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 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604218N *I Air/Ocean Equipment Engineering*							
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	65.364	15.212	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	80.576
2343: *Tactical METOC Applications*	0.000	9.073	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.073
2345: *Fleet METOC Equipment*	65.364	0.648	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	66.012
2363: *Remote Sensing Capability Development*	0.000	5.491	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.491

Note

FY19 funding control for Tactical METOC Applications (2343) and Remote Sensing Capability Development (2363) was moved from Program Element (PE) 0603207N AIR/OCEAN TACTICAL APPLICATIONS to PE 0604218N AIR/OCEAN EQUIPMENT ENGINEERING as a result of a Budget Activity (BA) reclassification.

FY20 and out funding control for the following projects has been realigned out of PE 0604218N into PE 0604231N as part of Program Element Consolidation: Project 2343 Tactical METOC Applications, Project 2345 Fleet METOC Equipment, and Project 2363 Remote Sensing Capability Development.

A. Mission Description and Budget Item Justification

The Air/Ocean Equipment Engineering (AOEE) Program Element provides new capabilities to support naval combat forces. This program engineers and developmentally tests organic and remote sensors, communication interfaces, and processing and display devices. This equipment is engineered to measure, ingest, store, process, distribute and display conditions of the physical environment that are essential to the optimum employment and performance of naval warfare systems. AOEE also engineers capabilities for shipboard and shore-based tactical systems. A major area of focus for the AOEE program is to provide the engineering development of specialized equipment and measurement capabilities that are intended to monitor specific conditions of the physical environment in hostile and remote areas in response to fleet demand signals for increased sensing capability and capacity to support battlespace collections and prediction on short to intermediate time scales. With such capabilities, the war fighters' situational awareness of the operational effects of the physical environment are made more certain. Efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of program insertion.

Major emphasis areas include the Naval Integrated Tactical Environmental System Next Generation (NITES-Next)program, the Remote Sensing Capability Development (RSCD) project, Littoral Battlespace Sensors - Unmanned Undersea Vehicles (LBS-UUV) and the Environmental Satellite Receiver Processor (ESRP) program (comprised of ESRP AFLOAT (formerly AN/SMQ-11)and ESRP ASHORE (formerly AN/FMQ-17) systems).

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 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604218N *I Air/Ocean Equipment Engineering*		
B. Program Change Summary ($ in Millions)	**FY 2019**	**FY 2020**	**FY 2021 Base**	**FY 2021 OCO**	**FY 2021 Total**
Previous President's Budget	15.582	0.000	0.000	-	0.000
Current President's Budget	15.212	0.000	0.000	-	0.000
Total Adjustments	-0.370	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.052	0.000			
• SBIR/STTR Transfer	-0.318	0.000			
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

FY19 to FY20 and FY20 to FY21 change summaries are available under PE 0604231N for Projects 2343 Tactical METOC Applications, 2345 Fleet METOC Equipment and 2363 Remote Sensing Capability Development.

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2343 / *Tactical METOC Applications*	

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
2343: *Tactical METOC Applications*	0.000	9.073	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.073
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

FY19 funding control for Fleet Meteorology & Oceanography (METOC) Equipment (2343) was moved from Program Element (PE) 0603207N AIR/OCEAN TACTICAL APPLICATIONS to PE 0604218N AIR/OCEAN EQUIPMENT ENGINEERING as a result of a Budget Activity (BA) reclassification.

FY20 funding control and beyond has been realigned out of PE 0604218N Project 2343, into PE 0604231N Project 2343 as part of RDTEN PE Consolidation.

