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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204311N *I Integrated Surveillance System*							
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	463.073	55.164	71.959	88.382	-	88.382	100.754	95.332	84.608	86.298	Continuing	Continuing
0344: *SUB AUXILIARIES*	0.000	0.000	0.000	8.500	-	8.500	22.500	25.100	24.400	24.888	Continuing	Continuing
0766: *IUSS Detect/Classif System*	463.073	55.164	36.959	59.882	-	59.882	60.754	60.232	60.208	61.410	Continuing	Continuing
1768: *Ship Plan Development and Design*	0.000	0.000	0.000	20.000	-	20.000	17.500	10.000	0.000	0.000	0.000	47.500
9999: *Congressional Adds*	0.000	0.000	35.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	35.000

Note

Projects 0344 (Sub Auxiliaries) and 1768 (Ship Plan Development and Design) are new start programs.

A. Mission Description and Budget Item Justification

The FY20 funding request was reduced by $3.000 million to account for the availability of prior year execution balances.

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 1990s and beyond. The LFA tasks are directed at detection of slow quiet threats in harsh littoral waters.

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.

The Navy's Theater Anti-Submarine Warfare (TASW) Offset Strategy responds to an urgent EUROCOM/AFRICOM requirement for additional maritime intelligence, surveillance, and reconnaissance capabilities. PEO SUB, in conjunction with COMSUBFOR and CNO, directed a rapid prototyping program be undertaken utilizing

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204311N *I Integrated Surveillance System*

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 FY16, funds were reprogrammed to complete the first prototype contracting and deployment in support of the Navy's TASW Offset Strategy. In FY17, the IUSS Research and Development project (0766) funded the second major prototype contracting, refurbishment and deployment to support the Navy's TASW Offset Strategy. In FY18, the IUSS Research and Development project (0766) Overseas Contingency Operations (OCO) funded the third major prototype contracting, refurbishment and deployment to support the Navy's TASW Offset Strategy. Reprogrammed dollars funded non-recurring engineering updates focused on increasing Transformational Reliable Acoustic Path System (TRAPS) reliability. In FY19, Congressional budget additions funded the fourth major prototype contracting, refurbishment, and deployment. This is a Military Intelligence Program (MIP).

Project 0344 funds the Deployable System of Systems project which complements FSS and SURTASS by providing flexibility to TASW commanders worldwide by allowing the Fleet to address operational gaps in wide area undersea surveillance by using a deep water deployable system.

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.

B. Program Change Summary ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	38.972	36.959	59.619	-	59.619
Current President's Budget	55.164	71.959	88.382	-	88.382
Total Adjustments	16.192	35.000	28.763	-	28.763
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	35.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.592	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	11.600	0.000	28.763	-	28.763
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2018	FY 2019
Project: 9999: *Congressional Adds*		
Congressional Add: *Additional TRAPS Units*	0.000	35.000
Congressional Add Subtotals for Project: 9999	0.000	35.000

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204311N *I Integrated Surveillance System*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2018	FY 2019
Congressional Add Totals for all Projects	0.000	35.000

Change Summary Explanation

Program Adjustments:

FY20 increase of $28.763M: The FY20 funding request was reduced by $3.000 million to account for the availability of prior year execution balances. Other program adjustments included: $20.0M increase (Project 1768) to PE 0204311N to begin initial research and design for a follow-on Cable ship to replace the aging USNS Zeus; $11.9M increase (Project 0766.S41)for design and development of Underwater Segment advanced sensor technology and associated processing, and design to support alternative technologies.

FY19 Increase of $35.000M: $35.0M Congressional Add (Project 9999) for additional Transformational Reliable Acoustic Path System (TRAPS) units.

FY18 increase of $16.192M: $11.6M (Project 0766.L24) for OCO requirements and $4.592M (Project 0766.L24) reprogramming for TRAPS.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0344 / *SUB AUXILIARIES*	

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
0344: *SUB AUXILIARIES*	0.000	0.000	0.000	8.500	-	8.500	22.500	25.100	24.400	24.888	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Project 0344 is a new start program.

A. Mission Description and Budget Item Justification

The Deployable Family of Systems (DFoS) project (0344), complementing FSS and SURTASS, provides flexible and responsive wide area surveillance to the Theater Anti-Submarine Warfare (TASW) commanders worldwide. DFoS 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. DFoS is comprised of the following systems: Deep Water Passive (DWP), Deep Water Active (DWA), and Mobile Passive System (MPS). Informed by TASW Offset operations and the tailored requirements process, the DFoS Program of Record (POR) 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, DARPA, and small business research efforts including processing and sensor technology. Follow-on increments will be focused on DWA and MPS.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Deployable Family of Systems (DFoS)	0.000	0.000	8.500	0.000	8.500
Articles:	-	-	-	-	-
FY 2019 Plans: N/A					
FY 2020 Base Plans: - Conduct technology risk reduction and integration in the Software sub-system as identified in the OPNAV DFoS 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 DFoS Validated Requirements and as informed by TASW Offset Operations (C4I Integration/S&T). - Award DWP Spiral 2 competitive contract.					
FY 2020 OCO Plans: N/A					
FY 2019 to FY 2020 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *SUB AUXILIARIES*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
The FY 2020 funding request in the amount of $8.5M is initial funding for the DFoS POR.					
Accomplishments/Planned Programs Subtotals	0.000	0.000	8.500	0.000	8.500

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

FY 2019: DWP Spiral 2 Acquisition Strategy (AS)
FY 2020: DWP Spiral 2 Rapid Fielding
FY 2020: Initiate DWP Spiral 2 Low Rate Initial Production (LRIP)
FY 2020-2021: Engineering: DWP Risk Reduction
FY 2020-2021: Software Integration - Build 21
FY 2020-2021: C4I Integration Stage 1
FY 2021: DWP Spiral 2 Production Readiness Review (PRR)
FY 2022: Deep Water Active (DWA) and Mobile Passive/Active System (MPAS) Course of Action Analysis (COAA), TLR, and Quick Reaction Assessment (QRA)
FY 2023: DWP Spiral 2 Post Implementation Review (PIR)
FY 2023: Initiate DWP Spiral 2 Full Rate Production (FRP)
FY 2024: DWA Rapid Prototyping and AP

