Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy												Date: March 2019
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305242M *I (U)Unmanned Aerial Systems (UAS) Payloads*							
COST ($ in Millions)	**Prior Years**	**FY 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
Total Program Element	20.427	18.392	5.956	3.704	-	3.704	6.044	5.869	5.415	5.524	Continuing	Continuing
2052: *RQ-21 Payload Development*	0.000	0.000	5.956	3.704	-	3.704	6.044	5.869	5.415	5.524	Continuing	Continuing
5501: *Signals Intelligence (SIGINT)*	9.626	5.562	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.188
5502: *Synthetic Aperture Radar/ Motion Target Indicator (SAR/ MTI)*	10.801	5.801	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	16.602
5504: *Wide Area Persistent Surveillance (TNWAS)*	0.000	7.029	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.029

A. Mission Description and Budget Item Justification

The Unmanned Aerial System (UAS) Payload Program will provide an agile and responsive means to integrate and support the development and fielding of Intelligence, Surveillance, and Reconnaissance (ISR) and non-ISR payloads as well as data Processing, Exploitation, and Dissemination (PED) and Communication capabilities for all UAS's within the Marine Corps. These component, sensor, and PED capabilities will alleviate Marine Corps ISR mission needs and gaps caused by rapidly changing missions, environments, threats, and technologies as well as enhance the effectiveness and operational utility of the UAS.

The UAS Payload program element will increase the effectiveness and versatility of the Marine Corps UAS currently planned to have Electro-Optic(EO) / Infrared (IR) collection, communications relay, and automatic identification capabilities. Additional payload capabilities include Communication, Automation, Signals Intelligence Collection (SIGINT), Electronic Warfare Support (ES), Radar Imagery, Moving Target Indicator (MTI) Imagery, Wide Area and Hyperspectral Imagery collection, Artificial Intelligence (AI), Combined Multiple Intelligence (MULTI-INT), Light Detection and Ranging (LiDAR), Weapons Integration, and related PED. These advanced capabilities and payloads provide the Marine Expeditionary Force and subordinate commands (divisions and regiments) with dedicated, organic capabilities that facilitate the six functions of Marine Corps Aviation and the Marine Corps ISR Enterprise across the range of military operations.

Note: In FY19, PE 0305242M/PU 5501,5502, and 5504 were consolidated to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy					Date: March 2019
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0305242M *I (U)Unmanned Aerial Systems (UAS) Payloads*		
B. Program Change Summary ($ in Millions)	**FY 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**
Previous President's Budget	18.578	5.956	5.955	-	5.955
Current President's Budget	18.392	5.956	3.704	-	3.704
Total Adjustments	-0.186	0.000	-2.251	-	-2.251
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.186	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-2.252	-	-2.252
• Rate/Misc Adjustments	0.000	0.000	0.001	-	0.001

Change Summary Explanation

The FY 2020 funding request was reduced by $1.400 million to account for the availability of prior year execution balances.

FY 2020 program decrease in Multiple Intelligence (Multi-INT) product development efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy												Date: March 2019
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*				Project (Number/Name) 2052 / *RQ-21 Payload Development*			
COST ($ in Millions)	**Prior Years**	**FY 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
2052: *RQ-21 Payload Development*	0.000	0.000	5.956	3.704	-	3.704	6.044	5.869	5.415	5.524	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Unmanned Aerial System (UAS) Payload Program will provide an agile and responsive means to integrate and support the development and fielding of Intelligence, Surveillance, and Reconnaissance (ISR) and non-ISR payloads as well as data Processing, Exploitation, and Dissemination (PED) and Communication capabilities for all UAS's within the Marine Corps. These component, sensor, and PED capabilities will alleviate Marine Corps ISR mission needs and gaps caused by rapidly changing missions, environments, threats, and technologies as well as enhance the effectiveness and operational utility of the UAS.

The UAS Payload program element will increase the effectiveness and versatility of the Marine Corps UAS currently planned to have Electro-Optic(EO) / Infrared (IR) collection, communications relay, and automatic identification capabilities. Additional payload capabilities include Communication, Automation, Signals Intelligence Collection (SIGINT), Electronic Warfare Support (ES), Radar Imagery, Moving Target Indicator (MTI) Imagery, Wide Area and Hyperspectral Imagery collection, Artificial Intelligence (AI), Combined Multiple Intelligence (MULTI-INT), Light Detection and Ranging (LiDAR), Weapons Integration, and related PED. These advanced capabilities and payloads provide the Marine Expeditionary Force and subordinate commands (divisions and regiments) with dedicated, organic capabilities that facilitate the six functions of Marine Corps Aviation and the Marine Corps ISR Enterprise across the range of military operations.