A. Mission Description and Budget Item Justification

The Tactical Meteorology and Oceanography (METOC) Applications Project provides cyber secure operational effects decision aid capabilities for Navy and Marine Corps warfighters in the context of Joint Operations in a net-centric environment. This project funds the agile software development of the Naval Integrated Tactical Environmental System Next Generation (NITES-Next) program of record. NITES-Next program identifies and transitions state-of-the-art decision support software technologies from the government and commercial industry's technology base, and then demonstrates and validates these capabilities before fielding. These software decision support tools provide platform, sensor, communications, and weapon systems performance assessments for warfighters in terms of their littoral and deep-strike battlespace environments. These assessments allow mission planners and warfighters, from Unit to Theater level, to optimize their sensor employment on airborne, surface, and subsurface platforms in support of Naval Composite Warfare mission areas including Undersea Warfare (USW), Anti-Submarine Warfare (ASW), Mine Warfare (MIW), Amphibious Warfare (AMW), Anti-Surface Warfare (ASUW), Anti-Air Warfare (AAW), Strike Warfare (STW), Expeditionary Warfare (EXW), Electronic Warfare (EW), Information Operations (IO), Intelligence Operations (INT), Non-Combat Operations (NCO), Command, Control, Communication (CCC), and Naval Special Warfare (NSW). Performance assessments leading to improvements in operational and tactical control are conducted through a two-tiered approach: 1) Meteorological and Oceanographic (METOC) Decision Aids and, 2) Operational Effects Decision Aids (OEDAs). METOC Decision Aides consist of a series of analysis tools which characterize the physical environment conditions of the battlespace based on the best set of physical environment data available at the time (i.e., some combination of historical and/or real-time (or near real-time), and numerically modeled forecast data). OEDAs use the METOC Decision Aide information by fusing it with relevant, often-classified, sensor and target data to predict how weapons and sensor systems will perform. Performance results are displayed in tabular and graphic formats integrated into net-centric visualization tools for use by mission planners, and combat/weapon system operators to develop localization plans, USW/AAW/ ASUW screens, STW profiles, and AMW ingress and egress points. METOC Decision Aides and OEDAs use data obtained through direct interfaces to Navy combat systems. Cyber secure capabilities are a current emphasis required to characterize and/or predict sensor and weapons system performance in the highly complex littoral environments in support of regional conflict scenarios. It addresses multi-warfare areas, particularly shallow water ASW, NSW, and missile and air defense/strike capabilities.

Funding supports development and integration efforts for Meteorological and Oceanographic (METOC) systems to generate and collect METOC data and fuse multiple intelligence inputs to more robustly characterize and predict tactical atmospheric and oceanographic conditions. This integrated METOC picture will support real-time

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2343 / *Tactical METOC Applications*

battlespace awareness of propagation conditions affecting signals across the electromagnetic spectrum. METOC data will be fused with other intelligence data and automatically provided to shipboard combat systems to inform kinetic and non-kinetic fires.

FY21 funding has been realigned to PE 0604231N Project 2343 as part of PE Consolidation.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Naval Integrated Tactical Environmental System Next Generation (NITES-Next)	9.073	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2020 Plans: FY20 funding has been realigned to PE 0604231N Project 2343 as part of PE Consolidation.					
FY 2021 Base Plans: FY21 funding has been realigned to PE 0604231N Project 2343 as part of PE Consolidation.					
FY 2021 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	9.073	0.000	0.000	0.000	0.000

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/4226: *Meteorological Equipment*	21.437	12.407	15.192	-	15.192	14.069	14.492	13.901	13.770	Continuing	Continuing
• RDTEN/0604231N/2343: *Tactical METOC Applications*	0.000	12.198	12.119	-	12.119	12.635	13.907	14.193	14.478	Continuing	Continuing

Remarks

D. Acquisition Strategy

The NITES-Next program acquisition, management and contracting strategies are to support the Tactical Meteorology & Oceanography (METOC) Applications project to continue the development of state-of-the-art software capabilities that provide sensor, communication, and weapon system performance assessment capabilities for open ocean and littoral operating environments. The Department of the Navy (DoN) maintains management oversight of the NITES-Next program's acquisition and contracting strategies. The Department of the Navy (DoN) requirements for the NITES-Next program's acquisition and contracting strategies are based on approved Joint Capabilities Integration and Development System (JCIDS) documentation.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2343 / *Tactical METOC Applications*	

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
NITES-Next	WR	NIWC Pacific : San Diego, CA	0.000	2.259	Nov 2018	0.000		0.000		-		0.000	0.000	2.259	-
NITES-Next	C/FP	SAIC : Virginia	0.000	1.798	Dec 2018	0.000		0.000		-		0.000	0.000	1.798	-
NITES-Next	WR	NIWC Atlantic : South Carolina	0.000	0.080	Oct 2018	0.000		0.000		-		0.000	0.000	0.080	-
NITES-Next / Engineering	C/IDIQ	ASAT : Gilbert, AZ	0.000	3.201	May 2019	0.000		0.000		-		0.000	0.000	3.201	-
Product Development Prior Year	Various	Various : Various	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
		Subtotal	0.000	7.338		0.000		0.000		-		0.000	0.000	7.338	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
NITES-Next	C/FP	SAIC : Virginia	0.000	1.054	Dec 2018	0.000		0.000		-		0.000	0.000	1.054	-
		Subtotal	0.000	1.054		0.000		0.000		-		0.000	0.000	1.054	N/A

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
NITES-Next	WR	NIWC Pacific : San Diego, CA	0.000	0.259	Nov 2018	0.000		0.000		-		0.000	0.000	0.259	-
NITES-Next	C/FP	BAH : San Diego, CA	0.000	0.422	Dec 2018	0.000		0.000		-		0.000	0.000	0.422	-
		Subtotal	0.000	0.681		0.000		0.000		-		0.000	0.000	0.681	N/A