E. Performance Metrics

Requirements documents (Top Level Requirements (TLR)) under development (FY19 TLR development cost administered by OPNAV N974B).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *SUB AUXILIARIES*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS Processing	C/CPFF	APL/JHU : MD	0.000	0.000		0.000		0.440	Mar 2020	-		0.440	Continuing	Continuing	Continuing
DFoS Processing	C/CPFF	Leidos : MS	0.000	0.000		0.000		1.450	Jan 2020	-		1.450	Continuing	Continuing	Continuing
DFoS Processing	C/CPFF	Sandia National Lab : NM	0.000	0.000		0.000		0.300	Dec 2019	-		0.300	Continuing	Continuing	Continuing
DFoS Processing	C/CPFF	Proteq : VA	0.000	0.000		0.000		1.200	Feb 2020	-		1.200	Continuing	Continuing	Continuing
DFoS Risk Reduction	Various	Various : Various	0.000	0.000		0.000		0.500	Nov 2019	-		0.500	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		3.890		-		3.890	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS C4I Integration	WR	SSC Pacific : CA	0.000	0.000		0.000		1.900	Nov 2019	-		1.900	Continuing	Continuing	Continuing
DFoS C4I Integration	WR	NUWC Newport : RI	0.000	0.000		0.000		1.985	Nov 2019	-		1.985	Continuing	Continuing	Continuing
DFoS C4I Integration	WR	Navy Research Lab : DC	0.000	0.000		0.000		0.300	Jan 2020	-		0.300	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		4.185		-		4.185	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DFoS	C/CPFF	BAH : VA	0.000	0.000		0.000		0.425	Jan 2020	-		0.425	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		0.425		-		0.425	Continuing	Continuing	N/A

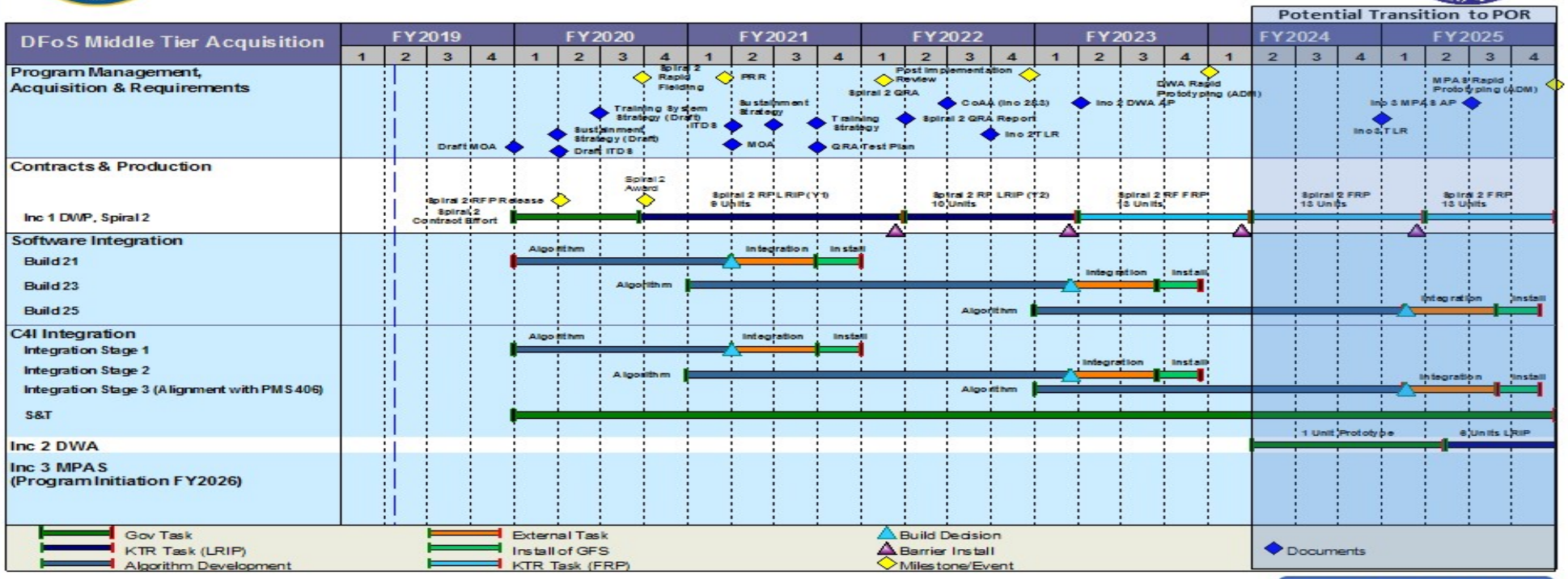
	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		8.500		-		8.500	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *SUB AUXILIARIES*

UNCLASSIFIED

DFoS Middle Tier Acquisition



Status Date: 20190128

Acquisition Decision Memorandum (ADM)
Acquisition Plan (AP)
Course of Action Analysis (CoAA)
Deep Water Active (DWA)
Deep Water Passive (DWP)
Information Technology Development Strategy (ITDS)
Low Rate Initial Production (LRIP)
Mobile Passive/Active System (MPAS)
Production Readiness Review (PRR)
Quick Reaction Assessment (QRA)
Rapid Fielding (RF)
Request For Proposal (RFP)
Science & Technology (S&T)
Top-Level Requirements (TLR)

