Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy											Date: February 2020	
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 2019**	**FY 2020**	**FY 2021 Base**	**FY 2021 OCO**	**FY 2021 Total**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**Cost To Complete**	**Total Cost**
Total Program Element	417.898	68.326	103.382	102.975	-	102.975	93.561	86.381	87.178	88.899	Continuing	Continuing
0344: *Deployable Surveillance Systems*	0.000	0.000	8.500	26.853	-	26.853	25.098	24.385	24.867	25.362	Continuing	Continuing
0766: *IUSS Detect/Classif System*	417.898	34.560	59.882	64.631	-	64.631	61.472	61.004	61.318	62.544	Continuing	Continuing
1768: *Ship Plan Development and Design*	0.000	0.000	20.000	11.491	-	11.491	6.991	0.992	0.993	0.993	Continuing	Continuing
9999: *Congressional Adds*	0.000	33.766	15.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	48.766

A. Mission Description and Budget Item Justification

The FY 2021 funding request was reduced by $2.230 million to account for the availability of prior year execution balances.

Project 0344 funds the Deployable Surveillance Systems (DSS) 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. The FY21 increase supports the Middle Tier Acquisition (MTA) rapid fielding of the Deep Water Passive (DWP) Spiral 2 Low Rate Initial Production (LRIP) units. Specifically, this increase will fund the development, design, and then fabrication of nine (9) DWP Spiral 2 LRIP units including integration of the separately acquired DSS processing subsystem and the DSS Command, Control, Communications, Computers, and Intelligence (C4I) subsystem into the DWP Spiral 2 LRIP baseline.

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.

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 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.

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 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 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, deployment and non-recurring engineering. This is a Military Intelligence Program (MIP).

B. Program Change Summary ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	71.959	88.382	100.754	-	100.754
Current President's Budget	68.326	103.382	102.975	-	102.975
Total Adjustments	-3.633	15.000	2.221	-	2.221
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.399	0.000			
• SBIR/STTR Transfer	-1.234	0.000			
• Program Adjustments	0.000	0.000	2.170	-	2.170

Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy					Date: February 2020
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*			
• Rate/Misc Adjustments	0.000	0.000	0.051	-	0.051

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2019	FY 2020
Project: 9999: *Congressional Adds*		
Congressional Add: *Additional TRAPS Units*	33.766	0.000
Congressional Add: *Transformational reliable acoustic path systems*	0.000	15.000
Congressional Add Subtotals for Project: 9999	33.766	15.000
Congressional Add Totals for all Projects	33.766	15.000

Change Summary Explanation

Program Adjustments:

FY19 decrease of $3.633M: Reduction of $1.234M for SBIR/STTR/FTT Assessment; Project 0766.L24 was reduced by $1.400M to support the T-AGOS(X) Below Threshold Reprogramming to Project 3261 PE 0204313N and by $0.999M to support higher Navy priorities.

FY20 increase of $15M: Congressional Add of $15M for program increase to the Transformational Reliable Acoustic Path Systems.

FY21 increase of $2.221M: The FY 2021 funding request was reduced by $2.230 million to account for the availability of prior year execution balances; Project 1768 was reduced by $6.000M to properly realign funds in support of the TARC(X) Cable Ship Replacement; Project 0766.L24 was increased by $6.200M to fund the SURTASS-E Program of Record (4 units); and Project 0344 was increased by $4.200M to conduct non-recurring engineering to improve TRAPS reliability.

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy			Date: February 2020
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
0344: *Deployable Surveillance Systems*	0.000	0.000	8.500	26.853	-	26.853	25.098	24.385	24.867	25.362	Continuing	Continuing
Quantity of RDT&E Articles		-	-	9	-	9	10	-	-	-		

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 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, DARPA, and small business research efforts including processing and sensor technology. Follow-on increments will be focused on DWA and MPAS. The 2021 increase supports the Middle Tier Acquisition (MTA) rapid fielding of the Deep Water Passive (DWP) Spiral 2 Low Rate Initial Production (LRIP) units. Specifically, this increase will fund the development, design and then fabrication of nine (9) DWP Spiral 2 LRIP units including integration of the separately acquired DSS processing subsystem and the DSS Command, Control, Communications, Computers, and Intelligence (C4I) subsystem into the DWP Spiral 2 LRIP baseline.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Deployable Surveillance Systems (DSS)	0.000	8.500	26.853	0.000	26.853
Articles:	-	-	-	-	-
FY 2020 Plans: - 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). - Request for Proposal (RFP) for DWP Spiral 2 competitive contract.					
FY 2021 Base Plans: - Award DWP Spiral 2 competitive contract. - 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).					

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
- 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). - Program Readiness Review (PRR) of DWP Spiral 2. - Initiate DWP Spiral 2 Low Rate Initial Production (LRIP). Specifically, development, design and fabrication of nine (9) DWP Spiral 2 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 2 LRIP baseline. - Conduct risk reduction non-recurring engineering efforts associated with future DSS increment spirals including the feasibility of connecting 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. ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The 2021 increase supports the MTA Rapid Fielding of the DWP Spiral 2 Low Rate Initial Production (LRIP) and procurement, testing and evaluation of additional TRAPs units.					
Accomplishments/Planned Programs Subtotals	0.000	8.500	26.853	0.000	26.853

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

FY 2019: DWP ADM signed by PEO SUB 14Mar19
FY 2019: DWP Spiral 2 Acquisition Strategy (AS)
FY 2020: DWP Spiral 2 Rapid Fielding
FY 2020-2021: Engineering: DWP Risk Reduction
FY 2020-2021: Software Integration - Build 21
FY 2020-2021: C4I Integration Stage 1
FY 2021: Award DWP Spiral 2 Competitive Contract
FY 2021: DWP Spiral 2 Program Readiness Review (PRR)
FY 2021: Initiate DWP Spiral 2 Low Rate Initial Production (LRIP)