SIGINT payloads will fill current capability gaps for the USMC ISR mission and are required as part of the USMC to locate, target, and exploit adversary Signals of Interest (SOI). The SIGINT payload capability leverages technologies previously developed and deployed by other Services and/or DoD laboratories to reduce cost and minimize schedule and will be able to cue other ISR sensors to specific target geolocations. This technology can effectively be adapted and applied to support Counter UAS (CUAS)

Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI) payload will fill current capability gaps for the USMC ISR mission and will allow USMC small tactical ISR assets to locate and track ground targets that cannot effectively be located or tracked with the current ground based or EO/IR airborne sensor technology under a wider range of atmospheric conditions and greater stand-off ranges. The SAR/MTI payload capability possesses a size, weight, and power form factor suitable for small tactical UAS leverages technologies previously developed and deployed by other Services and/or DoD laboratories to reduce cost and minimize schedule and will be able to cue other ISR sensors to specific target geolocations. This technology can effectively be adapted and applied to overland and maritime environments and can also support CUAS.

Wide Area Persistent Surveillance (WAS) payload will fill current capability gaps of USMC ISR mission and will allow USMC small tactical ISR assets the capability to improve battlefield awareness and the capability to assure access and hold at risk, as well as to enable power projection in environments that are not currently accessible by imaging over wide areas at very high resolution at substantial stand-off distances with full motion video access for up to five discrete boxes within the

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

total field of view selected by disadvantaged ground users. The current payload in development leverages technologies previously developed and deployed by other Services and/or DoD laboratories to reduce cost and minimize schedule and will be able to cue other ISR sensors to specific target geolocations.

Multiple Intelligence (Multi-INT) payload provides the integration of sensors operating in widely disparate modalities such as Communications Relay, SIGINT/ES, RADAR, and EO/IR, enabling the collection of synchronized data that maximizes the effective employment envelope by collectively decreasing uncertainties, such as geolocation accuracy, and simultaneously prosecuting multiple targets of interest and maximizing datalink capability. All sensors have performance limitations, critically in range, sensitivity, and resolution. The use of multiple single source sensors, or Multi-INT capability, overcomes the individual sensor limitations by increasing the collective performance, providing overlapping coverage, increased overall system reliability, and extension of capability, thereby yielding greater actionable intelligence. It will enable an increase in the confidence of target detection, a decrease in the time to arrive at positive identification of the target of interest, and the ability to utilize automation for sensor integration and control such as cross-cue and mission specific target identification. The USMC Marine Air-Ground Task Force (MAGTF) will be enabled to operate with an airborne ability to exploit asymmetric threats and prosecute targets and tactics across a varied range of environments and temporal periods.

Light Detection and Ranging (LiDAR) is the active electro optic illumination of an area with pulsed laser light and measurement of the reflected pulses with a sensor. LiDAR is a synoptic measurement, meaning that data is collected rapidly enough over a given area to eliminate any time related variations. The differences in laser return times and wavelengths can be used to make accurate, three dimensional representation of the targets, survey areas, or penetrable volumes. LiDAR will fill current capability gaps in permissive and non-permissive collection environments to provide high-resolution imaging and surveying of specific targets, earth and urban area topography and digital elevations, as well as near-shore bathymetry for use in warfighting and emergency response operations. LiDAR data can be critically useful in modeling and algorithmic applications, such as image classification and identification for automated Artificial Intelligence (AI) processing.

Artificial Intelligence (AI) and Automated Processing supports the rapid detection, tracking, and characterization in all ISR data types and provides actionable information for fusion and tracking exploitation systems and processes.

Processing, Exploitation, and Dissemination (PED) technologies enable minimization of the physical footprint of the UAS system with enhanced mission capabilities and the sharing and merging of data across multiple domains.