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *SUB AUXILIARIES*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0344				
Test and Evaluation Milestones: Quick Reaction Assessment (QRA): DWP Spiral 2 QRA	1	2022	1	2022
Production Milestones: DWP Acquisition Documentation: DWP Spiral 2 Contract Award	3	2020	3	2020
Production Milestones: DFoS Software Integration: Build 21 Software Algorithm Development	1	2020	2	2021
Production Milestones: DFoS Software Integration: Build 21 Software Integration and Test	2	2021	3	2021
Production Milestones: DFoS Software Integration: Build 21 Software Installation	4	2021	1	2022
Production Milestones: DFoS Software Integration: Build 23 Software Algorithm Development	1	2021	1	2023
Production Milestones: DFoS Software Integration: Build 23 Software Integration and Test	1	2023	3	2023
Production Milestones: DFoS Software Integration: Build 23 Software Installation	3	2023	4	2023
Production Milestones: C4I Integration: Integration Stage 1	1	2020	4	2021
Production Milestones: C4I Integration: Integration Stage 2	1	2021	4	2023
Production Milestones: C4I Integration: Integration Stage 3	1	2023	4	2024
Production Milestones: DWP Low Rate Initial Production (LRIP): DWP Spiral 2 LRIP (9 Units)	3	2020	1	2022
Production Milestones: DWP Low Rate Initial Production (LRIP): DWP Spiral 2 LRIP (10 (Units)	2	2022	1	2023
Production Milestones: DWP Full Rate Production (FRP): DWP Spiral 2 FRP (13 Units)	2	2023	1	2024
Production Milestones: Rapid Prototyping: DWA Rapid Prototyping	1	2024	1	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *SUB AUXILIARIES*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Milestones: DWA Prototype: DWA Prototype (1 Unit)	2	2024	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019
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 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
0766: *IUSS Detect/Classif System*	463.073	55.164	36.959	59.882	-	59.882	60.754	60.232	60.208	61.410	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

A. This project includes efforts for SURTASS and the Theater ASW Offset Initiative. 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.

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.

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.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

C. Theater Anti-Submarine Warfare Strategy (TASW) Offset Initiative responds to an urgent EUROCOM/AFRICOM requirement for additional maritime intelligence, surveillance, and reconnaissance capabilities. PEOSUB, in conjunction with 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.
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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Integrated Common Processor (ICP)	15.831	13.650	18.481	0.000	18.481
Articles:	-	-	-	-	-
FY 2019 Plans: - Develop Advanced Surveillance Build (ASB)-19 / ASB-20 processing capabilities. - ASB-19/20 improvements planned for completion in FY 2019 include: Improved Single line Adaptive Beam Forming (ABF) in order to provide a common single and twin line ABF, An improved Acoustic Profiler Mitigation (APM) capability providing enhanced profiler acoustic content discrimination, Enhanced ship to shore data throughput through improvements to the Multi-Layer Passive Acoustic Compression (MPAC) algorithm, Improved trackers that will enhance operator's ability to track during maneuvers and heading changes, Multiple Resolution displays to improve operator efficiencies - Develop Technology Insertion (TI)-20 hardware improvements for cyber security, Program Protection (afloat and Engineering Measurements Program (EMP)), and to address hardware obsolescence					
FY 2020 Base Plans: - Develop Advanced Surveillance Build (ASB)-19 / ASB-20 processing capabilities. - ASB-19/20 improvements planned for completion in FY 2020 include: Kinematic tracker improvements to enhance operator's ability to track during maneuvers and heading changes, Contact History profile enhancements to aide operator association of possible contacts, Narrowband Acoustic paging improvements in order to rapidly scan large quantities of data,Improvements in the area of automatic detection					
FY 2020 OCO Plans: N/A					
FY 2019 to FY 2020 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
The FY20 increase is to support accelerated transition of Cyber Security and Program Protection improvements, as well as Operator Workload Reduction (OWR) capabilities.					
Title: Compact Low Frequency Active (CLFA)	2.000	2.000	3.000	0.000	3.000
Articles:	-	-	-	-	-
FY 2019 Plans: - Continue product improvement and upgrade efforts associated with CLFA and LFA OT&E - Continue development of cyber security enhancements - Conduct pier-side and at-sea test and evaluations of LFA/CLFA system performance enhancements. - Conduct yearly cyber security evaluation and testing of deployed systems. - Investigate future active systems to outfit T-AGOS (X).					
FY 2020 Base Plans: - Continue product improvement and upgrade efforts associated with CLFA and LFA OT&E - Continue development of cyber security enhancements. - Conduct pier-side and at-sea test and evaluations of LFA/CLFA system performance enhancements. - Conduct yearly cyber security evaluation and testing of deployed systems. - Continue investigation of future active systems to outfit T-AGOS (X).					
FY 2020 OCO Plans: N/A					
FY 2019 to FY 2020 Increase/Decrease Statement: The FY 2020 funding increase in the amount of $1M supports increased active system development efforts in support of T-AGOS (X).					
Title: TL-29A/Twin-Line	2.000	2.000	3.000	0.000	3.000
Articles:	-	-	-	-	-
FY 2019 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 enhancements and net mitigation equipment.					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
- 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. ***FY 2020 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 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. - Investigate future passive systems to outfit T-AGOS(X). ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The FY 2020 funding increase in the amount of $1M supports initial passive system development efforts in support of T-AGOS(X).					
Title: Theater Anti-Submarine Warfare (TASW)	16.192	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2019 Plans: N/A ***FY 2020 Base Plans:*** N/A ***FY 2020 OCO Plans:*** N/A					
Title: Classified Effort	19.141	19.309	35.401	0.000	35.401
Articles:	-	-	-	-	-
Description: The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2019 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2020 Base Plans:*** The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The FY 2020 funding request was increased by $16.1M for design and development of Underwater Segment advanced sensor technology and associated processing, and design to support alternative installation technologies ($15.2M), as well as, increased Advanced Surveillance Build (ASB) processing improvements for the Integrated Common Processor ($0.9M).					
Accomplishments/Planned Programs Subtotals	55.164	36.959	59.882	0.000	59.882

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• OPN/2237: *SURTASS*	36.580	57.872	21.923	-	21.923	17.977	24.278	24.723	25.218	Continuing	Continuing

