Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy											Date: May 2021	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204311N *I Integrated Surveillance System*							
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	486.224	103.371	112.574	84.276	-	84.276	-	-	-	-	-	-
0344: *Deployable Surveillance Systems*	0.000	8.500	26.385	16.592	-	16.592	-	-	-	-	-	-
0766: *IUSS Detect/Classif System*	452.458	59.871	63.067	60.781	-	60.781	-	-	-	-	-	-
1768: *Ship Plan Development and Design*	0.000	20.000	10.622	6.903	-	6.903	-	-	-	-	-	-
9999: *Congressional Adds*	33.766	15.000	12.500	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Deployable Surveillance Systems (DSS) project (0344), complementing the Fixed Surveillance System (FSS) and Surveillance Towed Array Sensor System (SURTASS), provides flexible and responsive wide area surveillance to the Theater Anti-Submarine Warfare (TASW) commanders worldwide. DSS will operate as adjunct systems to meet the established FSS and SURTASS missions and to meet additional missions as articulated in the OPNAV Top Level Requirements document and follow-on Course of Action Analysis (COAA) and as dictated by TASW commanders evolving and emergent operational requirements. DSS is comprised of the following systems: Deep Water Passive (DWP), Deep Water Active (DWA), and Mobile Passive Active System (MPAS). Informed by TASW Offset operations and the tailored requirements process, the DSS Middle Tier Acquisition (MTA) Rapid Fielding Program will focus initially on the DWP increment and associated spiral development updates. Spiral developments to meet the evolving submarine threat will leverage on-going Navy, Defense Advanced Research Projects Agency (DARPA), and small business research efforts including processing and sensor technology. Follow-on increments will be focused on DWA and MPAS. PMS 485 market research of DWP industry capabilities concludes that DWP Spiral 2.0 is not achievable within the programs current cost and schedule parameters. Based on analysis of this market research, PMS 485 has suspended DWP Spiral 2.0 efforts, but will continue to field Spiral 1.0 units and to develop incremental improvements for DWP Spiral 1.0. The FY 2022 funding supports the fabrication of four (4) DWP Spiral 1.1 LRIP units and deployment and sustainment of FY 2021 fabricated nodes.

Project 0766 provides for Integrated Undersea Surveillance Systems (IUSS) Research and Development Projects under the Maritime Surveillance Systems (MSS) Program Office (PEO SUB PMS 485). IUSS provides the Navy with its primary means of submarine detection, both nuclear and diesel. A portion of project 0766 Fixed Surveillance System (FSS) is classified, with details available at a higher classification level.

The IUSS Research and Development project (0766) funds Surveillance Towed Array Sensor System (SURTASS) Passive and SURTASS Low Frequency Active (LFA) developments. SURTASS provides the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms or other vessels of interest. SURTASS LFA provides an active adjunct capability for IUSS passive and tactical sensors to assist in countering the quieter diesel and nuclear threats of the 2000s and beyond. The LFA tasks are directed at detection of slow quiet threats in harsh littoral waters.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy	Date: May 2021
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204311N *I Integrated Surveillance System*

Development and improvement continues on the common IUSS processor based on NAVSEA's Acoustic Rapid Commercial Off The Shelf (COTS) Insertion (ARCI) program with a cyclical tech refresh of hardware and software in conjunction with the submarine Advanced Processor Build (APB) process. The IUSS Integrated Common Processor (ICP) has the capability to process and display data from all fixed and mobile underwater systems. The IUSS ICP is used for all new system installations and replaces the legacy systems as they reach end of life and require upgrading. Additionally, SURTASS consolidated on the TB-29A Twin-line array, a variant of the Submarine TB-29A Long line array. This reduced the number of array variants employed by SURTASS from 3 to 1, and enabled development and logistics cost savings by leveraging off the submarine TB-29A program.

SURTASS-E provides a SURTASS passive capability packaged into ISO-Vans for mobilization on Vessels of Opportunity (VOOs). It was developed as a CNO Rapid Prototyping, Experimentation, and Demonstration (RPED) program beginning in FY17 to provide a SURTASS variant that addresses emergent Theater ASW Commander requirements for SURTASS capability. Funds added in FY 2021 will support system improvements to the base SURTASS-E RPED prototype capability based on operational feedback and Commander, Operational Test Force (COTF) Operational Test and Evaluation (OT&E) (via a Quick Reaction Assessment) findings, and to upgrade SURTASS-E RPED design to support military crew (MILCREW) manning.

Project 1768 T-ARC(X) is a candidate replacement program for U.S. Navy's only organic undersea cable laying and repair ship, USNS ZEUS (T-ARC 7), which is approaching the end of her extended service life. The ship's main mission is to deploy, repair, and retrieve undersea cables and equipment, with a secondary mission of conducting acoustic, hydrographic and bathymetric surveys.

The Navy's Theater Anti-Submarine Warfare (TASW) Offset Strategy responds to an urgent European Command (EUROCOM)/Africa Command (AFRICOM) requirement for additional maritime intelligence, surveillance, and reconnaissance capabilities. PEO SUB, in conjunction with Commander Submarine Forces (COMSUBFOR) and Chief of Naval Operations (CNO), directed a rapid prototyping program be undertaken utilizing systems developed by the Office of Naval Research (ONR), the Defense Advanced Research Projects Agency (DARPA) and the Naval Undersea Warfare Center (NUWC). Development of TASW capabilities to meet TASW requirements against evolving threats in the EUROCOM/AFRICOM Area of Responsibility (AOR) will also serve to address similar requirements globally. The FY 2020 increase supports the MTA rapid fielding of the DWP Spiral 1.0 units. In FY 2020, Congressional budget additions funded the development, design, and then fabrication of six (6) DWP Spiral 1.0 LRIP units and two (2) Engineering Development Models (EDMs) of DWP Spiral 1.01 including integration of the separately acquired DSS processing subsystem and the DSS Command, Control, Communications, Computers, and Intelligence (C4I) subsystem into the DWP Spiral 1 LRIP baseline. This is a Military Intelligence Program (MIP).

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy	Date: May 2021
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204311N *I Integrated Surveillance System*

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	103.382	102.975	93.561	-	93.561
Current President's Budget	103.371	112.574	84.276	-	84.276
Total Adjustments	-0.011	9.599	-9.285	-	-9.285
• Congressional General Reductions	-	-0.286			
• Congressional Directed Reductions	-	-2.615			
• Congressional Rescissions	-	-			
• Congressional Adds	-	12.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.012	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-7.750	-	-7.750
• Rate/Misc Adjustments	0.001	0.000	-1.535	-	-1.535

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Project: 9999: *Congressional Adds*		
Congressional Add: *Transformational reliable acoustic path systems*	15.000	0.000
Congressional Add: *Maritime Surveillance System Sensor & Signal Processing Performance Improvements*	0.000	12.500
Congressional Add Subtotals for Project: 9999	15.000	12.500
Congressional Add Totals for all Projects	15.000	12.500

Change Summary Explanation

The FY 2022 funding request was reduced by $9.285 million.

The FY 2022 funding request increased by $1.450 for program adjustments: reduction of $6.550 million to the Deployable Surveillance System (DSS) RDTEN (Project 0344); reduction of $5.000 million to the Integrated Common Processor (ICP), and reduction of $2.000 million to Low Frequency Active (LFA) and Compact Low Frequency Active (CLFA) efforts (BSO 24 Project 0766); and an increase of $15.000 million to fund the G400 System Non-recurring Engineering (BSO 41 Project 0766).