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *Deployable Surveillance Systems*

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
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 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DSS Processing	C/CPFF	APL/JHU : MD	0.000	0.000		0.440	Mar 2020	1.340	Mar 2021	-		1.340	Continuing	Continuing	Continuing
DSS Processing	C/CPFF	Leidos : MS	0.000	0.000		1.450	Jun 2020	0.475	Nov 2020	-		0.475	Continuing	Continuing	Continuing
DSS DWP Spiral 2 LRIP Units	C/CPFF	Various : Various	0.000	0.000		0.000		15.591	Jun 2021	-		15.591	Continuing	Continuing	Continuing
DSS Processing	C/CPFF	Sandia National Lab : NM	0.000	0.000		0.300	Feb 2020	0.000		-		0.000	0.000	0.300	Continuing
DSS Processing	C/CPFF	Proteq : VA	0.000	0.000		1.200	Feb 2020	0.000		-		0.000	0.000	1.200	Continuing
DSS Risk Reduction	Various	Various : Various	0.000	0.000		0.500	Feb 2020	0.000		-		0.000	0.000	0.500	Continuing
DSS Risk Reduction (NRE)	WR	NIWC PAC : CA	0.000	0.000		0.000		1.000	Nov 2020	-		1.000	Continuing	Continuing	Continuing
DSS Risk Reduction (NRE)	C/CPFF	Leidos : MS	0.000	0.000		0.000		3.174	Nov 2020	-		3.174	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		3.890		21.580		-		21.580	Continuing	Continuing	N/A

Remarks

The 2021 increase supports the Middle Tier Acquisition (MTA) rapid fielding of the Deep Water Passive (DWP) Spiral 2 Low Rate Initial Production(LRIP) units. Specifically, this increase will fund the development, design and then fabrication of nine (9) DWP Spiral 2 LRIP units including integration of the separately acquired DSS processing subsystem and the DSS Command, Control, Communications, Computers, and Intelligence (C4I) subsystem into the DWP Spiral 2 LRIP baseline.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DSS C4I Integration	WR	NIWC PAC : CA	0.000	0.000		1.900	Feb 2020	1.045	Nov 2020	-		1.045	Continuing	Continuing	Continuing
DSS C4I Integration	WR	NUWC Newport : RI	0.000	0.000		1.985	Feb 2020	2.546	Nov 2020	-		2.546	Continuing	Continuing	Continuing
DSS C4I Integration	WR	Navy Research Lab : DC	0.000	0.000		0.300	Feb 2020	0.300	Jan 2021	-		0.300	Continuing	Continuing	Continuing
DSS C4I Integration	WR	Various : Various	0.000	0.000		0.000		0.370	Nov 2020	-		0.370	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		4.185		4.261		-		4.261	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
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 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

The 2021 increase supports the Middle Tier Acquisition (MTA) rapid fielding of the Deep Water Passive (DWP) Spiral 2 Low Rate Initial Production(LRIP) units. Specifically, this increase will fund the development, design and then fabrication of nine (9) DWP Spiral 2 LRIP units including integration of the separately acquired DSS processing subsystem and the DSS Command, Control, Communications, Computers, and Intelligence (C4I) subsystem into the DWP Spiral 2 LRIP baseline.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DSS	C/CPFF	BAH : VA	0.000	0.000		0.425	Feb 2020	1.012	Jan 2021	-		1.012	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.425		1.012		-		1.012	Continuing	Continuing	N/A

Remarks

The 2021 increase supports the Middle Tier Acquisition (MTA) rapid fielding of the Deep Water Passive (DWP) Spiral 2 Low Rate Initial Production(LRIP) units. Specifically, this increase will fund the acquisition, contract, program management, financial, cost and engineering support for the development, design and then fabrication of nine (9) DWP Spiral 2 LRIP units including integration of the separately acquired DSS processing subsystem and the DSS Command, Control, Communications, Computers, and Intelligence (C4I) subsystem into the DWP Spiral 2 LRIP baseline.

	Prior Years	FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		8.500		26.853		-		26.853	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *Deployable Surveillance Systems*