Remarks

D. Acquisition Strategy

FY 2014: ICP Tech Refresh. CLFA OT/CLFA/TL-29A/ICP FOT&E
FY 2015: ICP Tech Refresh. LFA/CLFA/TL-29A/ICP FOT&E
FY 2016: ICP Tech Refresh. ASB Step 4 Testing.
FY 2017: ICP Tech Refresh. CLFA/TL-29A/ICP FOT&E
FY 2018: ICP Tech Refresh. ASB Step 4 Testing.
FY 2018: LFA/TL-29A/ICP FOT&E
FY 2019: ICP Tech Refresh. CLFA/TL-29A/ICP FOT&E
FY 2020: ASB Step 4 Testing. LFA/CLFA/TL-29A/ICP FOT&E
The FSS portion of 0766 is classified with details available at a higher classification level.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

E. Performance Metrics

Successfully complete CLFA Operational Test Readiness Review. Successfully complete CLFA Developmental Test / Operational Test. Successful demonstration of required LFA/CLFA improvements capability. Successful transition of Submarine Advanced Processing Build (APB) functionality and advanced capabilities into IUSS products. Successful transition of net mitigation technologies into Towed Array baseline.
The FSS portion of 0766 is classified with details available at a higher classification level.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
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 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN : VA	39.196	6.326	Dec 2017	5.437	Dec 2018	7.505	Dec 2019	-		7.505	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	SS/CPFF	APL/JHU : MD	4.128	1.054	Apr 2018	1.170	Apr 2019	1.586	Apr 2020	-		1.586	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	69.693	2.056	Dec 2017	1.765	Dec 2018	2.393	Dec 2019	-		2.393	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	ADAPTIVE Methods : VA	3.337	0.774	Dec 2017	0.680	Dec 2018	0.922	Dec 2019	-		0.922	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	NFESC : CA	2.533	0.414	Dec 2017	0.413	Dec 2018	0.620	Dec 2019	-		0.620	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	SSC PAC : CA	1.752	0.199	Nov 2017	0.197	Nov 2018	0.296	Nov 2019	-		0.296	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	SS/CPFF	APL/JHU : MD	3.372	0.512	Apr 2018	0.509	Apr 2019	0.796	Apr 2020	-		0.796	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	SS/CPFF	APL/JHU : VA	4.307	0.920	Apr 2018	0.927	Apr 2019	1.150	Apr 2020	-		1.150	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	SS/CPFF	ADAPTIVE METHODS : VA	1.750	0.339	Dec 2017	0.321	Dec 2018	0.482	Dec 2019	-		0.482	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	10.115	0.441	Jan 2018	0.448	Jan 2019	0.672	Jan 2020	-		0.672	Continuing	Continuing	Continuing
TASW FIELDING	Various	SSC PAC : CA	3.932	0.200	Dec 2017	0.000		0.000		-		0.000	0.000	4.132	-
TASW FIELDING	Various	NUWC NEWPORT : RI	2.543	0.300	Nov 2017	0.000		0.000		-		0.000	0.000	2.843	-
TASW FIELDING	SS/CPFF	APL/UW : WA	13.074	0.900	Feb 2018	0.000		0.000		-		0.000	0.000	13.974	-
TASW FIELDING	Various	VARIOUS : CA	2.284	0.000		0.000		0.000		-		0.000	0.000	2.284	-
TASW FIELDING	C/CPFF	LEIDOS : CA	54.410	10.092	Dec 2017	0.000		0.000		-		0.000	0.000	64.502	-
TASW FIELDING	C/CPFF	PROTEQ : VA	2.830	1.000	Mar 2018	0.000		0.000		-		0.000	0.000	3.830	-
TASW FIELDING	SS/CPFF	SANDIA : NM	0.621	0.000		0.000		0.000		-		0.000	0.000	0.621	-
TASW FIELDING	WR	NAVY OCEANOGRAPHIC OFFICE : MS	0.000	0.200	Feb 2018	0.000		0.000		-		0.000	0.000	0.200	-
FSS - Classified	Various	TBD : Not Specified	149.680	19.141	Nov 2017	19.309	Nov 2018	35.401	Nov 2019	-		35.401	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
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 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	369.557	44.868		31.176		51.823		-		51.823	Continuing	Continuing	N/A