Note: In FY19, PE 0305242M/PU 5501,5502, and 5504 were consolidated to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Product Development	0.000	4.512	2.588	0.000	2.588
Articles:	-	-	-	-	-
FY 2019 Plans: -Complete development of WAS payload hardware and prototype. -Initiate development of a MULTI-INT SIGINT payload system.					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
-Initiate Government Engineering Technical Support, other Government Support, Contract Support Services, Program Management Support, and program related travel in support of the MULTI-INT SIGINT payload system. -Initiate SIGINT product upgrades. -Initiate SAR/MTI product upgrades. ***FY 2020 Base Plans:*** -Continue SIGINT product upgrades. -Continue SAR/MTI product upgrades. -Complete development of a MULTI-INT SIGINT payload system prototype. -Initiate integration efforts for MULTI-INT payload system. -Initiate WAS payload integration. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The FY 2020 funding request was decreased by $1.924 million due to reduced MULTI-INT product development efforts.					
Title: Support	0.000	0.846	0.600	0.000	0.600
Articles:	-	-	-	-	-
FY 2019 Plans: -Continue Government Engineering Technical Support, other Government Support, Contract Support Services, Program Management Support, and program related travel in support of payload systems. -Continue Integrated Logistics Support (ILS), training concept development and data management/ documentation. ***FY 2020 Base Plans:*** -Continue Government Engineering Technical Support, other Government Support, Contract Support Services, Program Management Support, and program related travel in support of the payload systems. -Continue Integrated Logistics Support (ILS), training concept development and data management/ documentation. ***FY 2020 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The FY 2020 funding request was decreased by $0.246 million due to completion of the ILS effort for SIGINT.					
Title: Management Services	0.000	0.295	0.016	0.000	0.016
Articles:	-	-	-	-	-
FY 2019 Plans: -Continue development of MULTI-INT and WAS payload system architecture. -Initiate/Complete documenting Field User Evaluation (FUE) reports. ***FY 2020 Base Plans:*** -Complete development of a Tactical EO/IR SIGINT Integrated for Targeting (TEISIT) payload system. -Complete development of MULTI-INT and WAS payload system architecture. -Initiate travel in support of various payload development, integration and test efforts. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The FY 2020 funding request decreased due to completion of TEISIT development support.					
Title: Test and Evaluation	0.000	0.303	0.500	0.000	0.500
Articles:	-	-	-	-	-
FY 2019 Plans: -Continue developmental payload testing. ***FY 2020 Base Plans:*** -Continue developmental payload testing. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The FY 2020 funding request was increased by $0.197 million due to increased test events required for MULTI-INT and WAS capabilities.					
Accomplishments/Planned Programs Subtotals	0.000	5.956	3.704	0.000	3.704

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• PMC/4787: *UAS Payloads*	22.008	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.479
• APN/0444: *STUASLO*	9.980	46.931	43.819	7.921	51.740	33.939	31.350	30.421	29.107	0.000	426.922

Remarks

In FY2019, partial funding from BLI 4787 was transferred to BLI 0444 as part of a Blue in Support of Green (BISOG) transition.

D. Acquisition Strategy

The payload development process will follow a Hybrid Acquisition Model of Incremental/Spiral approach while leveraging work conducted by various government laboratories such as the Office of Naval Research (ONR), Defense Advanced Research Projects Agency (DARPA), Air Force Research Lab (AFRL), Joint Improvised Threat Defeat Organization (JIDO) under the Defense Threat Reduction Agency (DTRA), the National Security Agency (NSA), and the National Geospatial Agency (NGA). All payloads will follow similar acquisition paths but on independent time schedules. These acquisition paths will be defined by three (3) phases, each marked by a decision gate. Phase I establishes the preliminary integration design concept and conduct of technology demonstration with validation of a Technology Readiness Level (TRL) 5/6 as the decision gate for Phase II. Phase II establishes full payload-to-Unmanned Aircraft System (UAS) integration during which time all necessary program management, engineering, fabrication, test, and evaluation activities are conducted to achieve Test Article Fabrication, System Test and Evaluation, Integrated Logistics Support (ILS) and Training Concept development, and Data Management and Documentation. Validation of funding, derived requirements, project risks, cost and schedule estimates, contracting strategy and achievement of TRL 7 or higher constitute the decision gate for Phase III. Phase III is program of record transition which supports a production decision based on the exit criteria from Phase II.