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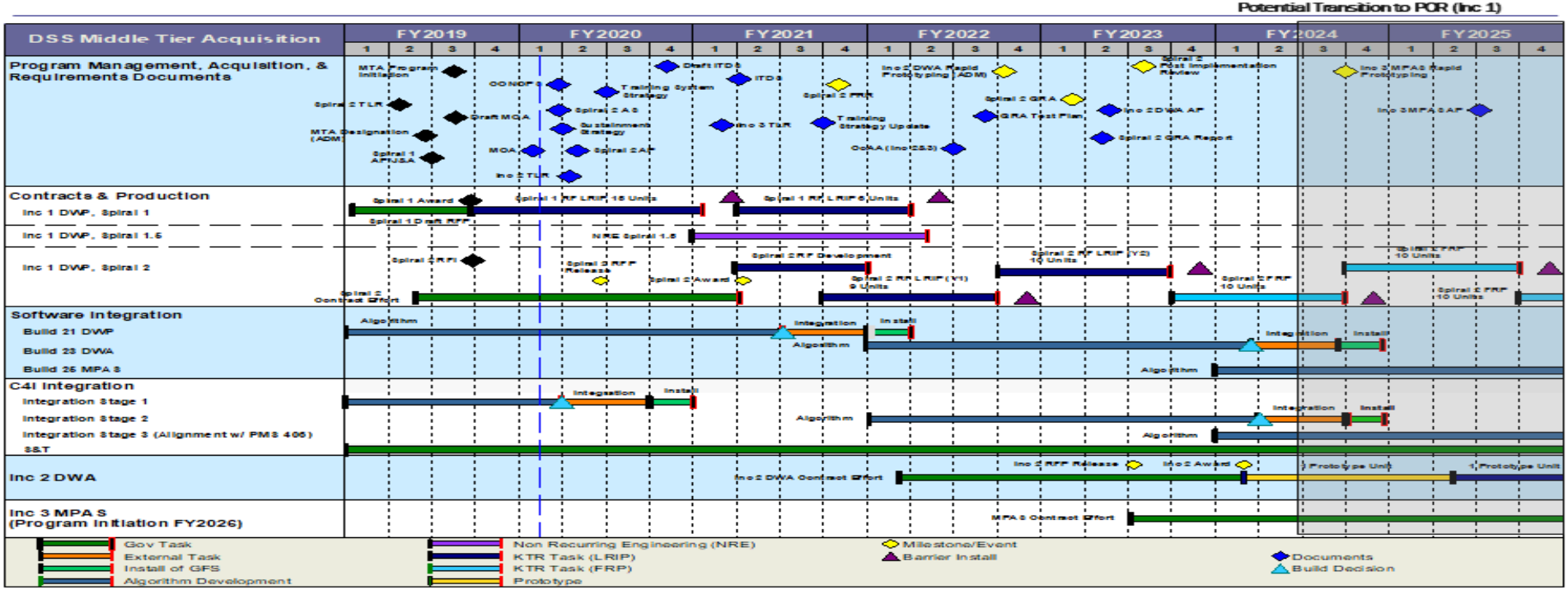
DSS Baseline Schedule

Potential Transition to POR (Inc 1)



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

Status Date: 20191218

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
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 2 QRA	1	2023	1	2023
Production Milestones: DWP Acquisition Documentation: DWP Spiral 2 Contract Award	2	2021	2	2021
Production Milestones: DSS Software Integration: Build 21 DWP Software Algorithm Development	1	2019	3	2021
Production Milestones: DSS Software Integration: Build 21 DWP Software Integration and Test	3	2021	4	2021
Production Milestones: DSS Software Integration: Build 21 DWP Software Installation	4	2021	1	2022
Production Milestones: DSS Software Integration: Build 23 DWA Software Algorithm Development	4	2021	1	2024
Production Milestones: DSS Software Integration: Build 23 DWA Software Integration and Test	1	2024	3	2024
Production Milestones: DSS Software Integration: Build 23 DWA Software Installation	3	2024	4	2024
Production Milestones: DSS Software Integration: Build 25 MPAS Algorithm Development	4	2023	4	2025
Production Milestones: C4I Integration: Integration Stage 1	1	2019	4	2020
Production Milestones: C4I Integration: Integration Stage 2	1	2022	4	2024
Production Milestones: C4I Integration: Integration Stage 3	4	2023	4	2025
Production Milestones: DWP Low Rate Initial Production (LRIP): DWP Spiral 2 LRIP (9 Units)	3	2021	4	2022
Production Milestones: DWP Low Rate Initial Production (LRIP): DWP Spiral 2 LRIP (10 (Units)	4	2022	3	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *Deployable Surveillance Systems*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Milestones: DWP Full Rate Production (FRP): DWP Spiral 2 FRP (13 Units)	3	2023	3	2024
Production Milestones: DWP Full Rate Production (FRP): DWP Spiral 2 FRP (13 Units)	3	2024	4	2025
Production Milestones: DWP Full Rate Production (FRP): DWP Spiral 2 FRP (13 Units)	3	2025	4	2025
Production Milestones: Rapid Prototyping: DWA Rapid Prototyping (ADM)	4	2022	4	2022
Production Milestones: DWA Prototype: DWA Prototype (1 Unit)	1	2024	2	2025
Production Milestones: DWA Prototype: DWA Prototype 2 (1 Unit)	2	2025	4	2025

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy			Date: February 2020
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
0766: *IUSS Detect/Classif System*	417.898	34.560	59.882	64.631	-	64.631	61.472	61.004	61.318	62.544	Continuing	Continuing
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.

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.

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 FY21 will support system improvements to the base SURTASS-E RPED prototype capability based

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766 / *IUSS Detect/Classif System*

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. 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.

D. 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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Integrated Common Processor (ICP)	11.251	18.481	15.521	0.000	15.521
Articles:	-	-	-	-	-
FY 2020 Plans: - Develop Advanced Surveillance Build (ASB-19) / ASB-20 processing capabilities including cyber security and program protection improvements. - 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, and Improvements in the area of automatic detection.					
FY 2021 Base 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					