Remarks

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 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	WR	SSC PAC : CA	4.623	0.412	Nov 2017	0.362	Nov 2018	0.491	Nov 2019	-		0.491	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	APL/JHU : MD	3.142	1.537	Apr 2018	1.007	Apr 2019	1.365	Apr 2020	-		1.365	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	Lockheed Martin : VA	4.158	1.012	Dec 2017	0.889	Dec 2018	1.205	Dec 2019	-		1.205	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	5.303	0.414	Jan 2018	0.364	Jan 2019	0.494	Jan 2020	-		0.494	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	SSC PAC : CA	1.123	0.195	Nov 2017	0.195	Nov 2018	0.292	Nov 2019	-		0.292	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	7.771	0.141	Jan 2018	0.141	Jan 2019	0.176	Jan 2020	-		0.176	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	1.752	0.195	Jan 2018	0.197	Jan 2019	0.396	Jan 2020	-		0.396	Continuing	Continuing	Continuing
TASW FIELDING	WR	NUWC NEWPORT : MA	0.430	0.700	Nov 2017	0.000		0.000		-		0.000	0.000	1.130	-
TASW FIELDING	WR	NUWC KEYPORT : WA	0.525	0.120	Nov 2017	0.000		0.000		-		0.000	0.000	0.645	-
TASW FIELDING	SS/CPFF	APL/JHU : MD	1.100	0.200	Jan 2018	0.000		0.000		-		0.000	0.000	1.300	-
TASW FIELDING	WR	SSC PAC : CA	0.700	0.750	Nov 2017	0.000		0.000		-		0.000	0.000	1.450	-
		Subtotal	30.627	5.676		3.155		4.419		-		4.419	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN : VA	5.187	0.846	Dec 2017	0.745	Dec 2018	1.010	Dec 2019	-		1.010	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	8.756	0.550	Jan 2018	0.487	Jan 2019	0.660	Jan 2020	-		0.660	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	OPTEVFOR : VA	0.647	0.095	Dec 2017	0.100	Dec 2018	0.125	Dec 2019	-		0.125	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	21.003	0.084	Jan 2018	0.084	Jan 2019	0.126	Jan 2020	-		0.126	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	SS/CPFF	APL/JHU : MD	1.125	0.235	Apr 2018	0.235	Apr 2019	0.413	Apr 2020	-		0.413	Continuing	Continuing	Continuing
TASW FIELDING	WR	NUWC NEWPORT : MA	0.399	0.300	Feb 2018	0.000		0.000		-		0.000	0.000	0.699	-
TASW FIELDING	WR	NAVY OCEANOGRAPHIC OFFICE : MS	0.914	0.030	Feb 2018	0.000		0.000		-		0.000	0.000	0.944	-
		Subtotal	38.031	2.140		1.651		2.334		-		2.334	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	7.840	0.850	Jan 2018	0.745	Jan 2019	0.850	Jan 2020	-		0.850	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	15.975	0.125	Jan 2018	0.125	Jan 2019	0.156	Jan 2020	-		0.156	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	0.658	0.105	Jan 2018	0.107	Jan 2019	0.300	Jan 2020	-		0.300	Continuing	Continuing	Continuing
TASW FIELDING	C/CPFF	BAH : VA	0.385	1.400	Jan 2018	0.000		0.000		-		0.000	0.000	1.785	-
		Subtotal	24.858	2.480		0.977		1.306		-		1.306	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0766 / *IUSS Detect/Classif System*	

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	463.073	55.164		36.959		59.882		-		59.882	Continuing	Continuing	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 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