The FY2022 funding request was decreased by $10.735 million for other miscellaneous adjustments.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0344 / *Deployable Surveillance Systems*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
0344: *Deployable Surveillance Systems*	0.000	8.500	26.385	16.592	-	16.592	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Deployable Surveillance Systems (DSS) project (0344), complementing FSS and SURTASS, provides flexible and responsive wide area surveillance to the Theater Anti-Submarine Warfare (TASW) commanders worldwide. DSS will operate as adjunct systems to meet the established FSS and SURTASS missions and to meet additional missions as articulated in the OPNAV Top Level Requirements document and follow-on Course of Action Analysis (COAA) and as dictated by TASW commanders evolving and emergent operational requirements. DSS is comprised of the following systems: Deep Water Passive (DWP), Deep Water Active (DWA), and Mobile Passive Active System (MPAS). Informed by TASW Offset operations and the tailored requirements process, the DSS Middle Tier Acquisition (MTA) Rapid Fielding Program will focus initially on the DWP increment and associated spiral development updates. Spiral developments to meet the evolving submarine threat will leverage on-going Navy, Defense Advanced Research Projects Agency (DARPA), and small business research efforts including processing and sensor technology. Follow-on increments will be focused on DWA and MPAS. PMS 485 market research of DWP industry capabilities concludes that DWP Spiral 2.0 is not achievable within the programs current cost and schedule parameters. Based on analysis of this market research, PMS 485 has suspended DWP Spiral 2.0 efforts, but will continue to field Spiral 1.0 units and to develop incremental improvements for DWP Spiral 1.0. The FY 2022 funding supports the fabrication of four (4) DWP Spiral 1.1 LRIP units and deployment and sustainment of FY 2021 fabricated nodes.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Deployable Surveillance Systems (DSS)	8.500	26.385	16.592	0.000	16.592
Articles:	-	-	-	-	-
FY 2021 Plans: - PMS 485 market research of DWP industry capabilities concludes that DWP Spiral 2.0 is not achievable within the programs current cost and schedule parameters. Based on analysis of this market research, PMS 485 has suspended DWP Spiral 2.0 efforts, but will continue to field Spiral 1.0 units and to develop incremental improvements for DWP Spiral 1.0. - Conduct technology risk reduction and integration in the Software sub-system as identified in the OPNAV DSS Validated Requirements and as informed by TASW Offset Operations (Software Integration/Algorithm Development). - Conduct technology risk reduction and integration in the C4I sub-system as identified in OPNAV DSS Validated Requirements and as informed by TASW Offset Operations (C4I Integration/S&T).					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *Deployable Surveillance Systems*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Initiate DWP Spiral 1.1 Low Rate Initial Production (LRIP). Specifically, development, design and fabrication of five (5) DWP Spiral 1.1 LRIP units including integration of the separately acquired DSS processing subsystem and DSS Command, Control, Communications, Computers, and Intelligence (C4I) subsystem into the DWP Spiral 1.1 LRIP baseline. - Conduct risk reduction non-recurring engineering efforts associated with future DSS increment spirals including the feasibility of connecting Transformational Reliable Acoustic Path System (TRAPS) units via fiber optic cable to enable fewer gliders to service a TRAPs field. Reducing the number of gliders required will increase the security of TRAPs field and will reduce cost. - Fabricate two (2) Engineering Development Models (EDMs) for DWP Spiral 1.5. ***FY 2022 Base Plans:*** - Fabrication of four (4) DWP Spiral 1.1 LRIP units. - Deployment and sustainment of FY 2021 fabricated DWP Spiral 1.1 LRIP units. - Acquisition of undersea fiber optic cable for FY 2021 funded DWP Spiral 1.5 EDMs. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** The $9.793 million decrease from FY2021 to FY2022 is due to reduction of DWP Spiral 1.1 nodes from seven (7) to four (4), elimination of DSS Deep Water Active (DWA) and Mobile Passive Active System (MPAS), completion of integration of Non-Recurring Engineering (NRE) efforts into the Spiral 1.1 baseline, and DoN22 RDTEN Under Execution re-phasing.					
Accomplishments/Planned Programs Subtotals	8.500	26.385	16.592	0.000	16.592

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

FY 2019: DWP Acquisition Decision Memorandum (ADM) signed by PEO SUB 14Mar19
FY 2020: DWP Spiral 1.1 Rapid Fielding
FY 2020-2021: Engineering: DWP Risk Reduction
FY 2020-2021: C4I Integration Stage 1

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *Deployable Surveillance Systems*

FY 2020-2023: Software Integration - Build 21
FY 2021: DWP Spiral 1.1 Acquisition Strategy (AS)
FY 2021: Initiate DWP Spiral 1.1 Low Rate Initial Production (LRIP)
FY 2021: Master Test Strategy
FY 2022: Initiate DWP Spiral 1.1 LRIP
FY 2023: Quick Reaction Assessment (QRA) Test Plan
FY 2023: Initiate DWP Spiral 1.1 Full Rate Production (FRP)
FY 2024: DWP Spiral 1.1 Post Implementation Review (PIR)

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *Deployable Surveillance Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DSS DWP Spiral 1.1 LRIP Units	C/CPFF	Leidos : MS	0.000	0.000		8.299	Jun 2021	6.755	Jun 2022	-		6.755	-	-	-
DSS DWP Spiral 1.1 LRIP Units Refurbishment	C/CPFF	Teledyne Webb Research : MA	0.000	0.000		0.302	Mar 2021	0.292	Mar 2022	-		0.292	-	-	-
DSS DWP Spiral 1.1 LRIP Units Logistics	C/CPFF	Leidos : MS	0.000	0.000		0.750	Jun 2021	0.773	Jun 2022	-		0.773	-	-	-
DSS DWP Spiral 1.5 Fiber Optic Cable	C/CPFF	Various : Various	0.000	0.000		0.000		1.044	Mar 2022	-		1.044	-	-	-
DSS Processing	C/CPFF	APL/JHU : MD	0.000	0.440	Mar 2020	1.386	Mar 2021	0.741	Mar 2022	-		0.741	-	-	-
DSS Processing	C/CPFF	Leidos : MS	0.000	1.450	Jun 2020	0.000		0.000		-		0.000	-	-	-
DSS Processing	C/CPFF	Sandia National Lab : NM	0.000	0.300	Feb 2020	0.000		0.000		-		0.000	-	-	-
DSS Processing	C/CPFF	Proteq : VA	0.000	1.200	Feb 2020	0.000		0.000		-		0.000	-	-	-
DSS Risk Reduction	Various	Various : Various	0.000	0.500	Feb 2020	0.549	Feb 2021	0.538	Feb 2022	-		0.538	-	-	-
DSS Risk Reduction	WR	NUWC Newport : RI	0.000	0.000		0.964	Dec 2021	0.625	Dec 2021	-		0.625	-	-	-
DSS Risk Reduction (NRE)	C/CPFF	Leidos : MS	0.000	0.000		7.200	Nov 2020	0.291	Nov 2021	-		0.291	-	-	-
		Subtotal	0.000	3.890		19.450		11.059		-		11.059	-	-	N/A