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
by other means; Ownship noise reduction to improve MDL target recognition; Active initiatives; Improved cross-site/ship data sharing; 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 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY 2021 funding decrease in the amount of $2.960M is due to the completion of a backlog of cyber security and program protection improvements.					
Title: Compact Low Frequency Active (CLFA) ***Articles:*** ***FY 2020 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 2021 Base 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-AGOS (X). ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY 2021 funding decrease in the amount of $1M is due the T-AGOS(X) future active systems preparation peaking in FY20 providing design documentation to support the T-AGOS(X) RFP in FY 2021.	2.000 -	3.000 -	2.000 -	0.000 -	2.000 -
Title: TL-29A/Twin-Line ***Articles:***	2.000 -	3.000 -	2.000 -	0.000 -	2.000 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
FY 2020 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. - Investigate future passive systems to outfit T-AGOS(X). ***FY 2021 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 evaluation of future passive systems to outfit T-AGOS(X). ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY 2021 funding decrease in the amount of $1M is due the T-AGOS(X) future passive systems preparation peaking in FY20 providing design documentation to support the T-AGOS(X) RFP in FY 2021.					
Title: SURTASS-E	0.000	0.000	6.200	0.000	6.200
Articles:	-	-	-	-	-
FY 2020 Plans: N/A ***FY 2021 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
- 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 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY 2021 funding increase in the amount of $6.2M provides funding for Surveillance Towed Array Sensor System - Expeditionary (SURTASS-E) upgrades to support military crew (MILCREW) manning and for SURTASS-E OT&E recommended improvements. These upgrades are critical to addressing Fleet requirements for follow-on SURTASS-E production systems.					
Title: Classified Effort ***Articles:*** ***Description:*** The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2020 Plans:*** The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2021 Base Plans:*** The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FSS portion of 0766 is classified with details available at a higher classification level.	19.309 -	35.401 -	38.910 -	0.000 -	38.910 -
Accomplishments/Planned Programs Subtotals	34.560	59.882	64.631	0.000	64.631

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
• OPN/2237: *SURTASS*	56.873	21.923	63.838	-	63.838	69.487	25.968	68.589	63.066	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
FY 2021: ICP Tech Refresh. LFA/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 2021 Navy		Date: February 2020
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN : VA	45.522	3.593	Dec 2018	7.505	Dec 2019	6.214	Dec 2020	-		6.214	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	SS/CPFF	APL/JHU : MD	5.182	1.170	Apr 2019	1.586	Apr 2020	1.317	Apr 2021	-		1.317	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	ADAPTIVE Methods : VA	4.111	0.680	Dec 2018	0.922	Dec 2019	0.862	Dec 2020	-		0.862	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	SS/CPFF	ARL/UT : TX	0.000	0.000		0.000		0.530	Apr 2021	-		0.530	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	71.749	1.765	Dec 2018	2.393	Dec 2019	1.218	Dec 2020	-		1.218	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	NAVFAC EXWC : CA	2.947	0.413	Dec 2018	0.620	Dec 2019	0.433	Dec 2020	-		0.433	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	NIWC PAC : CA	1.951	0.197	Nov 2018	0.296	Nov 2019	0.205	Nov 2020	-		0.205	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	SS/CPFF	APL/JHU : MD	3.884	0.509	Apr 2019	0.796	Apr 2020	0.602	Apr 2021	-		0.602	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	SS/CPFF	APL/JHU : VA	5.227	0.927	Apr 2019	1.150	Apr 2020	0.576	Apr 2021	-		0.576	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	SS/CPFF	ADAPTIVE METHODS : VA	2.089	0.321	Dec 2018	0.482	Dec 2019	0.300	Dec 2020	-		0.300	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	C/CPFF	L-3 CSC : MD	0.000	0.000		0.000		0.204	Dec 2020	-		0.204	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	C/CPFF	Makai : HI	0.000	0.000		0.000		0.200	Mar 2021	-		0.200	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	10.556	0.448	Jan 2019	0.672	Jan 2020	0.000		-		0.000	0.000	11.676	-
SURTASS-E	SS/CPFF	APL/JHU : MD	0.000	0.000		0.000		2.080	Apr 2021	-		2.080	0.000	2.080	-
SURTASS-E	C/CPFF	Oceaneering : TX	0.000	0.000		0.000		0.930	Dec 2020	-		0.930	0.000	0.930	-
SURTASS-E	Various	Various : Not Specified	0.000	0.000		0.000		1.550	Feb 2021	-		1.550	0.000	1.550	-
FSS - Classified	Various	TBD : Not Specified	168.821	19.309	Nov 2018	35.401	Nov 2019	38.910	Nov 2020	-		38.910	Continuing	Continuing	Continuing
		Subtotal	322.039	29.332		51.823		56.131		-		56.131	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

The SURTASS-E $4.560M FY21 funding will support system improvements to the base SURTASS-E RPED prototype capability based on operational feedback and COTF OT&E findings (via a Quick Reaction Assessment including Cybersecurity testing), and to upgrade SURTASS-E RPED design to support military crew (MILCREW) manning in accordance with Fleet CONOPS requirements.
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 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	WR	NIWC PAC : CA	5.035	0.362	Nov 2018	0.491	Nov 2019	0.423	Nov 2020	-		0.423	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	APL/JHU : MD	4.679	1.007	Apr 2019	1.365	Apr 2020	1.177	Apr 2021	-		1.177	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	Lockheed Martin : VA	5.170	0.587	Dec 2018	1.205	Dec 2019	1.039	Dec 2020	-		1.039	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	SS/CPFF	MIT/LL : MS	0.000	0.000		0.000		0.137	Jun 2021	-		0.137	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	5.717	0.364	Jan 2019	0.494	Jan 2020	0.289	Jan 2021	-		0.289	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	NIWC PAC : CA	1.318	0.195	Nov 2018	0.292	Nov 2019	0.200	Nov 2020	-		0.200	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	C/CPFF	BAE : NH	0.000	0.000		0.000		0.140	Jan 2021	-		0.140	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	7.912	0.141	Jan 2019	0.176	Jan 2020	0.000		-		0.000	0.000	8.229	-
ARRAY IMPROVEMENTS	WR	NSWC CD : MD	0.000	0.000		0.000		0.140	Nov 2020	-		0.140	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	WR	NUWC NPT : RI	0.000	0.000		0.000		0.200	Nov 2020	-		0.200	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	1.947	0.197	Jan 2019	0.396	Jan 2020	0.000		-		0.000	0.000	2.540	-
SURTASS-E	WR	NAVFAC EXWC : CA	0.000	0.000		0.000		1.240	Dec 2020	-		1.240	0.000	1.240	Continuing