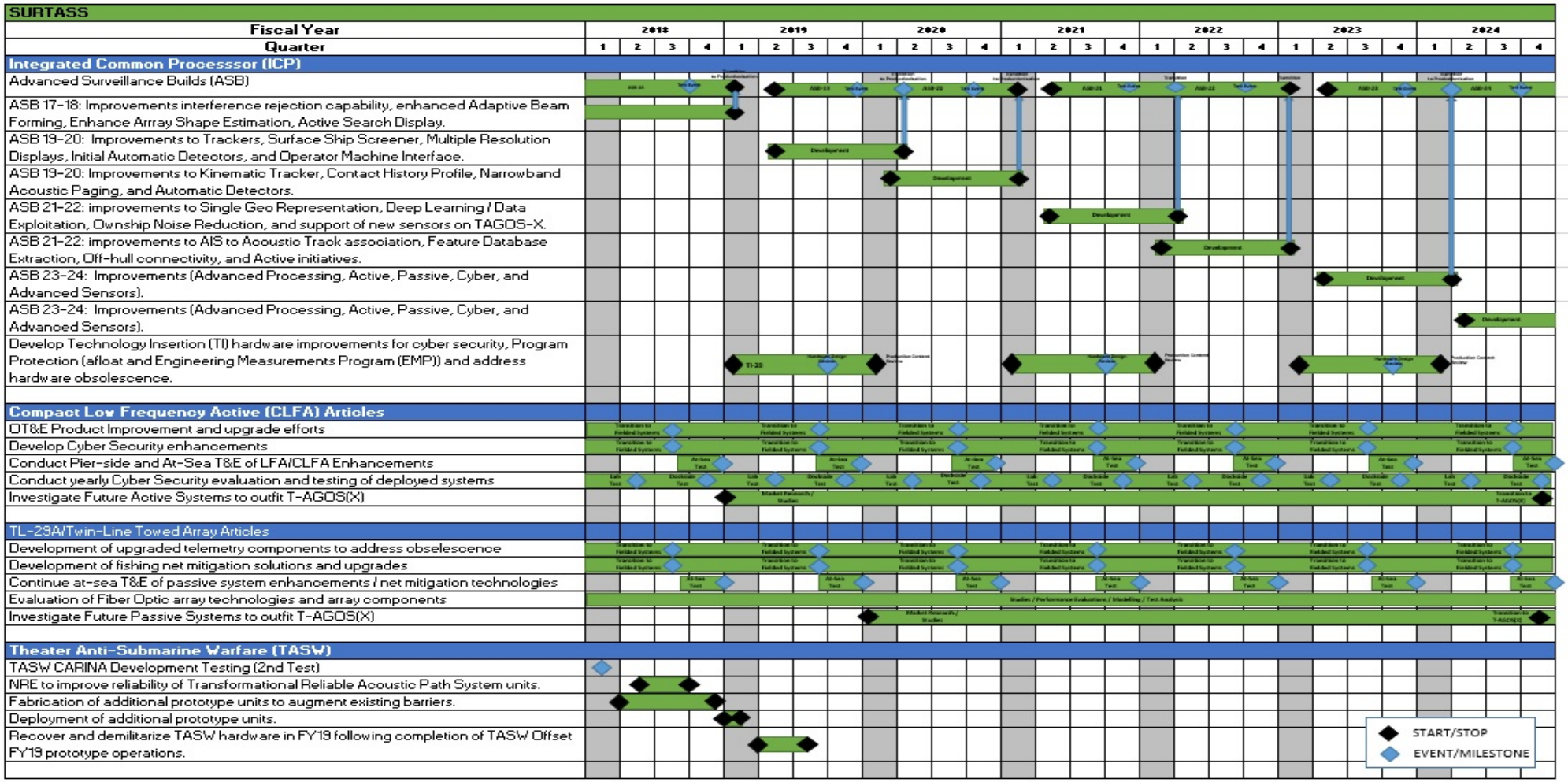


Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0766.L24				
TEST and EVALUATION MILESTONES: CARINA Testing: CARINA Development Testing (2nd Test)	1	2018	1	2018
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: Pier-side and At-Sea T&E of LFA/CLFA Enhancements (2018)	3	2018	4	2018
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: Pier-side and At-Sea T&E of LFA/CLFA Enhancements (2019)	3	2019	4	2019
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: Pier-side and At-Sea T&E of LFA/CLFA Enhancements (2022)	3	2022	4	2022
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: Pier-side and At-Sea T&E of LFA/CLFA Enhancements (2023)	3	2023	4	2023
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: Pier-side and At-Sea T&E of LFA/CLFA Enhancements (2024)	3	2024	4	2024
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Security Evaluation and Testing (Yearly)	1	2018	4	2024
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Lab Test (2018)	2	2018	2	2018
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Dockside Test (2018)	4	2018	4	2018
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Lab Test (2019)	2	2019	2	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
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**
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Dockside Test (2019)	4	2019	4	2019
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: LFA/CLFA Testing: LFA/CLFA Cyber Lab Test (2022)	2	2022	2	2022
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Dockside Test (2022)	4	2022	4	2022
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Lab Test (2023)	2	2023	2	2023
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Dockside Test (2023)	4	2023	4	2023
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Lab Test (2024)	2	2024	2	2024
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Dockside Test (2024)	4	2024	4	2024
TEST and EVALUATION MILESTONES: TL-29A Testing: TL-29A At-SEA T&E Passive System/Net Mitigation (2018)	3	2018	4	2018
TEST and EVALUATION MILESTONES: TL-29A Testing: TL-29A At-SEA T&E Passive System/Net Mitigation (2019)	3	2019	4	2019
TEST and EVALUATION MILESTONES: TL-29A Testing: TL-29A At-SEA T&E Passive System/Net Mitigation (2020)	3	2020	4	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
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**
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: TL-29A Testing: TL-29A At-SEA T&E Passive System/Net Mitigation (2023)	3	2023	4	2023
TEST and EVALUATION MILESTONES: TL-29A Testing: TL-29A At-SEA T&E Passive System/Net Mitigation (2024)	3	2024	4	2024
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-18 Test Event	4	2018	4	2018
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-19 Test Event	3	2019	3	2019
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-20 Test Event	4	2020	4	2020
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-21 Test Event	4	2021	4	2021
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-22 Test Event	4	2022	4	2022
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-23 Test Event	4	2023	4	2023
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-24 Test Event	4	2024	4	2024
DEVELOPMENT MILESTONES: LFA/CLFA Development: LFA/CLFA OT&E Product Improvement/Upgrade Efforts (Yearly)	1	2018	4	2024
DEVELOPMENT MILESTONES: LFA/CLFA Development: LFA/CLFA Cyber Security Enhancements (Yearly)	1	2018	4	2024
DEVELOPMENT MILESTONES: LFA/CLFA Development: LFA/CLFA Investigate Future Active Systems (T-AGOS(X))	1	2020	4	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
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: TL-29A Development: TL-29A Develop Telemetry Components (Upgrades) (Yearly)	1	2018	4	2024
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Develop Fishing Net Mitigation (Yearly)	1	2018	4	2024
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Fiber Optic Array Tech/ Component Evaluation (Yearly)	1	2018	4	2024
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Investigate Future Passive Systems (T-AGOS(X))	1	2020	4	2024
DEVELOPMENT MILESTONES: ICP Development: ASB-18 Development	2	2018	1	2019
DEVELOPMENT MILESTONES: ICP Development: ASB-19 Development	2	2019	2	2020
DEVELOPMENT MILESTONES: ICP Development: ASB-20 Development	1	2020	1	2021
DEVELOPMENT MILESTONES: ICP Development: ASB-21 Development	2	2021	2	2022
DEVELOPMENT MILESTONES: ICP Development: ASB-22 Development	4	2022	1	2023
DEVELOPMENT MILESTONES: ICP Development: ASB-23 Development	2	2023	1	2024
DEVELOPMENT MILESTONES: ICP Development: ASB-24 Development	2	2024	4	2024
PRODUCTION MILESTONES: TRAPS/CARINA Fielding: NRE - Reliability Improvement	2	2018	3	2018
PRODUCTION MILESTONES: TRAPS/CARINA Fielding: Addtional Prototype Fabrication	2	2018	4	2018
PRODUCTION MILESTONES: TRAPS/CARINA Fielding: Addtional Prototype Deployment	1	2019	1	2019
PRODUCTION MILESTONES: TRAPS/CARINA Fielding: TASW Hardware Recovery/ Demilitarize	2	2019	3	2019
PRODUCTION MILESTONES: ICP Technology Insertion: ICP Tech Insertion TI-20	1	2019	1	2020
PRODUCTION MILESTONES: ICP Technology Insertion: ICP Tech Insertion TI-22	1	2021	1	2022
PRODUCTION MILESTONES: ICP Technology Insertion: ICP Tech Insertion TI-24	1	2023	1	2024

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019
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 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
1768: *Ship Plan Development and Design*	0.000	0.000	0.000	20.000	-	20.000	17.500	10.000	0.000	0.000	0.000	47.500
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Project 1768 is a new start program.

A. Mission Description and Budget Item Justification

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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Ship Concept Development	0.000	0.000	20.000	0.000	20.000
Articles:	-	-	-	-	-
FY 2019 Plans: N/A					
FY 2020 Base Plans: - Begin developing Cable Laying Design, conduct Industry Studies and Request For Proposal (RFP) preparation. - Engineering team begins developing specification and technical data package (TDP). - Develop program documents to support Gate reviews and Interim Program Review (IPR).					
FY 2020 OCO Plans: N/A					
FY 2019 to FY 2020 Increase/Decrease Statement: FY 2020 funding request in the amount of $20M is the initial funding (NEW START) to begin research and design for a Cable Laying Ship.					
Accomplishments/Planned Programs Subtotals	0.000	0.000	20.000	0.000	20.000

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
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 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
• 5080/SCN: *T-ARC Cable Repair Ship*	0.000	0.000	0.000	-	0.000	0.000	305.000	0.000	0.000	0.000	305.000

Remarks

D. Acquisition Strategy

Detail Design and Construction Contract to be awarded in FY22.