	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
Project Cost Totals	0.000	9.073		0.000		0.000		-		0.000	0.000	9.073	N/A

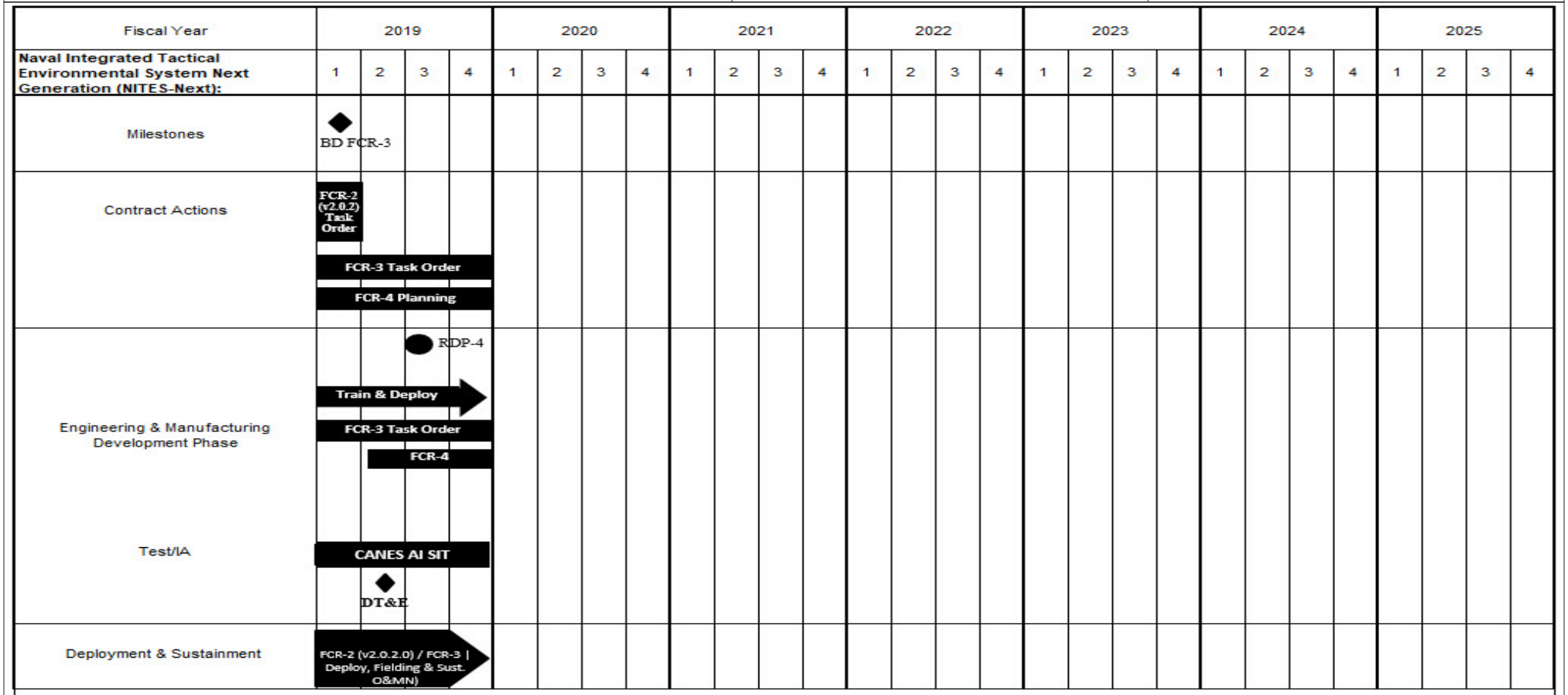
Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2343 / *Tactical METOC Applications*	

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

FY20 and FY21 cost data is provided under PE 0604231N Project 2343. Prior year costs are reflected in PE 0603207N Project 2343, where they were executed before the FY19 Budget Activity reclassification.

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2343 / *Tactical METOC Applications*



NOTE: Efforts in FY20 and out are funded under PE 0604231N Proj 2343

Acronyms: RDP = Requirements Definition Package. FCR = Fleet Capability Release. TRA = Technology Readiness Assessment. BD = Build Decision. FD = Fielding Decision. ATO = Authority to Operate. Field Technical Reivew = FTR. DT&E = Developmental Test & Evaluation. CANES = Consolidated Afloat Networks and Enterprise Services. SIT = System Integration Test AI = Application Integration.