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	31.778	2.853		4.419		4.985		-		4.985	Continuing	Continuing	N/A

Remarks

The SURTASS-E $1.240M FY21 funding will support system improvements to the base SURTASS-E RPED prototype capability based on operational feedback and COTF OT&E findings (via a Quick Reaction Assessment including Cybersecurity testing), and to upgrade SURTASS-E RPED design to support military crew (MILCREW) manning in accordance with Fleet CONOPS requirements.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN : VA	6.033	0.492	Dec 2018	1.010	Dec 2019	0.965	Dec 2020	-		0.965	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	SS/CPFF	ARL/UT : TX	0.000	0.000		0.000		0.425	Apr 2021	-		0.425	0.000	0.425	-
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	9.306	0.487	Jan 2019	0.660	Jan 2020	0.150	Jan 2021	-		0.150	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	WR	OPTEVFOR : VA	0.742	0.100	Dec 2018	0.125	Dec 2019	0.200	Jan 2021	-		0.200	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	21.087	0.084	Jan 2019	0.126	Jan 2020	0.100	Apr 2021	-		0.100	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	SS/CPFF	APL/JHU : MD	1.360	0.235	Apr 2019	0.413	Apr 2020	0.270	Apr 2021	-		0.270	Continuing	Continuing	Continuing
SURTASS-E	WR	OPTEVOR : VA	0.000	0.000		0.000		0.400	Jan 2021	-		0.400	0.000	0.400	-
		Subtotal	38.528	1.398		2.334		2.510		-		2.510	Continuing	Continuing	N/A

Remarks

The SURTASS-E $400K FY21 funding will support system improvements to the base SURTASS-E RPED prototype capability based on operational feedback and COTF OT&E findings (via a Quick Reaction Assessment including Cybersecurity testing), and to upgrade SURTASS-E RPED design to support military crew (MILCREW) manning in accordance with Fleet CONOPS requirements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	Various	VARIOUS : Not Specified	8.690	0.745	Jan 2019	0.850	Jan 2020	0.775	Jan 2021	-		0.775	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/ CLFA/LFA	Various	VARIOUS : Not Specified	16.100	0.125	Jan 2019	0.156	Jan 2020	0.120	Jan 2021	-		0.120	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS : Not Specified	0.763	0.107	Jan 2019	0.300	Jan 2020	0.110	Jan 2021	-		0.110	Continuing	Continuing	Continuing
		Subtotal	25.553	0.977		1.306		1.005		-		1.005	Continuing	Continuing	N/A

	Prior Years	FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	417.898	34.560		59.882		64.631		-		64.631	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 2021 Navy		Date: February 2020
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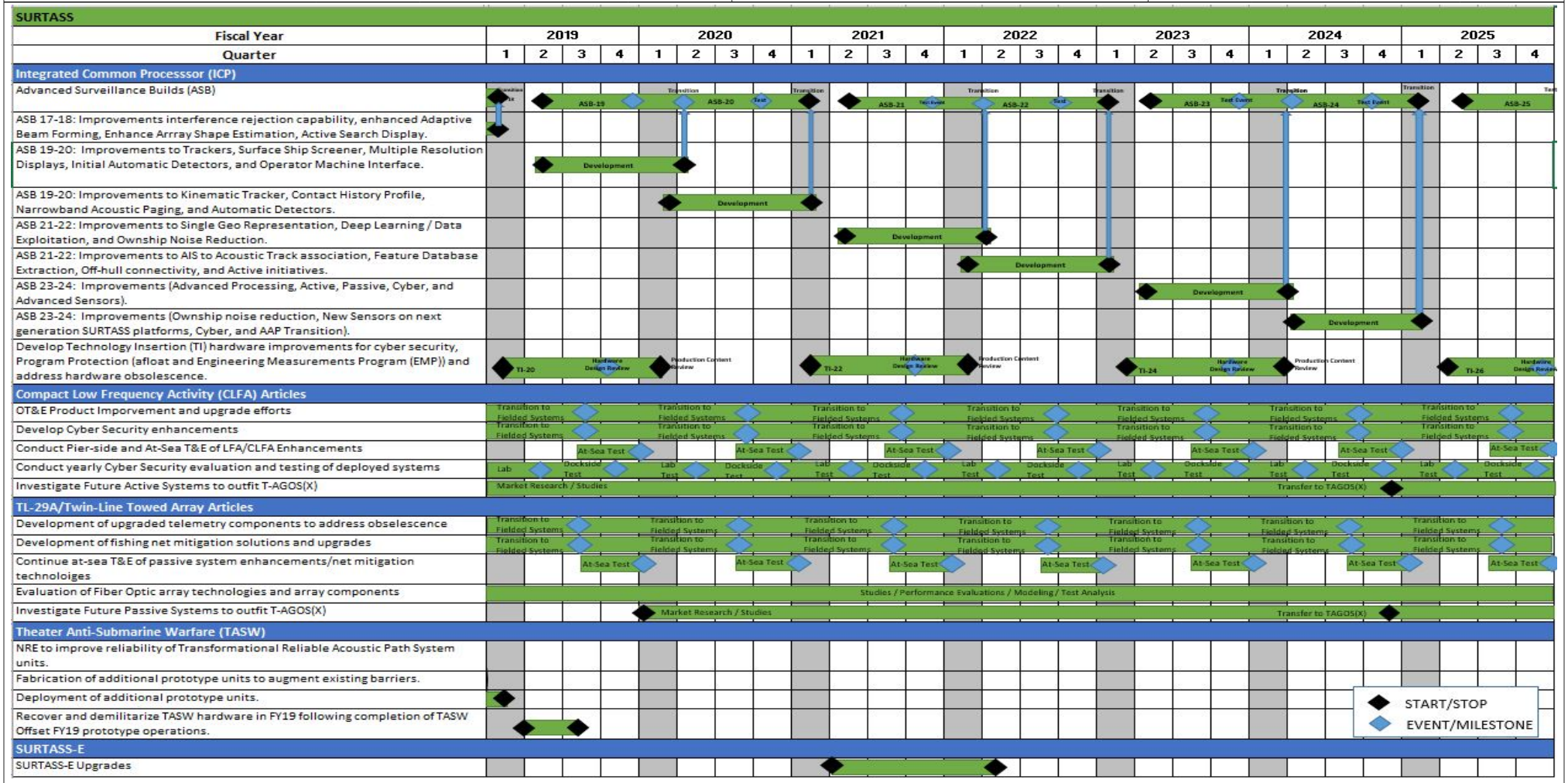