Remarks

The 2022 decrease is due to reduction of DWP Spiral 1.1 nodes from seven (7) to four (4), elimination of DSS Deep Water Active (DWA) and Mobile Passive Active System (MPAS), and completion of integration of Non-Recurring Engineering (NRE) efforts into the Spiral 1.1 baseline.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DSS C4I Integration	WR	NIWC PAC : CA	0.000	1.900	Feb 2020	0.000		0.000		-		0.000	-	-	-
DSS C4I Integration	WR	NUWC Newport : RI	0.000	1.985	Feb 2020	1.500	Nov 2020	0.773	Nov 2021	-		0.773	-	-	-
DSS C4I Integration	WR	Navy Research Lab : DC	0.000	0.300	Feb 2020	0.030	Feb 2021	0.000		-		0.000	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *Deployable Surveillance Systems*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DSS T&E	WR	NIWC PAC : CA	0.000	0.000		0.404	Nov 2020	0.416	Nov 2021	-		0.416	-	-	-
DSS ISEA	WR	NUWC Keyport : WA	0.000	0.000		3.659	Dec 2020	3.417	Dec 2021	-		3.417	-	-	-
		Subtotal	0.000	4.185		5.593		4.606		-		4.606	-	-	N/A

Remarks

The 2022 decrease is due to reduction of DWP Spiral 1.1 nodes from seven (7) to four (4), elimination of DSS Deep Water Active (DWA) and Mobile Passive Active System (MPAS), and completion of integration of Non-Recurring Engineering (NRE) efforts into the Spiral 1.1 baseline.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DSS	C/CPFF	BAH : VA	0.000	0.425	Feb 2020	1.342	Jan 2021	0.927	Jan 2022	-		0.927	-	-	-
		Subtotal	0.000	0.425		1.342		0.927		-		0.927	-	-	N/A

Remarks

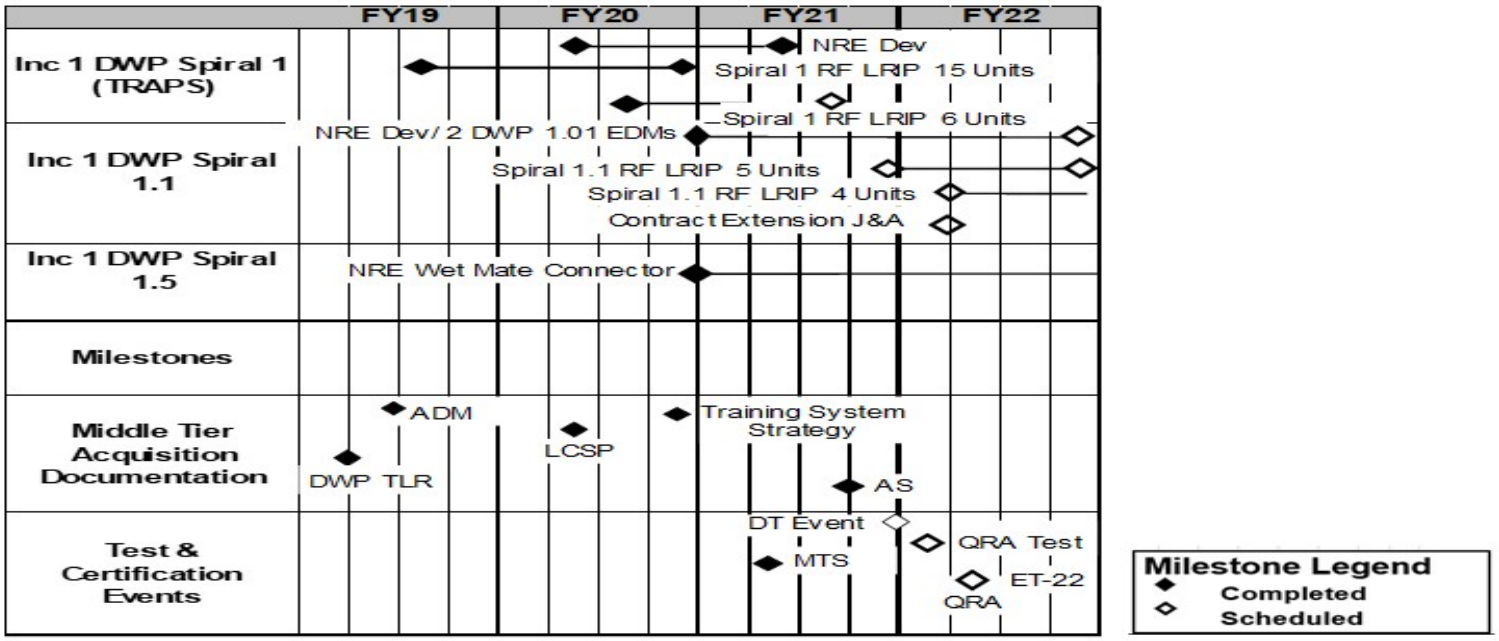
The 2022 decrease is due to reduction of DWP Spiral 1.1 nodes from seven (7) to four (4), elimination of DSS Deep Water Active (DWA) and Mobile Passive Active System (MPAS), and completion of integration of Non-Recurring Engineering (NRE) efforts into the Spiral 1.1 baseline.

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	8.500		26.385		16.592		-		16.592	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *Deployable Surveillance Systems*

DSS FY22 Program Schedule



Acronyms

Acquisition Decision Memorandum (ADM)
Acquisition Strategy (AS)
Deep Water Passive (DWP)
Developmental Test (DT)
Engineering Development Model (EDM)
Engineering Test (ET)
Full Rate Production (FRP)
Information Technology Deployment Strategy (ITDS)
Justification and Approval (J&A)
Life Cycle Sustainment Plan (LCSP)
Low-Rate Initial Production (LRIP)
Master Test Strategy (MTS)
Memorandum of Agreement (MOA)
Non-Recurring Engineering Event (NRE)
Post-Implementation Review (PIR)
Quick Reaction Assessment (QRA)
Rapid Fielding (RF)

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *Deployable Surveillance Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0344				
Test and Evaluation Milestones: Quick Reaction Assessment (QRA): DWP Spiral 1.1 QRA (FY22)	2	2022	2	2022
Production Milestones: DSS Software Integration: DWP Software Algorithm Development/Non-recurring Engineering (NRE)	2	2020	2	2021
Production Milestones: DWP Low Rate Initial Production (LRIP): DWP Spiral 1 LRIP (6 Units)	3	2020	3	2021
Production Milestones: DWP Low Rate Initial Production (LRIP): DWP Spiral 1.1 LRIP (5 Units)	4	2021	4	2022
Production Milestones: DWP Low Rate Initial Production (LRIP): DWP Spiral 1.1 LRIP (4 Units)	2	2022	4	2022
Production Milestones: DWP EDMs: DWP Spiral 1.01 EDM (2 Units)	4	2020	4	2022
Production Milestones: DWP EDMs: DWP Spiral 1.5 EDM (2 Units)	1	2021	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy												Date: May 2021
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*				Project (Number/Name) 0766 / *IUSS Detect/Classif System*			
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
0766: *IUSS Detect/Classif System*	452.458	59.871	63.067	60.781	-	60.781	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

A. This project includes efforts for SURTASS, Expeditionary SURTASS (SURTASS-E), Theater ASW Offset Initiative, and Fixed Surveillance System (FSS). The SURTASS project comprises the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS also provides the undersea surveillance necessary to support regional conflicts and sea-lane protection. SURTASS has experienced recent passive and active success against diesel submarines operating in shallow water. SURTASS is leveraging existing developments and reducing costs by using Non-Developmental Items and commercial hardware, supporting common Navy Undersea Warfare processing and towed array developments, and increasing operator efficiency through computer-aided detection and classification processing. SURTASS development efforts include Low Frequency Active (LFA)/Compact Low Frequency Active (CLFA) improvements, common IUSS processing, twin-line array development and processing, improved detection and classification/passive automation to counter quieter threats, additional signal processing, integrated active and passive operations, improved Battle Group support, and improved information processing.