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2343 / *Tactical METOC Applications*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Naval Integrated Tactical Environmental System Next Generation (NITES-Next)				
Milestones: BD FCR-3	1	2019	1	2019
Contract Actions: FCR-2 Task Order (v2.0.2)	1	2019	1	2019
Contract Actions: FCR-3 Task Order	1	2019	4	2019
Contract Actions: FCR-4 Planning	1	2019	4	2019
Engineering & Manufacturing Development Phase: Fleet Capability Release - 2 / Train Deploy	1	2019	4	2019
Engineering & Manufacturing Development Phase: Fleet Capability Release - 3	1	2019	4	2019
Engineering & Manufacturing Development Phase: Fleet Capability Release - 4	2	2019	4	2019
Engineering & Manufacturing Development Phase: Requirements Definition Package - 4	3	2019	3	2019
Test/IA: CANES AI SIT FCR-3	1	2019	4	2019
Test/IA: Developmental Test Fleet Capability Release - FCR V2.0.2.0	2	2019	2	2019
Deployment and Sustainment: Deployment, fielding and Sustainment (OMN)	1	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2345 / *Fleet METOC Equipment*	

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
2345: *Fleet METOC Equipment*	65.364	0.648	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	66.012
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Funding has been realigned out of PE 0604218N Project 2345, into PE 0604231N Project 2345 as part of RDTEN PE Consolidation starting in FY20.

A. Mission Description and Budget Item Justification

This project provides for the engineering and manufacturing development of sensors, communication interfaces, processing and display meteorological and oceanographic (METOC) equipment. This equipment is designed to provide future mission capabilities for war fighters to measure, ingest, store, process, distribute and display METOC parameters and derived products.

This project also exploits new government off-the-shelf/commercial off-the-shelf technologies, tactical sensors and web enablement for the Navy's computer-based tactical shipboard and shore capability used to predict and assess the operational effects of the physical environment on the performance of platforms, weapons and sensor systems. This project includes development of warfare specific mission planning modules to support unmanned systems with integration of data from environmental and tactical sensor systems, model forecast information and Geospatial Information & Services Databases. This project also supports development of autonomous environmental sensing systems for situational awareness and tactical decision aid/mission planner support, as well as iridium and advanced satellite communication integration in METOC sensor, vehicle control and mission planning systems that will be required to achieve Chief of Naval Operation objectives for information dominance and decision superiority.

Major emphasis areas include the Meteorological and Oceanographic Future Mission Capabilities (METOC FMC) project, Littoral Battlespace Sensors - Unmanned Undersea Vehicles (LBS-UUV) and the Environmental Satellite Receiver Processor (ESRP) program (comprised of ESRP AFLOAT (formerly AN/SMQ-11)and ESRP ASHORE (formerly AN/FMQ-17) systems).

FY21 funding has been realigned to PE 0604231N Project 2345 as part of PE Consolidation.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV)	0.345	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2020 Plans: FY20 funding has been realigned to PE 0604231N Project 2345 as part of PE Consolidation.					
FY 2021 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
FY21 funding has been realigned to PE 0604231N Project 2345 as part of PE Consolidation. ***FY 2021 OCO Plans:*** N/A					
Title: Environmental Satellite Receiver Processor (ESRP) ***Articles:*** ***FY 2020 Plans:*** FY20 funding has been realigned to PE 0604231N Project 2345 as part of PE Consolidation. ***FY 2021 Base Plans:*** FY21 funding has been realigned to PE 0604231N Project 2345 as part of PE Consolidation. ***FY 2021 OCO Plans:*** N/A	0.303 -	0.000 -	0.000 -	0.000 -	0.000 -
Accomplishments/Planned Programs Subtotals	0.648	0.000	0.000	0.000	0.000

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/4226: *Meteorological Equipment*	21.437	12.407	15.192	-	15.192	14.069	14.492	13.901	13.770	Continuing	Continuing
• RDTEN/0603207N/2341: *METOC Data Acquisition*	3.338	7.062	6.131	-	6.131	6.192	7.874	8.034	8.197	Continuing	Continuing
• RDTEN/0603207N/2342: *METOC Data Assimilation and MOD*	17.301	21.168	22.371	-	22.371	22.400	22.025	22.463	22.913	Continuing	Continuing
• RDTEN/0604231N/2345: *Fleet METOC Equipment*	0.000	0.148	2.619	-	2.619	0.577	0.487	0.496	0.506	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to Hydroid, Teledyne Brown and Naval Research Laboratory.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2345 / *Fleet METOC Equipment*	