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
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Schedule Details

	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 (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: Pier-side and At-Sea T&E of LFA/CLFA Enhancements (2025)	3	2025	4	2025
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Security Evaluation and Testing (Yearly)	1	2019	4	2025
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Lab Test (2019)	2	2019	2	2019
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

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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
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: LFA/CLFA Testing: LFA/CLFA Cyber Lab Test (2025)	2	2025	2	2025
TEST and EVALUATION MILESTONES: LFA/CLFA Testing: LFA/CLFA Cyber Dockside Test (2025)	4	2025	4	2025
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
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

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
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 (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: TL-29A Testing: TL-29A At-SEA T&E Passive System/Net Mitigation (2025)	3	2025	4	2025
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-19 Test Event	4	2019	4	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
TEST and EVALUATION MILESTONES: ICP Advanced Surveillance Builds (ASB): ASB-25 Test Event	4	2025	4	2025
DEVELOPMENT MILESTONES: LFA/CLFA Development: LFA/CLFA OT&E Product Improvement/Upgrade Efforts (Yearly)	1	2019	4	2025
DEVELOPMENT MILESTONES: LFA/CLFA Development: LFA/CLFA Cyber Security Enhancements (Yearly)	1	2019	4	2025
DEVELOPMENT MILESTONES: LFA/CLFA Development: LFA/CLFA Investigate Future Active Systems (T-AGOS(X))	1	2020	4	2024
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Develop Telemetry Components (Upgrades) (Yearly)	1	2019	4	2025

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
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 Fishing Net Mitigation (Yearly)	1	2019	4	2025
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Fiber Optic Array Tech/ Component Evaluation (Yearly)	1	2019	4	2025
DEVELOPMENT MILESTONES: TL-29A Development: TL-29A Investigate Future Passive Systems (T-AGOS(X))	1	2020	4	2025
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	1	2022	1	2023
DEVELOPMENT MILESTONES: ICP Development: ASB-23 Development	2	2023	2	2024
DEVELOPMENT MILESTONES: ICP Development: ASB-24 Development	2	2024	4	2024
DEVELOPMENT MILESTONES: ICP Development: ASB-25 Development	2	2024	1	2025
DEVELOPMENT MILESTONES: SURTASS-E Upgrades: SURTASS-E Upgrades	2	2021	2	2022
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
PRODUCTION MILESTONES: ICP Technology Insertion: ICP Tech Insertion TI-25	2	2025	4	2025

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy			Date: February 2020
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
1768: *Ship Plan Development and Design*	0.000	0.000	20.000	11.491	-	11.491	6.991	0.992	0.993	0.993	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: T-ARC(X) Cable Ship Design and Total Ship Integration	0.000	20.000	11.491	0.000	11.491
Articles:	-	-	-	-	-
FY 2020 Plans: - Develop acquisition and program documentation to support gate reviews and Interim Program Review (IPR). - Begin indicative design/design integration and Test & Evaluation (T&E) planning. - Develop and release industry studies Request for Proposal (RFP). - Conduct source selection and award industry studies. - Develop specification and Technical Data Package (TDP). - Coordinate acquisition efforts with NAVSEA, MSC, PEO SHIPS, CNO, ASN RD&A, OSD, and Fleet.					
FY 2021 Base Plans: - Continue industry studies, design integration., and T&E planning. - Develop acquisition documentation to support Milestone B/C. - Develop RFP for detail design and construction. - Complete specification and TDP. - Continue to coordinate acquisition efforts with NAVSEA, MSC, PEO SHIPS, CNO, ASN RD&A, OSD, and Fleet.					
FY 2021 OCO Plans: N/A					
FY 2020 to FY 2021 Increase/Decrease Statement:					

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

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Project 1768 decreases in FY 21 from FY20 due to 70% of Industry Studies being conducted in FY20 and 30% in FY21 (ramping up in FY20 and starting to ramp down in FY21).					
Accomplishments/Planned Programs Subtotals	0.000	20.000	11.491	0.000	11.491

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
• SCN/5080: *TARC Cable Repair Ship*	0.000	0.000	0.000	-	0.000	0.000	471.900	0.000	0.000	35.000	506.900