LFA provides an active adjunct capability for IUSS passive and tactical sensors to counter the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow, quiet threats in harsh littoral waters. Improvements include TL-29A/LFA integration enhancements, advanced waveforms for littoral/shallow water operations including Doppler sensitive waveforms, and processing algorithms to reduce clutter and reverberation false alarms in shallow water. The Integrated Common Processor (ICP) is a derivative of the NAVSEA Submarine Acoustic Rapid Commercial Off the Shelf (COTS) Insertion (ARCI) program, and is being augmented for IUSS requirements. Together, the LFA/CLFA improvements, TL-29A, and the ICP support the SURTASS Active Improvement Program. FY 2022 decrease due to reduction of the MSS LFA and CLFA efforts for three (3) years.

Functional improvements to ICP are delivered to the Fleet in software "builds" while hardware improvements are delivered through the Tech Insertion (TI) process. Software improvements delivered via the Advanced Surveillance Build (ASB) process are based on the Advanced Processor Build (APB) process begun by the NAVSEA Submarine USW program. Each ASB will introduce new capabilities into SURTASS systems including improved automation, normalizer techniques, adaptive beam forming, and display enhancements. SURTASS participates in the process by contributing algorithms for consideration, supplying peer group members for review of candidate algorithms, participating in test evolutions, and incorporating improved algorithms into operational systems. The TI process, modeled after the NAVSEA Submarine Undersea Warfare (USW) hardware improvement program, delivers processing technology improvements to platforms on roughly a 4-6 year cycle. Hardware upgrades for active and passive arrays and communications systems will also be provided during TI upgrades, but not on a regular planned development cycle as for the processing upgrades. FY 2022 decrease due to reduction of technical refresh of MSS ICP for three (3) years.

SURTASS-E provides a SURTASS passive capability packaged into ISO-Vans for mobilization on Vessels of Opportunity (VOOs). It was developed as a CNO Rapid Prototyping, Experimentation, and Demonstration (RPED) program beginning in FY17 to provide a SURTASS variant that addresses emergent Theater ASW

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

Commander requirements for SURTASS capability. Funds added in FY21 will support system improvements to the base SURTASS-E RPED prototype capability based on operational feedback and COTF OT&E (via a Quick Reaction Assessment) findings, and to upgrade SURTASS-E RPED design to support military crew (MILCREW) manning.

B. PEO SUB is involved with the development and maintenance of various IUSS systems. These systems include Fixed Distributed systems (FDS), Fixed Distributed Systems-Commercial (FDS-C), and SURTASS. The existing system architectures, signal processing, contact management, and reporting requirements will be evaluated as well as the requirements for future systems. The cyclical development of the ICP will take advantage of automation advancement, array technology improvements, along with IUSS, submarine, and surface USW system commonality to address these requirements.

C. The FSS portion of 0766 is classified with details available at a higher classification level.
The FSS portion of 0766 is classified with details available at a higher classification level.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Integrated Common Processor (ICP)	18.470	15.406	10.430	0.000	10.430
Articles:	-	-	-	-	-
FY 2021 Plans: - Develop Advanced Surveillance Build ASB-20 processing capabilities. - ASB-20 improvements planned for completion in FY 2021 include: Flexible Array Processing for next generation SURTASS sensors in order to improve contact energy performance and management; Improved TL-29 Beamforming in order to increase detection performance by leveraging backside rejection while protecting narrowband signals; Improved Change/feature detectors (classified); Improved Target Motion Analysis (TMA) capability; Geo-Re-player in order to provide a rapid visual indication of moving contacts that may be missed by other means; Ownship noise reduction to improve MDL target recognition; Active initiatives; Improved cross-site/ship data sharing; Automatic System Identification (ASI) to Acoustic Track association; Deep Learning/Data Exploitation; Contact Based Bells (ORACL); Type 2 Tracking surface; Remote Software updates; and Improved Doppler analysis.					
FY 2022 Base Plans: - ASB-21 improvements planned for completion in FY2022 include: Full Length Twinline TL29a which provides improved array gain; Active ABF Improvements; Twin Line (TL) Passive Adaptive Beam Former (ABF) Improvements; and Active Acoustic Animation, which is a new capability that will allow for rapid replay of multi-ping acoustic energy to allow better recognition of moving objects over a stationary background.					
FY 2022 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** The $4.976 million decrease from FY 2021 to FY 2022 is due to reduction of technical refresh of Mobile Surveillance System (MSS) Integrated Common Processor (ICP) in the team trainers (-$4.911 million) and the Total Force Manpower savings reduction (-$.065 million).					
Title: Compact Low Frequency Active (CLFA) ***Articles:*** ***FY 2021 Plans:*** - Continue development of cyber security enhancements. - Conduct pier-side and at-sea test and evaluations of LFA/CLFA system performance processing enhancements. - Conduct yearly cyber security evaluation and testing of deployed systems. - Continue investigation of future active systems to outfit T- Auxiliary Ocean General Surveillance Ship (T-AGOS)(X). ***FY 2022 Base Plans:*** N/A ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** The $2.000 million decrease from FY 2021 to FY 2022 is due to reduction of the Mobile Surveillance System (MSS) Low Frequency Active (LFA) and Compact Low Frequency Active (CLFA) efforts FY 2022 through FY 2024.	3.000 -	2.000 -	0.000 -	0.000 -	0.000 -
Title: TL-29A/Twin-Line ***Articles:*** ***FY 2021 Plans:*** - Continue development of upgraded telemetry components to address component obsolescence. - Continue development of fishing net mitigation solutions and upgrades to reduce potential for array damage from fishing apparatus.	3.000 -	2.000 -	2.000 -	0.000 -	2.000 -

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Continue at-sea test and evaluation efforts to demonstrate passive array system hardware and processing enhancements and net mitigation equipment. - Continue evaluation of true fiber optic array technologies and array components, including Twin-line variants of new submarine Long-line arrays for future application to SURTASS. - Begin development of future passive systems to outfit T-AGOS(X). ***FY 2022 Base Plans:*** - Continue development of upgraded telemetry components to address component obsolescence. - Continue development of fishing net mitigation solutions and upgrades to reduce potential for array damage from fishing apparatus. - Continue at-sea test and evaluation efforts to demonstrate passive array system hardware and processing enhancements and net mitigation equipment. - Continue evaluation of true fiber optic array technologies and array components, including Twin-line variants of new submarine Long-line arrays for future application to SURTASS. - Continue development of future passive systems to outfit T-AGOS(X). ***FY 2022 OCO Plans:*** N/A					
Title: SURTASS-E ***Articles:***	0.000 -	6.200 -	0.000 -	0.000 -	0.000 -
FY 2021 Plans: - System improvements to base SURTASS-E RPED capability based on operational feedback and COTF Quick Reaction Assessment (OT&E). Improvements are necessary to address shortcomings in the SURTASS-E prototype. - System improvements to address COTF cybersecurity test findings. Improvements are necessary to ensure continuity of operations and prevent compromise by internal and external threats. - Upgrade SURTASS-E capability to support military crew (MILCREW) manning. Base SURTASS-E capability does not support MILCREW manning, which is necessary to support planned Fleet operational plans; ***FY 2022 Base Plans:*** N/A ***FY 2022 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** The $6.200 million decrease from FY 2021 to FY 2022 is based on completion of SURTASS-E improvements.					
Title: Classified Effort	35.401	37.461	48.351	0.000	48.351
Articles:	-	-	-	-	-
Description: The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2021 Plans:*** The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2022 Base Plans:*** N/A ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** The $10.179 million increase from FY2021 to FY2022 funds $15.000 million for the G400 System Non-recurring Engineering and $2.868 million for the design and development of advanced sensors and processing required for the next generation of underwater segment arrays, and reflects the DoN22 RDTEN Under Execution Review decrease of $7.689 million.					
Accomplishments/Planned Programs Subtotals	59.871	63.067	60.781	0.000	60.781