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
Prioir Year METOC Requirements	Various	Various : Various	56.709	0.000		0.000		0.000		-		0.000	0.000	56.709	-
Littoral Battlespace Sensing - Gliders	C/CPIF	Teledyne Brown Engineering : Alabama	1.606	0.132	Mar 2019	0.000		0.000		-		0.000	0.000	1.738	Continuing
Littoral Battlespace Sensing - Autonomous Undersea Vehicle	C/FP	Hydroid : Pocasset, MA	1.969	0.213	Mar 2019	0.000		0.000		-		0.000	0.000	2.182	Continuing
METOC ESRP	SS/CPFF	RAYTHEON : Indianapolis	1.937	0.303	Feb 2019	0.000		0.000		-		0.000	0.000	2.240	Continuing
		Subtotal	62.221	0.648		0.000		0.000		-		0.000	0.000	62.869	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
Prioir Year METOC Requirements	Various	Various : Various	2.079	0.000		0.000		0.000		-		0.000	0.000	2.079	-
		Subtotal	2.079	0.000		0.000		0.000		-		0.000	0.000	2.079	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
Prioir Year METOC Requirements	Various	Various : Various	0.664	0.000		0.000		0.000		-		0.000	0.000	0.664	-
		Subtotal	0.664	0.000		0.000		0.000		-		0.000	0.000	0.664	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*

Management Services ($ in Millions)

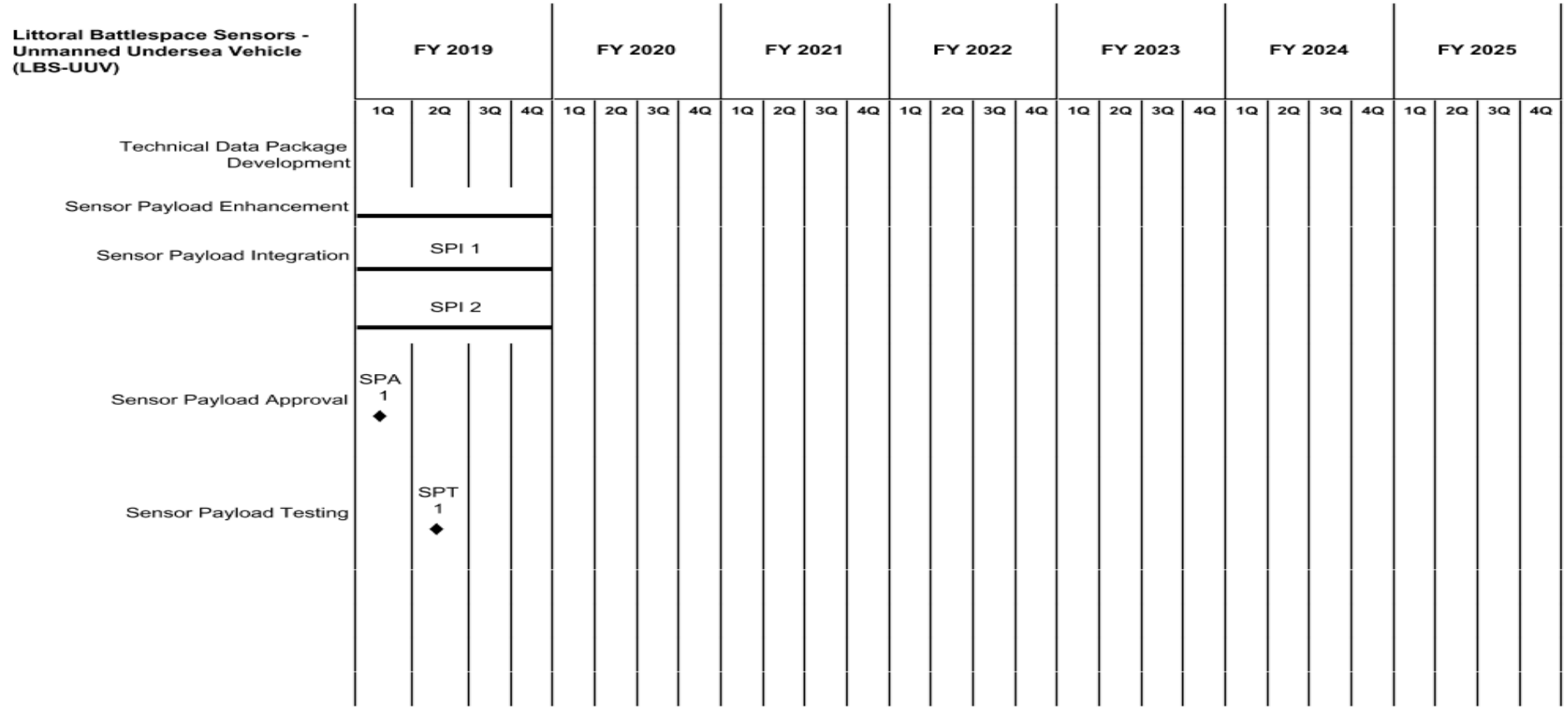
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services	C/CPFF	SAIC : Virginia	0.400	0.000		0.000		0.000		-		0.000	0.000	0.400	-
		Subtotal	0.400	0.000		0.000		0.000		-		0.000	0.000	0.400	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	65.364	0.648		0.000		0.000		-		0.000	0.000	66.012	N/A