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 2022 for a FY 2023 award.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
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 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Industry Studies	C/FFP	Various : Various	0.000	0.000		12.000	Aug 2020	3.000	Jan 2021	-		3.000	0.000	15.000	-
Engineering Integration/ Design	Various	Various : Various	0.000	0.000		1.718	Feb 2020	2.453	Jan 2021	-		2.453	3.376	7.547	-
		Subtotal	0.000	0.000		13.718		5.453		-		5.453	3.376	22.547	N/A

Remarks

FY21 increase from FY20 is due to ramp up in Engineering Integration/Design in order to meet DD&C award in FY23.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Requirements Definition	Various	Various : Various	0.000	0.000		1.040	Feb 2020	0.000		-		0.000	0.000	1.040	-
Spec and Technical Data Package Development	Various	Various : Various	0.000	0.000		1.764	Feb 2020	2.462	Jan 2021	-		2.462	0.000	4.226	-
Milestone Documentation/ RFP development	Various	Various : Various	0.000	0.000		1.877	Feb 2020	1.922	Jan 2021	-		1.922	2.022	5.821	-
Systems Integration	Various	Various : Various	0.000	0.000		1.174	Feb 2020	1.213	Jan 2021	-		1.213	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		5.855		5.597		-		5.597	Continuing	Continuing	N/A

Remarks

FY21 increase from FY20 Spec and Technical Data Package Development is due to ramp up in order to meet DD&C award in FY23.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	Various	Various : Various	0.000	0.000		0.427	Feb 2020	0.441	Jan 2021	-		0.441	11.691	12.559	-
		Subtotal	0.000	0.000		0.427		0.441		-		0.441	11.691	12.559	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy			Date: February 2020
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*	

	Prior Years	FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		20.000		11.491		-		11.491	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
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

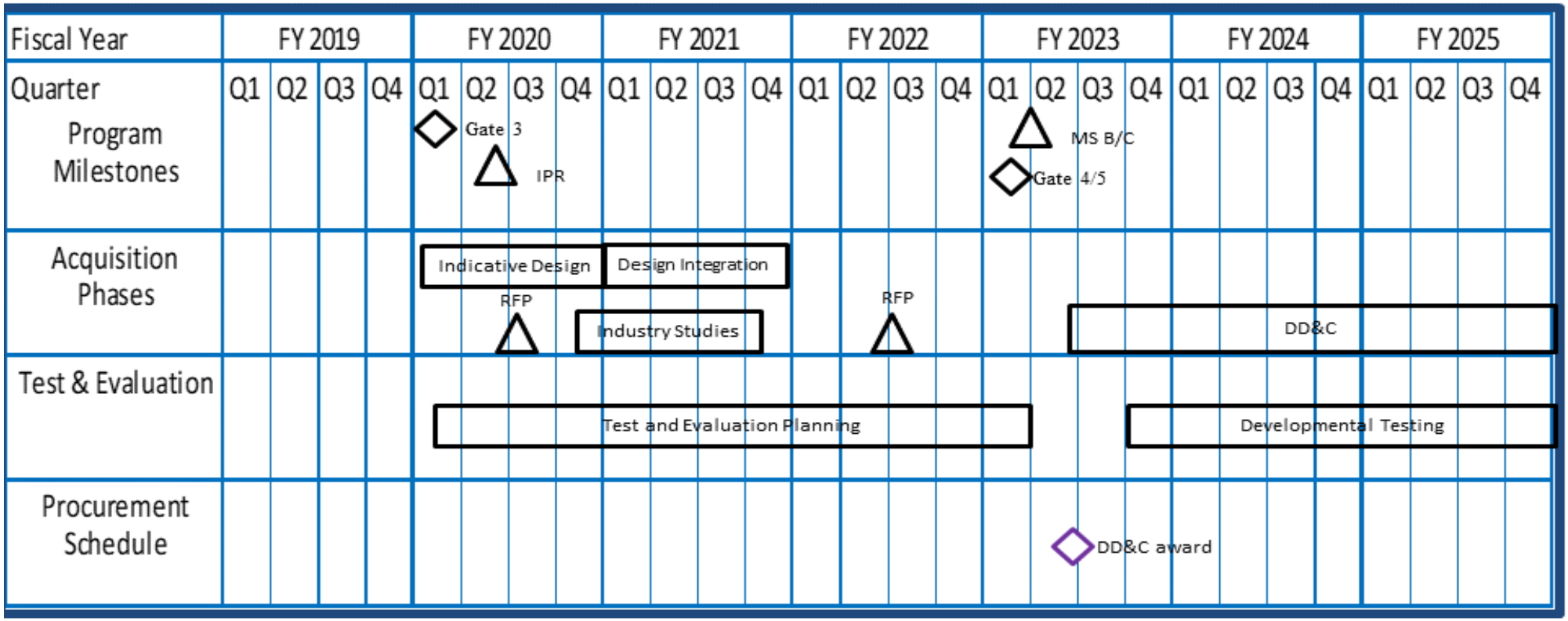

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 1768 / *Ship Plan Development and Design*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1768				
Gate 3	1	2020	1	2020
Indicative Design	1	2020	4	2021
Test and Evaluation Planning	1	2020	2	2022
Interim Program Review (IPR)	2	2020	2	2020
Industry Studies	4	2020	4	2021
Design Intregration	1	2021	4	2021
Release DD&C Request For Proposal	3	2022	3	2022
Gate 4/5	1	2023	1	2023
Milestone B/C	2	2023	2	2023
DD&C Award	2	2023	2	2023
Developmental Testing (DT)	4	2023	4	2025