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• OPN/2237: *SURTASS*	21.923	63.838	67.500	-	67.500	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

FY 2019: ICP Tech Refresh. CLFA/TL-29A/ICP FOT&E
FY 2020: ASB Step 4 Testing. LFA/CLFA/TL-29A/ICP FOT&E
FY 2021: ICP Tech Refresh. LFA/TL-29A/ICP FOT&E

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

FY 2022: ASB Step 4 Testing. TL-29A/ICP FOT&E
The FSS portion of 0766 is classified with details available at a higher classification level.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0766 / *IUSS Detect/Classif System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN : VA	49.115	7.505	Dec 2019	6.099	Dec 2020	4.018	Dec 2021	-		4.018	-	-	-
IUSS COMMON ARCHITECTURE	SS/CPFF	APL/JHU : MD	6.352	1.586	Apr 2020	1.317	Apr 2021	0.907	Apr 2022	-		0.907	-	-	-
IUSS COMMON ARCHITECTURE	C/CPFF	ADAPTIVE Methods : VA	4.791	0.922	Dec 2019	0.862	Dec 2020	0.594	Dec 2021	-		0.594	-	-	-
IUSS COMMON ARCHITECTURE	SS/CPFF	ARL/UT : TX	0.000	0.000		0.530	Apr 2021	0.465	Apr 2022	-		0.465	-	-	-
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	73.514	2.393	Dec 2019	1.218	Dec 2020	0.739	Dec 2021	-		0.739	-	-	-
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	NAVFAC EXWC : CA	3.360	0.620	Dec 2019	0.433	Dec 2020	0.000		-		0.000	-	-	-
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	NIWC PAC : CA	2.148	0.296	Nov 2019	0.205	Nov 2020	0.000		-		0.000	-	-	-
ACTIVE IMPROVEMENT/ CLFA/LFA	SS/CPFF	APL/JHU : MD	4.393	0.796	Apr 2020	0.602	Apr 2021	0.000		-		0.000	-	-	-
ARRAY IMPROVEMENTS	SS/CPFF	APL/JHU : VA	6.154	1.150	Apr 2020	0.576	Apr 2021	0.580	Apr 2022	-		0.580	-	-	-
ARRAY IMPROVEMENTS	SS/CPFF	ADAPTIVE METHODS : VA	2.410	0.482	Dec 2019	0.300	Dec 2020	0.302	Dec 2021	-		0.302	-	-	-
ARRAY IMPROVEMENTS	C/CPFF	L-3 CSC : MD	0.000	0.000		0.204	Dec 2020	0.195	Dec 2021	-		0.195	-	-	-
ARRAY IMPROVEMENTS	C/CPFF	Makai : HI	0.000	0.000		0.200	Mar 2021	0.203	Mar 2022	-		0.203	-	-	-
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	11.004	0.672	Jan 2020	0.000		0.000		-		0.000	-	-	-
SURTASS-E	SS/CPFF	APL/JHU : MD	0.000	0.000		2.080	Apr 2021	0.000		-		0.000	-	-	-
SURTASS-E	C/CPFF	Oceaneering : TX	0.000	0.000		0.930	Dec 2020	0.000		-		0.000	-	-	-
SURTASS-E	Various	Various : Not Specified	0.000	0.000		1.550	Feb 2021	0.000		-		0.000	-	-	-
FSS - Classified	Various	TBD : Not Specified	188.130	35.401	Nov 2019	37.461	Nov 2020	48.351	Nov 2021	-		48.351	-	-	-
		Subtotal	351.371	51.823		54.567		56.354		-		56.354	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

FY 2022 reflects reduction of $5.199 million to the technical refresh of the Integrated Common Processor (ICP) in the team trainers and $2.000 million to the Low Frequency Active (LFA) and Compact Low Frequency Active (CLFA) efforts.
The FSS portion of 0766 is classified with details available at a higher classification level.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	WR	NIWC PAC : CA	5.397	0.491	Nov 2019	0.423	Nov 2020	0.292	Nov 2021	-		0.292	-	-	-
IUSS COMMON ARCHITECTURE	C/CPFF	APL/JHU : MD	5.686	1.365	Apr 2020	1.177	Apr 2021	0.768	Apr 2022	-		0.768	-	-	-
IUSS COMMON ARCHITECTURE	C/CPFF	Lockheed Martin : VA	5.757	1.205	Dec 2019	1.039	Dec 2020	0.716	Dec 2021	-		0.716	-	-	-
IUSS COMMON ARCHITECTURE	SS/CPFF	MIT/LL : MS	0.000	0.000		0.137	Jun 2021	0.137	Jun 2022	-		0.137	-	-	-
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	6.081	0.494	Jan 2020	0.289	Jan 2021	0.199	Jan 2022	-		0.199	-	-	-
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	NIWC PAC : CA	1.513	0.292	Nov 2019	0.200	Nov 2020	0.000		-		0.000	-	-	-
ACTIVE IMPROVEMENT/ CLFA/LFA	C/CPFF	BAE : NH	0.000	0.000		0.140	Jan 2021	0.000		-		0.000	-	-	-
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	8.053	0.176	Jan 2020	0.000		0.000		-		0.000	-	-	-
ARRAY IMPROVEMENTS	WR	NSWC CD : MD	0.000	0.000		0.140	Nov 2020	0.135	Nov 2021	-		0.135	-	-	-
ARRAY IMPROVEMENTS	WR	NUWC NPT : RI	0.000	0.000		0.200	Nov 2020	0.210	Nov 2021	-		0.210	-	-	-
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	2.144	0.385	Jan 2020	0.000		0.000		-		0.000	-	-	-
SURTASS-E	WR	NAVFAC EXWC : CA	0.000	0.000		1.240	Dec 2020	0.000		-		0.000	-	-	-
		Subtotal	34.631	4.408		4.985		2.457		-		2.457	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