E. Performance Metrics

Validation of funding, derived requirements, project risks, cost and schedule estimates, contracting strategy, achievement of a technology readiness level of TRL 7 or higher for Program of Record (PoR) transition, and attainment of USMC Initial Operational Capability (IOC) in accordance with the approved schedule.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 2052 / *RQ-21 Payload Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	MIPR	Various : Various	0.000	0.000		4.017	Dec 2018	2.088	Apr 2020	-		2.088	Continuing	Continuing	Continuing
Government Engineering	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.495	Dec 2018	0.500	Dec 2019	-		0.500	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		4.512		2.588		-		2.588	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	0.000	0.000		0.846	Dec 2018	0.600	Dec 2019	-		0.600	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.846		0.600		-		0.600	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.303	Dec 2018	0.500	Dec 2019	-		0.500	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.303		0.500		-		0.500	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.244	Feb 2019	0.000		-		0.000	0.000	0.244	-
Travel	Various	Various : Various	0.000	0.000		0.051	Oct 2018	0.016	Dec 2019	-		0.016	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.295		0.016		-		0.016	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 2052 / *RQ-21 Payload Development*	

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		5.956		3.704		-		3.704	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

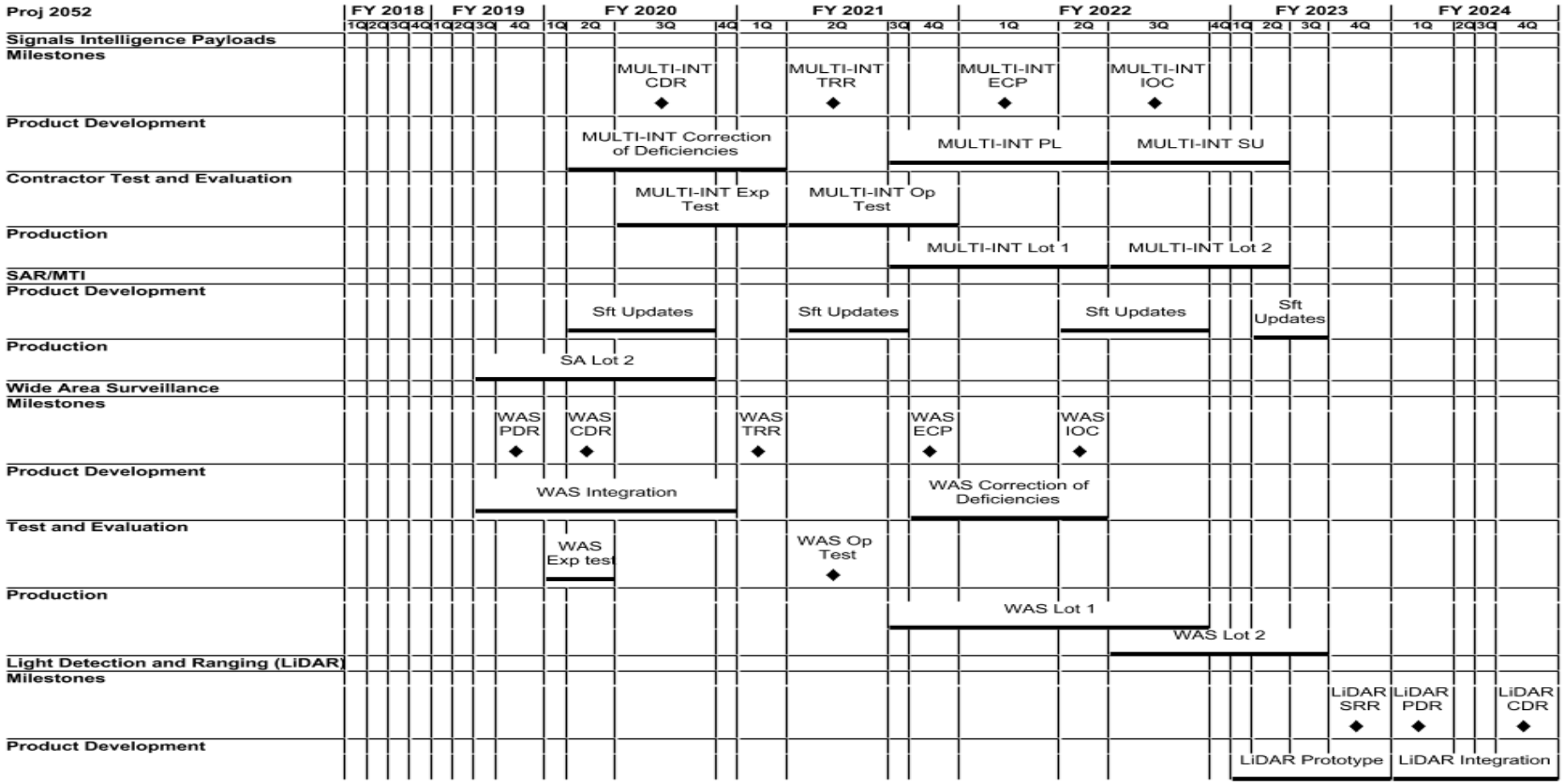

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2052				
Milestones: MULTI-INT Phase II Critical Design Review	3	2020	3	2020
Milestones: MULTI-INT Phase II Test Readiness Review	2	2021	2	2021
Milestones: MULTI-INT Phase II Engineering Change Proposal	1	2022	1	2022
Milestones: MULTI-INT Phase II Initial Operational Capability	3	2022	3	2022
Product Development: MULTI-INT Correction of Deficiencies	2	2020	1	2021
Product Development: MULTI-INT Platform Integration	3	2021	2	2022
Product Development: MULTI-INT Software Upgrades	3	2022	2	2023
Contractor Test and Evaluation: MULTI-INT Experimental Test	3	2020	1	2021
Contractor Test and Evaluation: MULTI-INT Operational Test	2	2021	4	2021
Production: MULTI-INT Lot 1	3	2021	2	2022
Production: MULTI-INT Lot 2	3	2022	2	2023
Product Development: SAR/MTI Software Update 1	2	2020	3	2020
Product Development: SAR/MTI Software Update 2	2	2021	3	2021
Product Development: SAR/MTI Software Update 3	2	2022	3	2022
Product Development: SAR/MTI Software Update 4	2	2023	3	2023
Production: SAR/MTI	3	2019	3	2020
Milestones: WAS Preliminary Design Review	4	2019	4	2019
Milestones: WAS Critical Design Review	2	2020	2	2020
Milestones: WAS Test Readiness Review	1	2021	1	2021