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy			Date: February 2020
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	33.766	15.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	48.766
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, deployment and non-recurring engineering. This is a Military Intelligence Program (MIP).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020
Congressional Add: Additional TRAPS Units ***FY 2019 Accomplishments:*** - Refurbish/repair TASW Offset operational prototypes. - Conducted non-recurring engineering to increase prototype reliability. - Initiate Deployable Surveillance Systems (DSS) tailored Deep Water Passive (DWP) acquisition documentation and contract planning. - Acquire fourth lot of TRAPS (DWP Spiral 1) nodes. - Conduct technology risk reduction for DSS subsystems. ***FY 2020 Plans:*** N/A	33.766	0.000
Congressional Add: Transformational reliable acoustic path systems ***FY 2019 Accomplishments:*** N/A ***FY 2020 Plans:*** -Conduct non-recurring engineering to increase prototype reliability and technical performance. -Acquire and deploy fifth lot of TRAP (DWP Spiral 1) nodes. -Refurbish TRAPS operational prototypes.	0.000	15.000
Congressional Adds Subtotals	33.766	15.000

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 9999 / *Congressional Adds*

C. Other Program Funding Summary ($ in Millions)

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 Units (10 Units)

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
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 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	WR	NIWC Pacific : CA	0.000	2.145	Feb 2019	0.000		0.000		-		0.000	0.000	2.145	-
TASW Fielding	WR	NUWC Newport : RI	0.000	3.117	Mar 2019	0.000		0.000		-		0.000	0.000	3.117	-
TASW Fielding	C/CPFF	Leidos : MS	0.000	21.115	Jun 2019	11.803	Jul 2020	0.000		-		0.000	0.000	32.918	-
TASW Fielding	C/CPFF	APL/JHU : MD	0.000	1.460	Mar 2019	0.300	May 2020	0.000		-		0.000	0.000	1.760	-
TASW Fielding	C/CPFF	Proteq : VA	0.000	2.400	Feb 2019	0.000		0.000		-		0.000	0.000	2.400	-
TASW Fielding	WR	Navy Research Lab : DC	0.000	0.520	Apr 2019	0.000		0.000		-		0.000	0.000	0.520	-
TASW Fielding	C/CPFF	Sandia National Lab : NM	0.000	1.152	Jan 2020	0.000		0.000		-		0.000	0.000	1.152	-
		Subtotal	0.000	31.909		12.103		0.000		-		0.000	0.000	44.012	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	WR	Navy Oceanographic Office : MS	0.000	0.150	Mar 2019	0.000		0.000		-		0.000	0.000	0.150	-
TASW Fielding	WR	NUWC Keyport : WA	0.000	0.000		2.450	Apr 2020	0.000		-		0.000	0.000	2.450	-
		Subtotal	0.000	0.150		2.450		0.000		-		0.000	0.000	2.600	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	WR	Navy Oceanographic Office : MS	0.000	0.025	Aug 2019	0.000		0.000		-		0.000	0.000	0.025	-
		Subtotal	0.000	0.025		0.000		0.000		-		0.000	0.000	0.025	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
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 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TASW Fielding	C/CPFF	BAH : VA	0.000	1.682	Jun 2019	0.447	Jun 2020	0.000		-		0.000	0.000	2.129	-
		Subtotal	0.000	1.682		0.447		0.000		-		0.000	0.000	2.129	N/A

	Prior Years	FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	33.766		15.000		0.000		-		0.000	0.000	48.766	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 9999 / *Congressional Adds*

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy

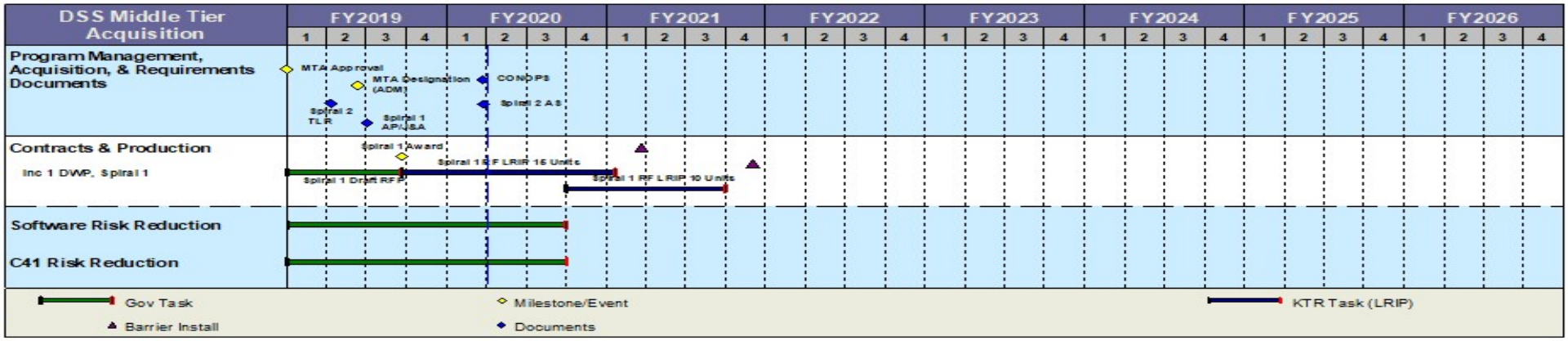

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 9999 / *Congressional Adds*

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 (15 Units)	3	2019	1	2021
Production Milestones: Low Rate Initial Production (LRIP): Low Rate Initial Production (10 Units)	4	2020	3	2021
Production Milestones: Software Risk Reduction: Software Risk Reduction	1	2019	3	2020
Production Milestones: C4I Risk Reduction: C4I Risk Reduction	1	2019	3	2020