FY 2022 reflects reduction of $5.199 million to the technical refresh of the Integrated Common Processor (ICP) in the team trainers and $2.000 million to the Low Frequency Active (LFA) and Compact Low Frequency Active (CLFA) efforts.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN : VA	6.525	1.010	Dec 2019	0.965	Dec 2020	0.665	Dec 2021	-		0.665	-	-	-
IUSS COMMON ARCHITECTURE	SS/CPFF	ARL/UT : TX	0.000	0.000		0.425	Apr 2021	0.293	Apr 2022	-		0.293	-	-	-
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	9.793	0.660	Jan 2020	0.150	Jan 2021	0.103	Jan 2022	-		0.103	-	-	-
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	OPTEVFOR : VA	0.842	0.125	Dec 2019	0.200	Jan 2021	0.000		-		0.000	-	-	-
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	21.171	0.126	Jan 2020	0.100	Apr 2021	0.000		-		0.000	-	-	-
ARRAY IMPROVEMENTS	SS/CPFF	APL/JHU : MD	1.595	0.413	Apr 2020	0.270	Apr 2021	0.265	Apr 2022	-		0.265	-	-	-
SURTASS-E	WR	OPTEVOR : VA	0.000	0.000		0.400	Jan 2021	0.000		-		0.000	-	-	-
		Subtotal	39.926	2.334		2.510		1.326		-		1.326	-	-	N/A

Remarks

FY 2022 reflects reduction of $5.199 million to the technical refresh of the Integrated Common Processor (ICP) in the team trainers and $2.000 million to the Low Frequency Active (LFA) and Compact Low Frequency Active (CLFA) efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	9.435	0.850	Jan 2020	0.775	Jan 2021	0.534	Jan 2022	-		0.534	-	-	-
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	16.225	0.156	Jan 2020	0.120	Jan 2021	0.000		-		0.000	-	-	-
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	0.870	0.300	Jan 2020	0.110	Jan 2021	0.110	Jan 2022	-		0.110	-	-	-
		Subtotal	26.530	1.306		1.005		0.644		-		0.644	-	-	N/A

Remarks

FY 2022 reflects reduction of $5.199 million to the technical refresh of the Integrated Common Processor (ICP) in the team trainers and $2.000 million to the Low Frequency Active (LFA) and Compact Low Frequency Active (CLFA) efforts.

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	452.458	59.871		63.067		60.781		-		60.781	-	-	N/A

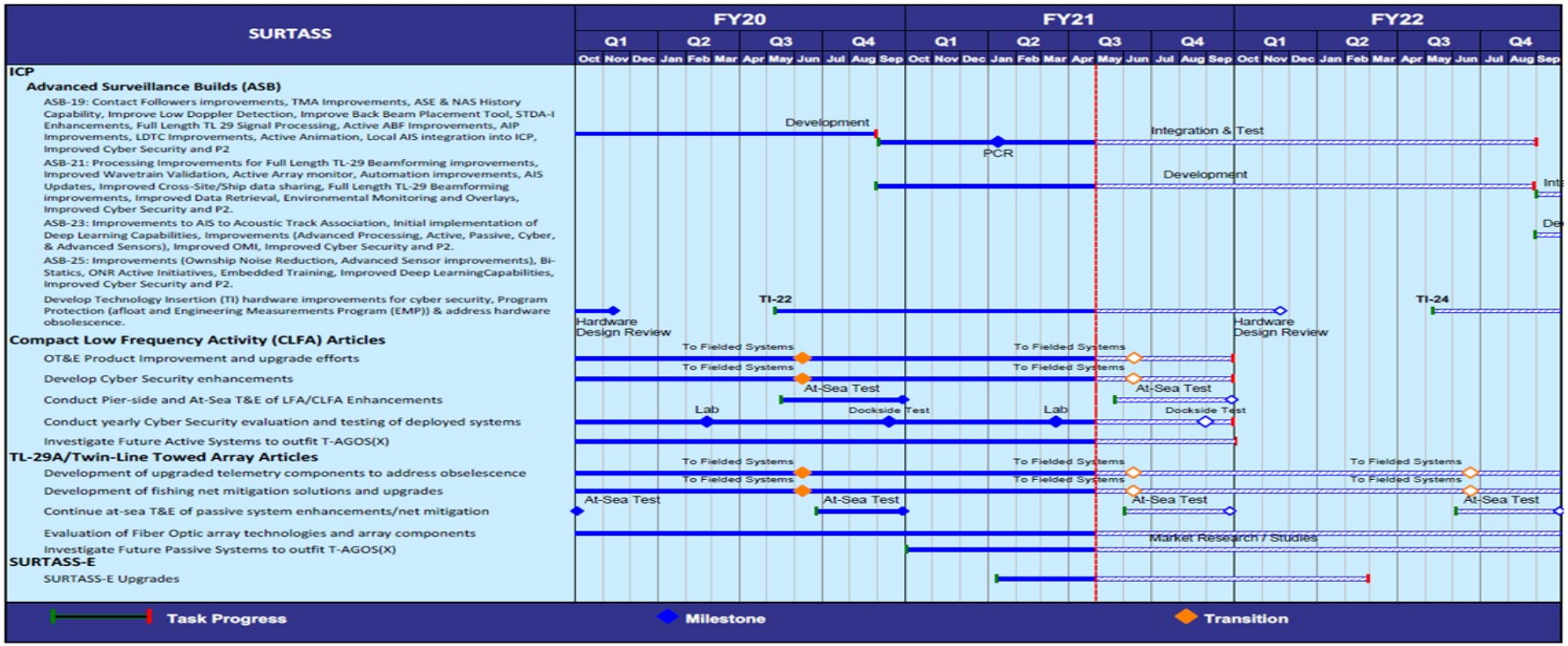
Remarks

The R3 and the R4 / R4A reflect the UNCLASSIFIED portion of the PE.
The FSS portion of 0766 is classified with details available at a higher classification level.

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

CUI//PROCURE

PMS 485: SURTASS Product Plan
(FYDP)



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Status Date 4/30/2021

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0766.L24				
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: Pier-side and At-Sea T&E of LFA/CLFA Enhancements (2020)	3	2020	4	2020
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: Pier-side and At-Sea T&E of LFA/CLFA Enhancements (2021)	3	2021	4	2021
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Security Evaluation and Testing (FY20-21)	1	2020	4	2021
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Lab Test (2020)	2	2020	2	2020
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Dockside Test (2020)	4	2020	4	2020
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Lab Test (2021)	2	2021	2	2021
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Dockside Test (2021)	4	2021	4	2021
TEST and EVALUATION MILESTONES: TL-29A Testing: TL-29A At-SEA T&E Passive System/Net Mitigation (2020)	3	2020	4	2020
TEST and EVALUATION MILESTONES: TL-29A Testing: TL-29A At-SEA T&E Passive System/Net Mitigation (2021)	3	2021	4	2021
TEST and EVALUATION MILESTONES: TL-29A Testing: TL-29A At-SEA T&E Passive System/Net Mitigation (2022)	3	2022	4	2022
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-19 Test Event	4	2022	4	2022
DEVELOPMENT MILESTONES: LFA/CLFA Development: LFA/CLFA OT&E Product Improvement/Upgrade Efforts (FY20-21)	1	2020	4	2021