Remarks

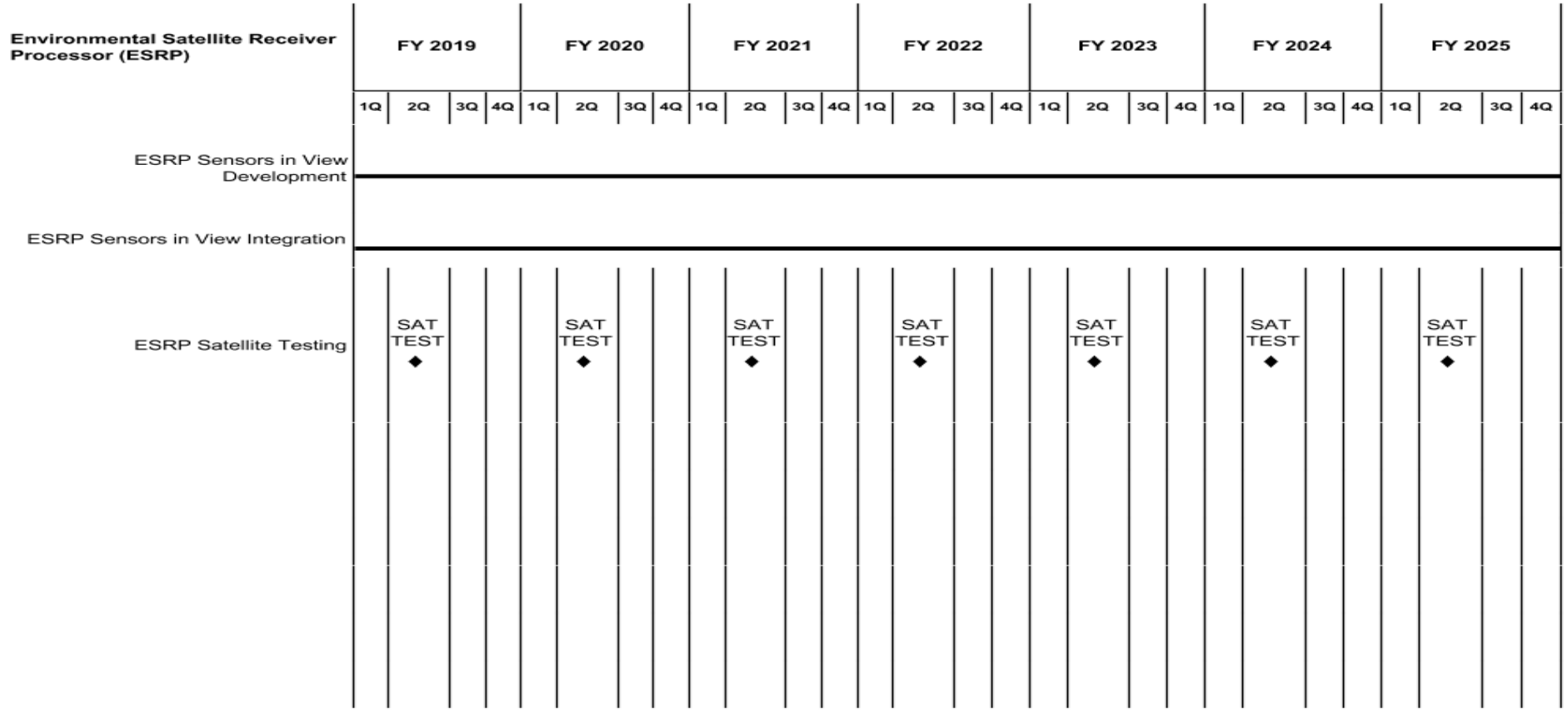
FY20 and FY21 cost data is provided under PE 0604231N Project 2345.

