic Analysis Supt*	

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
1038: *Acoustic & Non-Acoustic Analysis Supt*	0.000	2.798	3.021	2.516	-	2.516	2.563	2.628	2.692	2.756	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides analytical support to the Director, Intelligence, Surveillance, and Reconnaissance (ISR) Division, the Battlespace Awareness Division of Deputy, Chief Naval Operations (DCNO) Information Warfare, and the Integrated Undersea Surveillance System (IUSS) Branch 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 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), Compact LFA (CLFA)and the Supplemental Environmental Impact Statement (SEIS).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: ACOUSTIC AND NON-ACOUSTIC ANALYSIS SUPPORT	2.798	3.021	2.516	0.000	2.516
Articles:	-	-	-	-	-
FY 2019 Plans: -Continue to execute the Surveillance Engineering Measurements Program (SEMP) providing critical analytic insight into engineering and operational performance components of the IUSS shore based and mobile systems. Working with fixed and mobile surveillance projects; emphasizing the feedback to all stackholders. -Continue comprehensive case analyses to establish a basis for understanding what impact, both positive and negative, our legacy tactical sonar systems and new Advanced Surveillance Build (ASB) capability deliveries have on fleet operations. Operator Workload Reductions (OWR) is a thrust of this effort for the IUSS community. -Continue Data Set identification and production as the sole source for real-world data to enable these advanced development initiatives which span Defense Advanced Research Projects Agency (DARPA), Office of Naval Research					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605856N / *Strategic Technical Support*	**Project (Number/Name)** 1038 / *Acoustic & Non-Acoustic Analysis Supt*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
(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. -Continue to provide environmental compliance documentation development, generation, revision, adjudication, and submission of Draft Supplemental Environmental Impact Statements (SEIS) enabling continuing fleet operations of SURTASS Low Frequency Active systems. -Continue to provide analytic and Subject Matter Expert (SME) support to facilitate Naval Litigation Office (NLO) and Department of Justice (DoJ) efforts in litigation from environmental NGOs in order to ensure no gap in SURTASS LFA sonar vessel operations. -Provide passive acoustic monitoring, which must occur whenever the SURTASS LFA sonar is operational, to support continued fleet Low Frequency Active operations worldwide. -Continue oversight and data/document management control during the 5-year development of the 2022 EIS. -Develop Draft and Final Scientific Research Plan for field research using SURTASS LFA sonar system in oceanic environment to support development of the 2022 SURTASS LFA sonar new EIS; transition to OPNAV N45 and Fleet as the action proponent. -Continue development of the 2022 EIS, which is essentially a full EIS rewrite, no carrying forward of previous conclusions/information/data as has been done with the four supplemental EISs between 2007 and 2017, and which will include the input from the public scoping meetings. -Provide daily SITREPs during field research to pertinent Navy personnel; and upon completion provide Hot Wash brief; and within three months of conclusion of the field research, provide Quicklook report and brief. -With support from the SWG, initiate the updating of information on the following elements of the new 2022 EIS: 1) nonacoustic alternatives to LFA sonar; 2) effects of LFA sonar on human divers; 3) efficacy of LFA sonar					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605856N / *Strategic Technical Support*	**Project (Number/Name)** 1038 / *Acoustic & Non-Acoustic Analysis Supt*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
mitigation measures; 4) potential effects of exposure to LFA sonar on marine mammals, sea turtles, and fish; and 5) effects on recreational marine activities, such as diving. -On direction, plan for public hearings in at least five locations. -Close out any remaining actions regarding the oversight and execution of the IUSS Marine Mammal Monitoring (M3) Program prior to the transfer of this work. Support the transition of action proponent to the Fleet as well as support to transition the LFA workload to the Navy's leading environmental compliance, OPNAV N45. Plans transition F24 Action Proponent by the end of FY19 to Commander Pacific Fleet and OPNAV N45. -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. - Provide support on TAGOS(X) in the gate and JCIDS process, as well as other IUSS systems including support to the analysis of alternatives for IUSS deployable family of systems. - Provide analyses in support for IUSS Future Plan. ***FY 2020 Base Plans:*** -Continue to execute the Surveillance Engineering Measurements Program (SEMP) providing critical analytic insight into engineering and operational performance components of the IUSS shore based and mobile systems. Working to incorporated both fixed and mobile surveillance case studies and support transitions of analysis to program office. Emphasizing the feedback to all stakeholders. -Continue comprehensive case analyses to establish a basis for understanding what impact, both positive and negative, our legacy tactical sonar systems and new Advanced Surveillance Build (ASB) capability deliveries have on fleet operations. Operator Workload Reductions (OWR) is a thrust of this effort for the IUSS community. -Continue Data Set identification and production as the sole source for real-world data to enable these 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					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605856N / *Strategic Technical Support*	**Project (Number/Name)** 1038 / *Acoustic & Non-Acoustic Analysis Supt*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
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. - Provide support on TAGOS(X) in the gate and JCIDS process, as well as other IUSS systems including IUSS Deployable family of systems. -Provide analyses in support of IUSS Future Plan. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** Decrease $500K/yr from FY 2019 to FY 2020 is a result of transition of Action Proponent from OPNAV Undersea Capability Warfare to Deputy Chief Naval Officer (DCNO) Fleet Readiness and Logistics.					
Accomplishments/Planned Programs Subtotals	2.798	3.021	2.516	0.000	2.516

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This project supports studies in the area of undersea surveillance missions, sensor systems, and acoustic performance prediction systems, environmental and medical effects of acoustic systems, and future threat analysis. In addition, it provides research and reports necessary to support SURTASS LFA and Compact Low Frequency Active (CLFA) sonar compliance
with Federal, State and Local environmental laws required for continued SURTASS LFA and CLFA operations, analysis of undersea technology for application to future undersea surveillance capabilities, and assessment of current and future IUSS warfare areas and potential allied Navy contributions. To this end, research is conducted by prominent educational

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605856N / *Strategic Technical Support*	**Project (Number/Name)** 1038 / *Acoustic & Non-Acoustic Analysis Supt*

and research institutions recognized for their expertise in the area, and by marine mammal biologists with extensive background in specific areas of underwater acoustics. This approach is deemed the most cost effective and efficient course of action for the Navy.