Milestones: WAS Engineering Change Proposal	4	2021	4	2021
Milestones: WAS Initial Operational Capability	2	2022	2	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Product Development: WAS Integration	3	2019	4	2020
Product Development: WAS Correction of Deficiencies	4	2021	2	2022
Test and Evaluation: WAS Experimental Test	1	2020	2	2020
Test and Evaluation: WAS Operational Test	2	2021	2	2021
Production: WAS Production Lot 1	3	2021	3	2022
Production: WAS Production Lot 2	3	2022	3	2023
Milestones: Light Detection and Ranging (LiDAR) System Requirements Review	4	2023	4	2023
Milestones: Light Detection and Ranging (LiDAR) Preliminary Design Review	1	2024	1	2024
Milestones: Light Detection and Ranging (LiDAR) Critical Design Review	4	2024	4	2024
Product Development: Light Detection and Ranging (LiDAR) Prototype	1	2023	4	2023
Product Development: Light Detection and Ranging (LiDAR) Integration	1	2024	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy											Date: March 2019	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*				Project (Number/Name) 5501 / *Signals Intelligence (SIGINT)*			
COST ($ in Millions)	**Prior Years**	**FY 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
5501: *Signals Intelligence (SIGINT)*	9.626	5.562	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.188
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Product Development	5.139	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).					
FY 2020 Base Plans: N/A					
FY 2020 OCO Plans: N/A					
Title: Support	0.328	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).					
FY 2020 Base Plans: N/A					
FY 2020 OCO Plans: N/A					
Title: Management Services	0.095	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 5501 / *Signals Intelligence (SIGINT)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development). ***FY 2020 Base Plans:*** N/A ***FY 2020 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	5.562	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• PMC/4787: *UAS Payloads*	22.008	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.479

Remarks

D. Acquisition Strategy

In FY19 this effort transitioned to PE 0305242M PU 2052 and falls in line with respective acquisition strategy.

E. Performance Metrics

In FY19 this effort transitions to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 5501 / *Signals Intelligence (SIGINT)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	MIPR	AFRL : Dayton, OH	6.655	4.817	Feb 2018	0.000		0.000		-		0.000	0.000	11.472	-
Government Engineering	WR	NAWCAD : Patuxent River, MD	1.790	0.322	Feb 2018	0.000		0.000		-		0.000	0.000	2.112	-
		Subtotal	8.445	5.139		0.000		0.000		-		0.000	0.000	13.584	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	MIPR	NAWCAD : Patuxent River, MD	0.994	0.328	Feb 2018	0.000		0.000		-		0.000	0.000	1.322	-
		Subtotal	0.994	0.328		0.000		0.000		-		0.000	0.000	1.322	N/A