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*



2021DON - 0604218N - 2345 NOTE: FY20 funding and out are funded under PE 0604231N , Project 2345

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*



2021DON - 0604218N - 2345

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV)				
Sensor Payload Enhancement:	1	2019	4	2019
Sensor Payload Integration: Sensor Payload Integration1	1	2019	4	2019
Sensor Payload Integration: Sensor Payload Integration 2	1	2019	4	2019
Sensor Payload Approval: Sensor Payload Approval 1	1	2019	1	2019
Sensor Payload Testing: Sensor Payload Testing 1	2	2019	2	2019
Environmental Satellite Receiver Processor (ESRP)				
ESRP Sensors in View Development: ESRP Sensors in View Development	1	2019	4	2025
ESRP Sensors in View Integration: ESRP Sensors in View Integration	1	2019	4	2025
ESRP Satellite Testing: ESRP Satellite Testing (FY19)	2	2019	2	2019
ESRP Satellite Testing: ESRP Satellite Testing (FY20)	2	2020	2	2020
ESRP Satellite Testing: ESRP Satellite Testing (FY21)	2	2021	2	2021
ESRP Satellite Testing: ESRP Satellite Testing (FY22)	2	2022	2	2022
ESRP Satellite Testing: ESRP Satellite Testing (FY23)	2	2023	2	2023
ESRP Satellite Testing: ESRP Satellite Testing (FY24)	2	2024	2	2024
ESRP Satellite Testing: ESRP Satellite Testing (FY25)	2	2025	2	2025

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2363 / *Remote Sensing Capability Development*	

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
2363: *Remote Sensing Capability Development*	0.000	5.491	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.491
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

FY19 funding control for Remote Sensing Capability Development RSCD (x2363) was moved from Program Element (PE) 0603207N AIR/OCEAN TACTICAL APPLICATIONS to PE 0604218N AIR/OCEAN EQUIPMENT ENGINEERING as a result of a Budget Activity (BA) reclassification.

FY20 funding control and beyond has been realigned out of PE 0604218N Project 2363, into PE 0604231N Project 2363 as part of RDTEN PE Consolidation.

A. Mission Description and Budget Item Justification

RSCD characterizes the ocean environment using a variety of remote sensing techniques that provide that capability to discriminate atypical oceanographic phenomena from the natural environment that will greatly improve undersea dominance capabilities. The Naval Oceanographic Office will employ oceanographic data to refine and extend environmental characterization of the phenomena and disseminate data to the Fleet. Efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of program insertion.

FY21 funding has been realigned to PE 0604231N Project 2363 as part of PE Consolidation.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Remote Sensing Capability Development	5.491	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2020 Plans: FY20 funding has been realigned to PE 0604231N Project 2363 as part of PE Consolidation.					
FY 2021 Base Plans: FY21 funding has been realigned to PE 0604231N Project 2363 as part of PE Consolidation.					
FY 2021 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	5.491	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2363 / *Remote Sensing Capability Development*

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
• RDTEN/0604231N/2363: *Remote Sensing Capability Development*	0.000	5.651	7.519	-	7.519	4.927	4.808	4.911	5.011	Continuing	Continuing

Remarks

D. Acquisition Strategy

Remote Sensing Capability Development (RSCD) is being managed as a Program Executive Office (PEO) Project, via a Project Definition Document (PDD) construct for acquisition rigor and oversight.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2363 / *Remote Sensing Capability Development*	

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
Remote Sensing Capability Development Data Collection	C/FFP	SAIC : Virginia	0.000	0.816	Feb 2019	0.000		0.000		-		0.000	0.000	0.816	-
Remote Sensing Capability Development Data Collection	WR	NRL : Washington, DC	0.000	1.118	Nov 2018	0.000		0.000		-		0.000	0.000	1.118	-
Remote Sensing Capability Development Data Collection	C/FFP	Cubic : San Diego, CA	0.000	1.410	Apr 2019	0.000		0.000		-		0.000	0.000	1.410	-
		Subtotal	0.000	3.344		0.000		0.000		-		0.000	0.000	3.344	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
Remote Sensing Capability Development Data Collection	WR	NIWC PAC : San Diego, CA	0.000	0.888	Mar 2019	0.000		0.000		-		0.000	0.000	0.888	-
		Subtotal	0.000	0.888		0.000		0.000		-		0.000	0.000	0.888	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
Remote Sensing Capability Development Data Collection	WR	NIWC PAC : San Diego, CA	0.000	1.259	Mar 2019	0.000		0.000		-		0.000	0.000	1.259	-
		Subtotal	0.000	1.259		0.000		0.000		-		0.000	0.000	1.259	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2363 / *Remote Sensing Capability Development*	

Management Services ($ in Millions)