E. Performance Metrics

Annual Program Review

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy		Date: March 2019
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 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Industry Studies	TBD	Various : Various	0.000	0.000		0.000		6.000	Aug 2020	-		6.000	18.000	24.000	-
Cable Laying Design	TBD	Various : Various	0.000	0.000		0.000		2.000	Jan 2020	-		2.000	1.000	3.000	-
Engineering Integration/ Design	TBD	Various : Various	0.000	0.000		0.000		5.000	Jan 2020	-		5.000	2.500	7.500	-
		Subtotal	0.000	0.000		0.000		13.000		-		13.000	21.500	34.500	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Requirements Definition	TBD	Various : Various	0.000	0.000		0.000		1.000	Jan 2020	-		1.000	0.000	1.000	-
Spec and TDP development	TBD	Various : Various	0.000	0.000		0.000		4.000	Jan 2020	-		4.000	3.000	7.000	-
Milestone Doc/RFP development	TBD	Various : Various	0.000	0.000		0.000		2.000	Jan 2020	-		2.000	3.000	5.000	-
		Subtotal	0.000	0.000		0.000		7.000		-		7.000	6.000	13.000	N/A

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		20.000		-		20.000	27.500	47.500	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
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*

T-ARC Design & Total Ship Integration

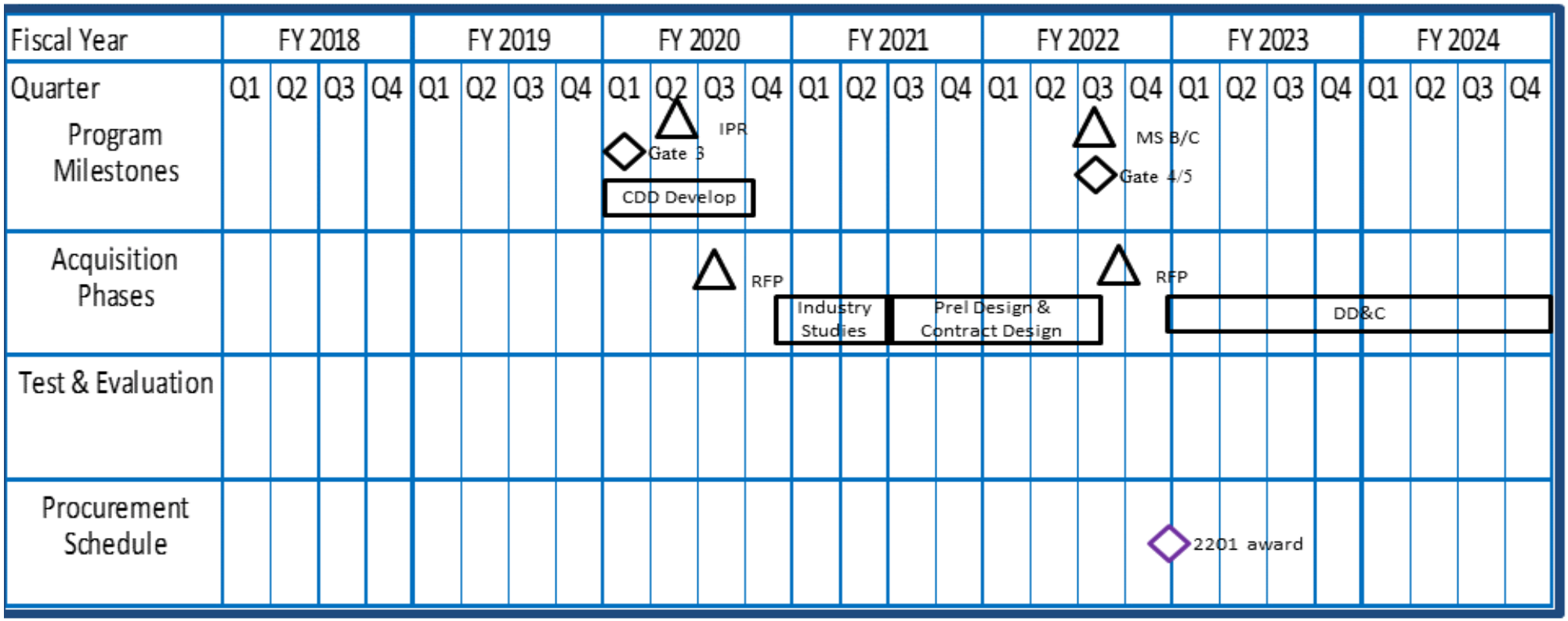


Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 1768 / *Ship Plan Development and Design*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1768				
CDD Development	1	2020	4	2020
Gate 3	1	2020	1	2020
Interim Program Review	2	2020	2	2020
Milestone B/C	3	2022	3	2022
Gate 4/5	3	2022	3	2022

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019
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 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
9999: *Congressional Adds*	0.000	0.000	35.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	35.000
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 EUROCOM/AFRICOM requirement for additional maritime intelligence, surveillance, and reconnaissance capabilities. PEO SUB, in conjunction with 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, and deployment. This is a Military Intelligence Program (MIP).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019
Congressional Add: Additional TRAPS Units	0.000	35.000
FY 2018 Accomplishments: N/A		
FY 2019 Plans: - Refurbish/repair TASW Offset operational prototypes - Conducted non-recurring engineering to increase prototype reliability - Initiate Deployable Family of Systems (DFoS) tailored Deep Water Passive (DWP) acquisition documentation and contract planning. - Acquire fourth lot of TRAPS (DWP Spiral 1) nodes - Conduct technology risk reduction for DFoS subsystems		
Congressional Adds Subtotals	0.000	35.000

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: DWP Low Rate Initial Production (LRIP) (15 Units)
FY 2019: Software Risk Reduction
FY 2019: C4I Risk Reduction

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 9999 / *Congressional Adds*