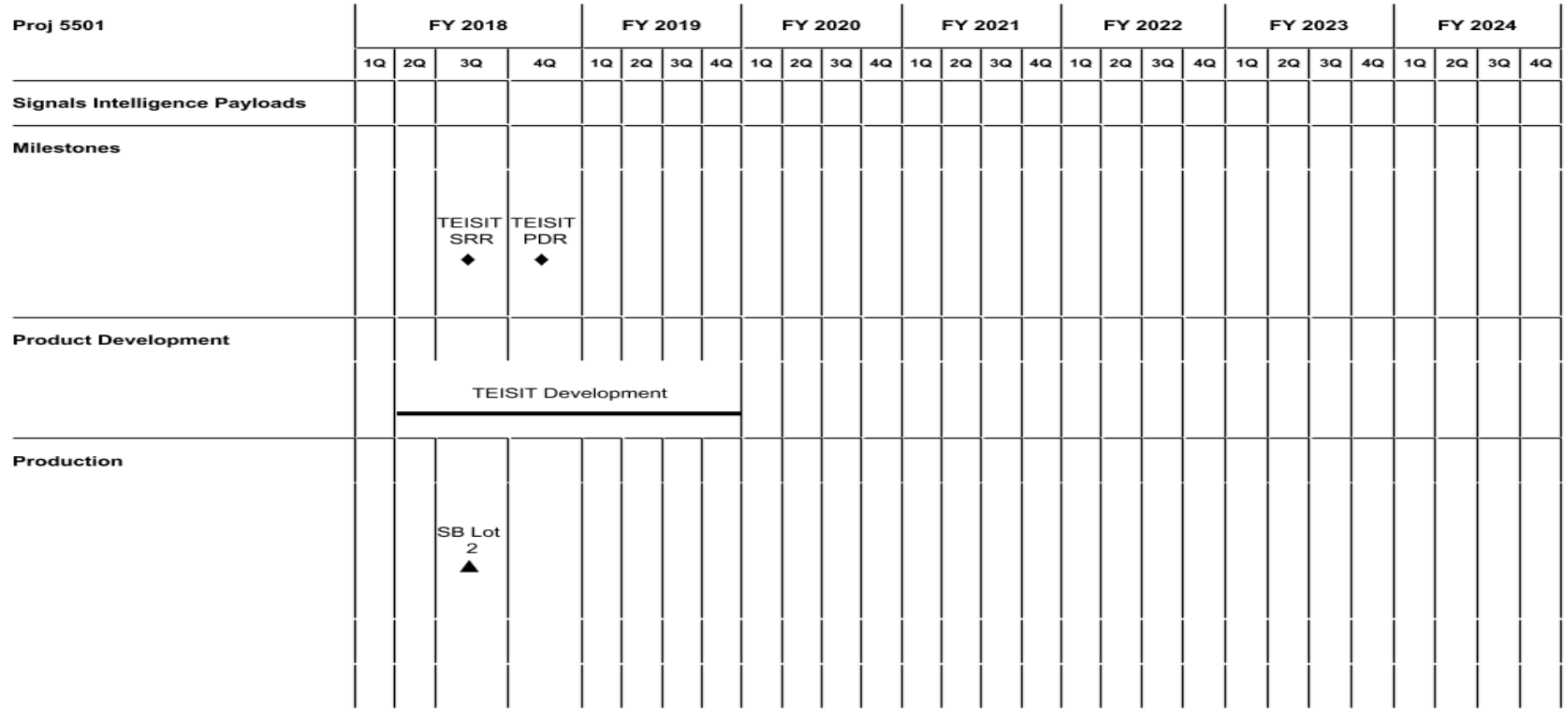
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	MIPR	NAWCAD : Patuxent River, MD	0.129	0.067	Feb 2018	0.000		0.000		-		0.000	0.000	0.196	-
Travel	Various	Various : Various	0.058	0.028	Feb 2018	0.000		0.000		-		0.000	0.000	0.086	-
		Subtotal	0.187	0.095		0.000		0.000		-		0.000	0.000	0.282	N/A

	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.626	5.562		0.000		0.000		-		0.000	0.000	15.188	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 5501 / *Signals Intelligence (SIGINT)*



2020PB - 0305242M - 5501

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 5501 / *Signals Intelligence (SIGINT)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 5501				
Milestones: TEISIT Systems Requirements Review	3	2018	3	2018
Milestones: TEISIT Preliminary Design Review	4	2018	4	2018
Product Development: TEISIT Payload Development	2	2018	4	2019
Production: Spectral Bat Production Lot 2	3	2018	3	2018