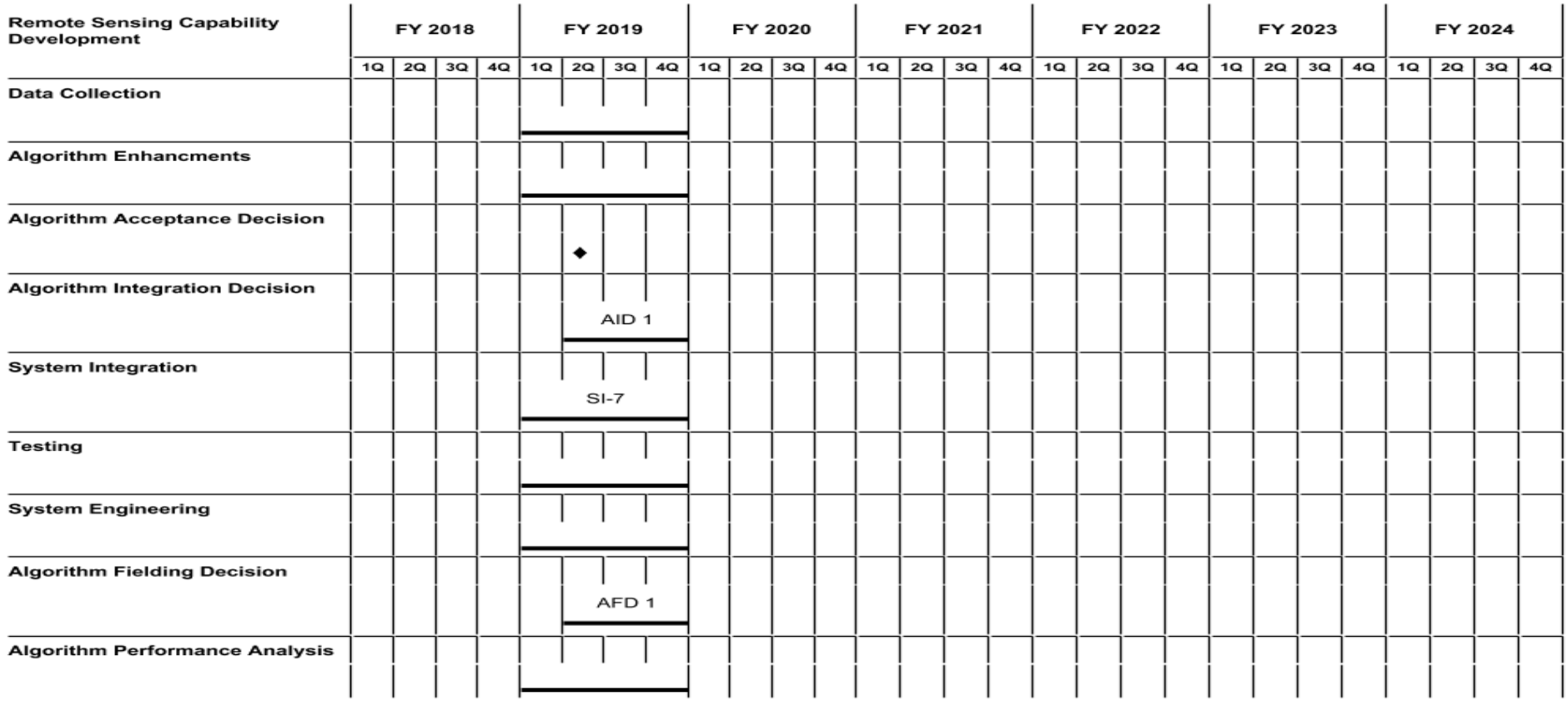
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Remote Sensing Capability Development Data Collection	C/FP	BAH : Virginia	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
		Subtotal	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	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	5.491		0.000		0.000		-		0.000	0.000	5.491	N/A

Remarks

FY20 and FY21 cost data is provided under PE 0604231N Project 2363. Prior year costs are reflected in PE 0603207N Project 2363.L39, where they were executed before the FY19 Budget Activity reclassification.

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2363 / *Remote Sensing Capability Development*



2020PB - 0604218N - 2363

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2363 / *Remote Sensing Capability Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Remote Sensing Capability Development				
Data Collection:	1	2019	4	2019
Algorithm Enhancments:	1	2019	4	2019
Algorithm Acceptance Decision:	2	2019	2	2019
Algorithm Integration Decision: Algorithm Integration Decision 1	2	2019	4	2019
System Integration: System Integration 7	1	2019	4	2019
Testing:	1	2019	4	2019
System Engineering:	1	2019	4	2019
Algorithm Fielding Decision: Algorithm Fielding Decision 1	2	2019	4	2019
Algorithm Performance Analysis:	1	2019	4	2019