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DEVELOPMENT MILESTONES: LFA/CLFA Development: LFA/CLFA Cyber Security Enhancements (FY20-21)	1	2020	4	2021
DEVELOPMENT MILESTONES: LFA/CLFA Development: LFA/CLFA Investigate Future Active Systems (T-AGOS(X)) FY20-21)	1	2020	4	2021
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Develop Telemetry Components (Upgrades) (Yearly)	1	2020	4	2022
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Develop Fishing Net Mitigation (Yearly)	1	2020	4	2022
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Fiber Optic Array Tech/ Component Evaluation (Yearly)	1	2020	4	2022
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Investigate Future Passive Systems (T-AGOS(X))	1	2020	4	2022
DEVELOPMENT MILESTONES: ICP Development: ASB 19 Development	1	2020	4	2020
DEVELOPMENT MILESTONES: ICP Development: ASB 21 Development	4	2020	4	2022
DEVELOPMENT MILESTONES: ICP Development: ASB 23 Development	4	2022	4	2022
DEVELOPMENT MILESTONES: SURTASS-E Upgrades: SURTASS-E Upgrades	2	2021	2	2022
PRODUCTION MILESTONES: ICP Technology Insertion: ICP Tech Insertion TI-22	3	2020	1	2022
PRODUCTION MILESTONES: ICP Technology Insertion: ICP Tech Insertion TI-24	3	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 1768 / *Ship Plan Development and Design*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
1768: *Ship Plan Development and Design*	0.000	20.000	10.622	6.903	-	6.903	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

T-Auxiliary, Repair, Cable (T-ARC)(X) is a candidate replacement program for U.S. Navy's only organic undersea cable laying and repair ship, USNS ZEUS (T-ARC 7), which is approaching the end of her extended service life. The ship's main mission is to deploy, repair, and retrieve undersea cables and equipment, with a secondary mission of conducting acoustic, hydrographic and bathymetric surveys.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: T-ARC(X) Cable Ship Design and Total Ship Integration	20.000	10.622	6.903	0.000	6.903
Articles:	-	-	-	-	-
FY 2021 Plans: -Complete industry studies. -Continue design integration and T&E planning. -Develop acquisition documentation to support In Process Reviews -Continue specification and TDP development. -Continue to coordinate acquisition efforts with NAVSEA, Military Sealift Command (MSC), PEO SHIPS, CNO, ASN RD&A, OSD, and Fleet.					
FY 2022 Base Plans: -Continue design integration and T&E planning. -Develop of acquisition documentation to support Milestone (MS) B/C and Gate 4/5 -Start development of Request for Proposal (RFP) for Detail Design & Construction. -Continue specification and Technical Data Package (TDP) development. -Continue to coordinate acquisition efforts with NAVSEA, MSC, PEO SHIPS, CNO, ASN RD&A, OSD, and Fleet.					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: The funding decrease in FY22 is due to the completion of industry studies.					
Accomplishments/Planned Programs Subtotals	20.000	10.622	6.903	0.000	6.903

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 1768 / *Ship Plan Development and Design*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• SCN/5080: *TARC Cable Repair Ship*	0.000	0.000	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Issue Request for Proposal (RFP) and award Industry Studies in FY 2020. Issue RFP for Detail Design and Construction (DD&C) in FY 2023 for a FY 2024 award.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 1768 / *Ship Plan Development and Design*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Industry Studies	C/FFP	Various : Various	0.000	12.000	Sep 2020	2.500	Jan 2021	0.000		-		0.000	-	-	-
Engineering Integration/ Design	Various	Various : Various	0.000	1.718	Apr 2020	2.250	Jan 2021	1.814	Jan 2022	-		1.814	-	-	-
		Subtotal	0.000	13.718		4.750		1.814		-		1.814	-	-	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Requirements Definition	Various	Various : Various	0.000	1.040	Apr 2020	0.000		0.000		-		0.000	-	-	-
Spec and Technical Data Package Development	Various	Various : Various	0.000	1.764	Apr 2020	2.300	Jan 2021	1.901	Jan 2022	-		1.901	-	-	-
Milestone Documentation/ RFP development	Various	Various : Various	0.000	1.877	Apr 2020	1.920	Jan 2021	1.822	Jan 2022	-		1.822	-	-	-
Systems Integration	Various	Various : Various	0.000	1.174	Apr 2020	1.212	Jan 2021	0.911	Jan 2022	-		0.911	-	-	-
		Subtotal	0.000	5.855		5.432		4.634		-		4.634	-	-	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	Various	Various : Various	0.000	0.427	Feb 2020	0.440	Jan 2021	0.455	Jan 2022	-		0.455	-	-	-
		Subtotal	0.000	0.427		0.440		0.455		-		0.455	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	20.000		10.622		6.903		-		6.903	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 1768 / *Ship Plan Development and Design*