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy											Date: March 2019	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*				Project (Number/Name) 5502 / *Synthetic Aperture Radar/Motion Target Indicator (SAR/MTI)*			
COST ($ in Millions)	**Prior Years**	**FY 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
5502: *Synthetic Aperture Radar/ Motion Target Indicator (SAR/ MTI)*	10.801	5.801	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	16.602
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Product Development	4.813	0.000	0.000	0.000	0.000
Articles:	2	-	-	-	-
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development). ***FY 2020 Base Plans:*** N/A ***FY 2020 OCO Plans:*** N/A					
Title: Support	0.604	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development). ***FY 2020 Base Plans:*** N/A ***FY 2020 OCO Plans:*** N/A					
Title: Management Services	0.087	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 5502 / *Synthetic Aperture Radar/Motion Target Indicator (SAR/MTI)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development). ***FY 2020 Base Plans:*** N/A ***FY 2020 OCO Plans:*** N/A					
Title: Test and Evaluation	0.297	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development). ***FY 2020 Base Plans:*** N/A ***FY 2020 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	5.801	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• PMC/4787: *UAS Payloads*	22.008	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.479

Remarks

D. Acquisition Strategy

In FY19 this effort transitioned to PE 0305242M/PU 2052 and falls in line with respective acquisition strategy.

E. Performance Metrics

In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 5502 / *Synthetic Aperture Radar/Motion Target Indicator (SAR/MTI)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	MIPR	ACC-Natick : Natick, MA	8.494	4.197	Feb 2018	0.000		0.000		-		0.000	0.000	12.691	-
Government Engineering	WR	NAWCAD : Patuxent River, MD	1.038	0.616	Feb 2018	0.000		0.000		-		0.000	0.000	1.654	-
		Subtotal	9.532	4.813		0.000		0.000		-		0.000	0.000	14.345	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	0.858	0.604	Feb 2018	0.000		0.000		-		0.000	0.000	1.462	-
		Subtotal	0.858	0.604		0.000		0.000		-		0.000	0.000	1.462	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	NAWCAD : Patuxent River	0.292	0.297	Feb 2018	0.000		0.000		-		0.000	0.000	0.589	-
		Subtotal	0.292	0.297		0.000		0.000		-		0.000	0.000	0.589	N/A

Management Services ($ in Millions)