E. Performance Metrics

TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
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 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	WR	SSC Pacific : CA	0.000	0.000		2.461	May 2019	0.000		-		0.000	0.000	2.461	-
TASW Fielding	WR	NUWC Newport : RI	0.000	0.000		4.100	Feb 2019	0.000		-		0.000	0.000	4.100	-
TASW Fielding	C/CPFF	Leidos : MS	0.000	0.000		24.349	May 2019	0.000		-		0.000	0.000	24.349	-
TASW Fielding	C/CPFF	APL/JHU : MD	0.000	0.000		0.500	Mar 2019	0.000		-		0.000	0.000	0.500	-
TASW Fielding	C/CPFF	Proteq : VA	0.000	0.000		2.400	Jan 2019	0.000		-		0.000	0.000	2.400	-
TASW Fielding	WR	Navy Research Lab : DC	0.000	0.000		0.300	Feb 2019	0.000		-		0.000	0.000	0.300	-
TASW Fielding	C/CPFF	Sandia National Lab : NM	0.000	0.000		0.300	Mar 2019	0.000		-		0.000	0.000	0.300	-
		Subtotal	0.000	0.000		34.410		0.000		-		0.000	0.000	34.410	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	WR	Navy Oceanographic Office : MS	0.000	0.000		0.150	Feb 2019	0.000		-		0.000	0.000	0.150	-
		Subtotal	0.000	0.000		0.150		0.000		-		0.000	0.000	0.150	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	WR	Navy Oceanographic Office : MS	0.000	0.000		0.025	Aug 2019	0.000		-		0.000	0.000	0.025	-
		Subtotal	0.000	0.000		0.025		0.000		-		0.000	0.000	0.025	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
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 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	C/CPFF	BAH : VA	0.000	0.000		0.415	Jan 2019	0.000		-		0.000	0.000	0.415	-
		Subtotal	0.000	0.000		0.415		0.000		-		0.000	0.000	0.415	N/A

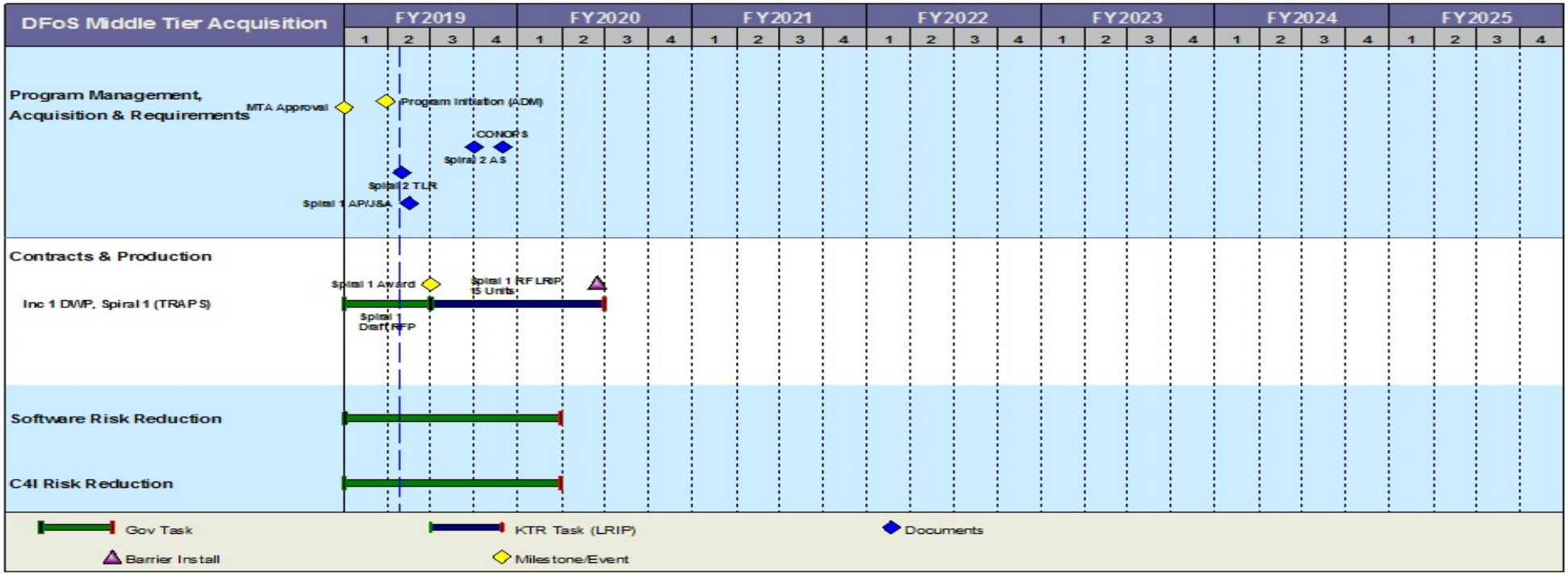
	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		35.000		0.000		-		0.000	0.000	35.000	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 9999 / *Congressional Adds*

UNCLASSIFIED

TASW Offset Schedule



Acquisition Decision Memorandum (ADM)
Acquisition Plan (AP)
Acquisition Strategy (AS)
Concept of Operations (CONOPS)
Deep Water Passive (DWP)
Information Technology Development Strategy (ITDS)
Justification and Approval (J&A)
Low Rate Initial Production (LRIP)
Middle Tier Acquisition (MTA)
Request For Proposal (RFP)
Top-Level Requirements (TLR)
Transformational Reliable Acoustic Path System (TRAPS)

Status Date: 20190129

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
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: Acquisition Documentation: DWP Spiral 1 Contract Award	3	2019	3	2019
Production Milestones: Low Rate Initial Production (LRIP): Low Rate Initial Production	3	2019	3	2020
Production Milestones: Software Risk Reduction: Software Risk Reduction	1	2019	2	2020
Production Milestones: C4I Risk Reduction: C4I Risk Reduction	1	2019	2	2020