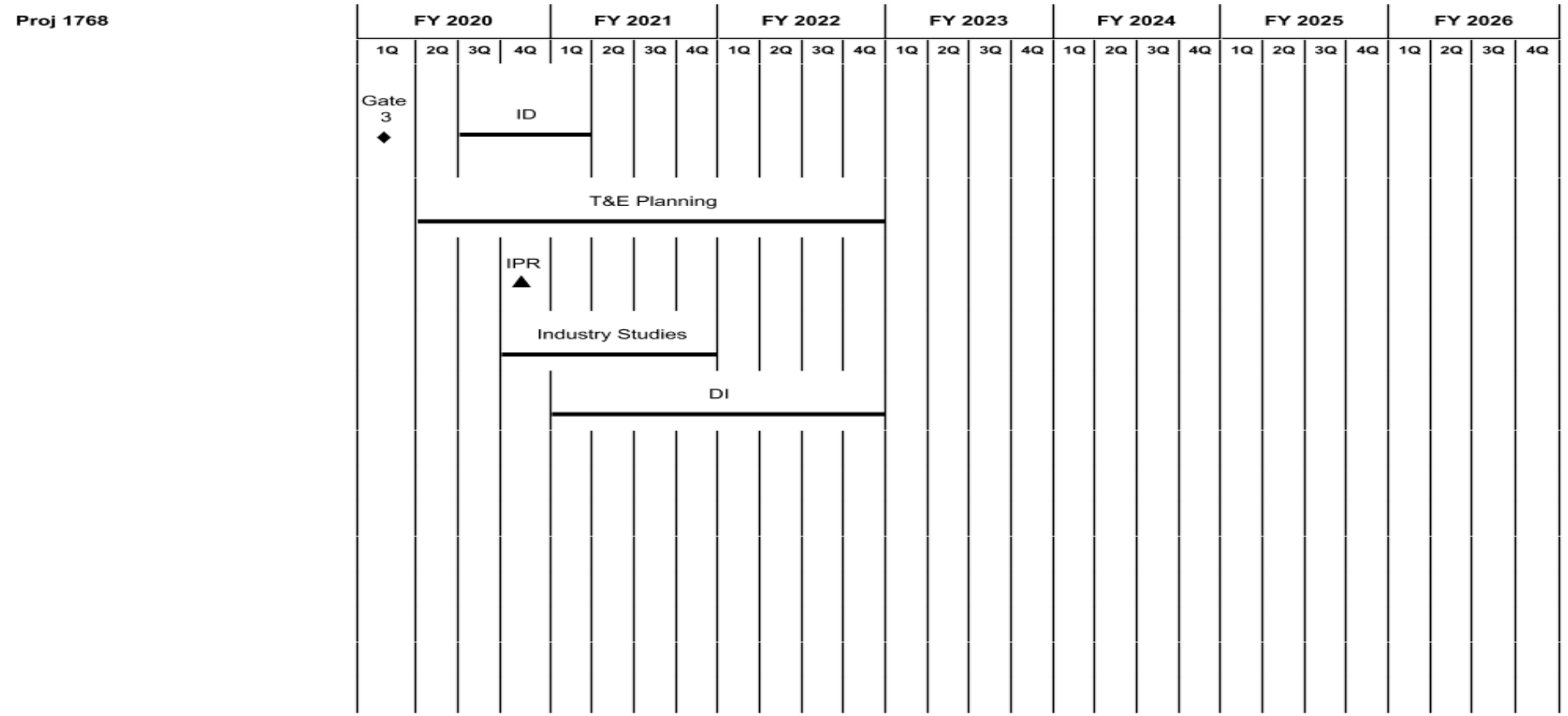

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 1768 / *Ship Plan Development and Design*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1768				
Gate 3	1	2020	1	2020
Indicative Design	3	2020	1	2021
Test and Evaluation Planning	2	2020	4	2022
Interim Program Review (IPR)	4	2020	4	2020
Industry Studies	4	2020	4	2021
Design Intregration	1	2021	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
9999: *Congressional Adds*	33.766	15.000	12.500	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Navy's Theater Anti-Submarine Warfare (TASW) Offset Strategy responds to an urgent European Command (EUROCOM)/Africa Command (AFRICOM) requirement for additional maritime intelligence, surveillance, and reconnaissance capabilities. PEO SUB, in conjunction with Commander Submarine Forces (COMSUBFOR) and CNO, directed a rapid prototyping program be undertaken utilizing systems developed by the Office of Naval Research (ONR), the Defense Advanced Research Projects Agency (DARPA) and the Naval Undersea Warfare Center (NUWC). Development of TASW capabilities to meet TASW requirements against evolving threats in the EUROCOM/AFRICOM Area of Responsibility (AOR) will also serve to address similar requirements globally. In FY19, Congressional budget additions funded the fourth major prototype contracting, refurbishment, deployment and non-recurring engineering. This is a Military Intelligence Program (MIP).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021
Congressional Add: Transformational reliable acoustic path systems ***FY 2020 Accomplishments:*** N/A ***FY 2021 Plans:*** N/A	15.000	0.000
Congressional Add: Maritime Surveillance System Sensor & Signal Processing Performance Improvements ***FY 2020 Accomplishments:*** N/A ***FY 2021 Plans:*** Design and development of sensor and signal processing performance improvements	0.000	12.500
Congressional Adds Subtotals	15.000	12.500

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

FY 2019: Deep Water Passive (DWP) Spiral 1 Contract Award
FY 2019: Software Risk Reduction
FY 2019: C4I Risk Reduction
FY 2019: DWP Fabrication of Units (15 Units)
FY 2020: DWP Fabrication of Spiral 1.0 Units and Design/Integrate/Fabricate EDM Units

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 9999 / *Congressional Adds*

FY 2021: Sensor & Signal processing development

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 9999 / *Congressional Adds*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	WR	NIWC Pacific : CA	2.145	0.000		0.000		0.000		-		0.000	-	-	-
TASW Fielding	WR	NUWC Newport : RI	3.117	0.000		0.000		0.000		-		0.000	-	-	-
TASW Fielding	C/CPFF	Leidos : MS	21.115	11.803	Jul 2020	0.000		0.000		-		0.000	-	-	-
TASW Fielding	C/CPFF	APL/JHU : MD	1.460	0.300	May 2020	0.000		0.000		-		0.000	-	-	-
TASW Fielding	C/CPFF	Proteq : VA	2.400	0.000		0.000		0.000		-		0.000	-	-	-
TASW Fielding	WR	Navy Research Lab : DC	0.520	0.000		0.000		0.000		-		0.000	-	-	-
TASW Fielding	C/CPFF	Sandia National Lab : NM	1.152	0.000		0.000		0.000		-		0.000	-	-	-
Sensor & Signal Processing	C/CPFF	Various : Not Specified	0.000	0.000		12.500	Mar 2021	0.000		-		0.000	-	-	-
		Subtotal	31.909	12.103		12.500		0.000		-		0.000	-	-	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	WR	Navy Oceanographic Office : MS	0.150	0.000		0.000		0.000		-		0.000	-	-	-
TASW Fielding	WR	NUWC Keyport : WA	0.000	2.450	Apr 2020	0.000		0.000		-		0.000	-	-	-
		Subtotal	0.150	2.450		0.000		0.000		-		0.000	-	-	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	WR	Navy Oceanographic Office : MS	0.025	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	0.025	0.000		0.000		0.000		-		0.000	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 9999 / *Congressional Adds*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	C/CPFF	BAH : VA	1.682	0.447	Jun 2020	0.000		0.000		-		0.000	-	-	-
		Subtotal	1.682	0.447		0.000		0.000		-		0.000	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	33.766	15.000		12.500		0.000		-		0.000	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 9999 / *Congressional Adds*

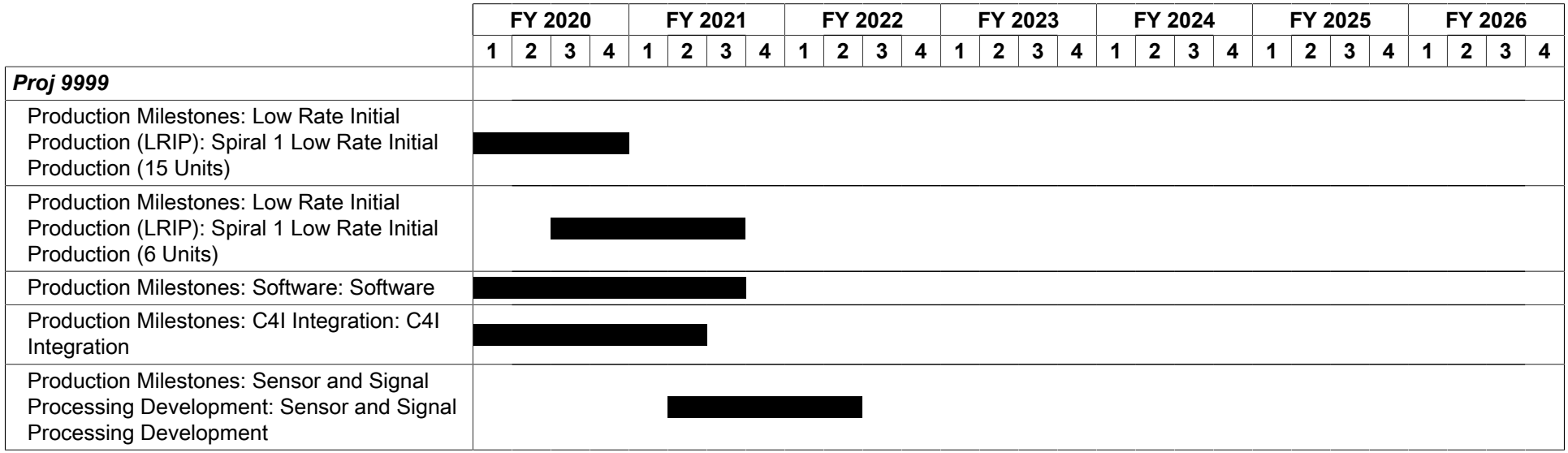

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
Production Milestones: Low Rate Initial Production (LRIP): Spiral 1 Low Rate Initial Production (15 Units)	1	2020	4	2020
Production Milestones: Low Rate Initial Production (LRIP): Spiral 1 Low Rate Initial Production (6 Units)	3	2020	3	2021
Production Milestones: Software: Software	1	2020	3	2021
Production Milestones: C4I Integration: C4I Integration	1	2020	2	2021
Production Milestones: Sensor and Signal Processing Development: Sensor and Signal Processing Development	2	2021	2	2022