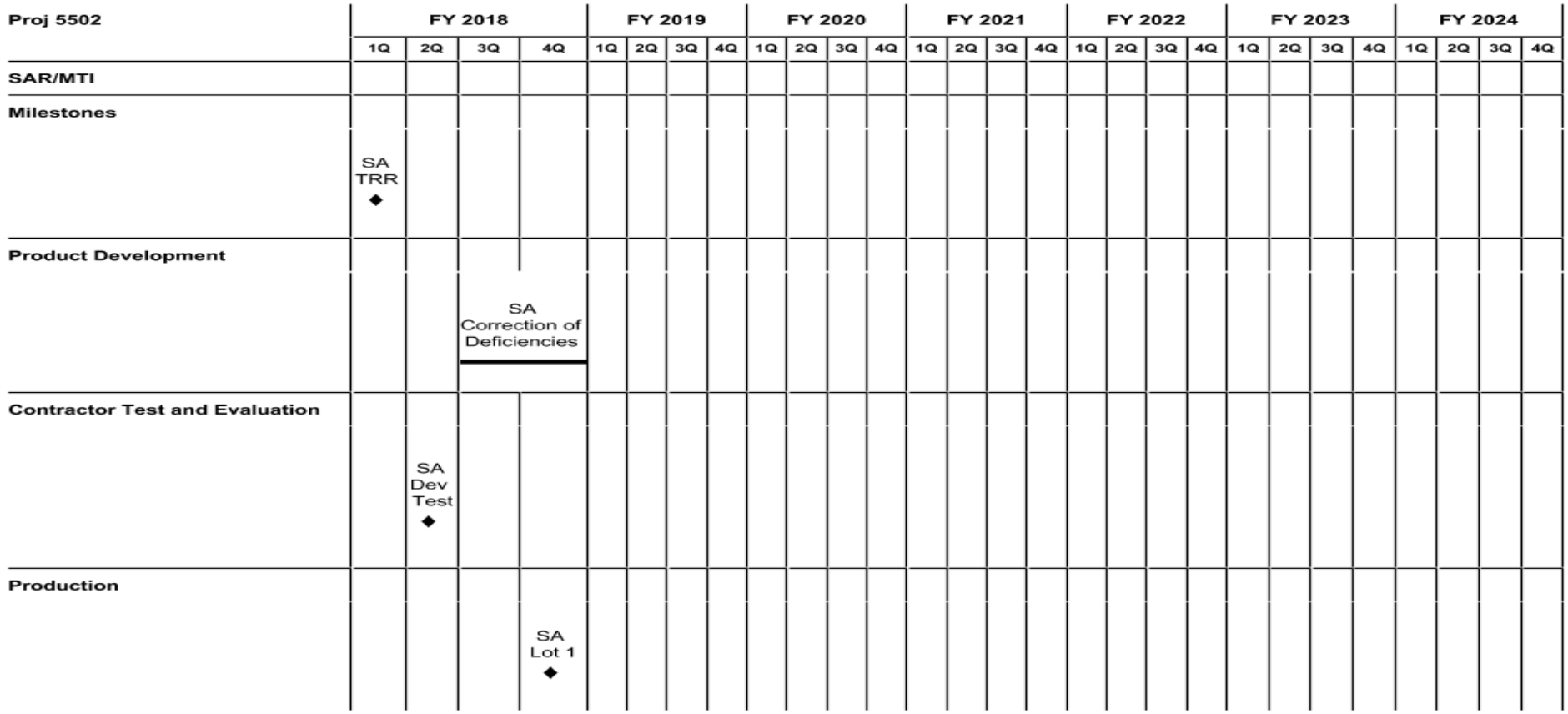
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.074	0.074	Feb 2018	0.000		0.000		-		0.000	0.000	0.148	-
Travel	Various	Various : Various	0.045	0.013	Feb 2018	0.000		0.000		-		0.000	0.000	0.058	-
		Subtotal	0.119	0.087		0.000		0.000		-		0.000	0.000	0.206	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 5502 / *Synthetic Aperture Radar/Motion Target Indicator (SAR/MTI)*	

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	10.801	5.801		0.000		0.000		-		0.000	0.000	16.602	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 5502 / *Synthetic Aperture Radar/Motion Target Indicator (SAR/MTI)*



2020DON - 0305242M - 5502

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 5502 / *Synthetic Aperture Radar/Motion Target Indicator (SAR/MTI)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 5502				
Milestones: Split Aces Test Readiness Review	1	2018	1	2018
Product Development: Split Aces Correction of Deficiencies	3	2018	4	2018
Contractor Test and Evaluation: Split Aces Developmental Test	2	2018	2	2018
Production: Split Aces Production Lot 1	4	2018	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 5504 / *Wide Area Persistent Surveillance (TNWAS)*	

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
5504: *Wide Area Persistent Surveillance (TNWAS)*	0.000	7.029	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.029
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Product Development	6.634	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).					
FY 2020 Base Plans: N/A					
FY 2020 OCO Plans: N/A					
Title: Support	0.146	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).					
FY 2020 Base Plans: N/A					
FY 2020 OCO Plans: N/A					
Title: Management Services	0.249	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 5504 / *Wide Area Persistent Surveillance (TNWAS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
FY 2019 Plans: In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development). ***FY 2020 Base Plans:*** N/A ***FY 2020 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	7.029	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• PMC/4787: *UAS Payloads*	22.008	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	36.479

Remarks

$9.750M Project Minotaur

D. Acquisition Strategy

In FY19 this effort transitions to PE 0305242M/PU 2052 and falls in line with respective acquisition strategy.

E. Performance Metrics

In FY19 this effort transitioned to PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 5504 / *Wide Area Persistent Surveillance (TNWAS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	C/FFP	L3 : Norfolk, VA	0.000	6.634	Mar 2018	0.000		0.000		-		0.000	0.000	6.634	-
		Subtotal	0.000	6.634		0.000		0.000		-		0.000	0.000	6.634	N/A

Remarks

The 2018 effort for Tactical Nighttime Wide Area Persistent Surveillance (TNWAS) payload development leverages work started by the Office of Naval Research. The contractor performing the work is L3, however the government agency performing contracting activities is TBD.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/BA	Various : Various	0.000	0.146	Mar 2018	0.000		0.000		-		0.000	0.000	0.146	-
		Subtotal	0.000	0.146		0.000		0.000		-		0.000	0.000	0.146	N/A

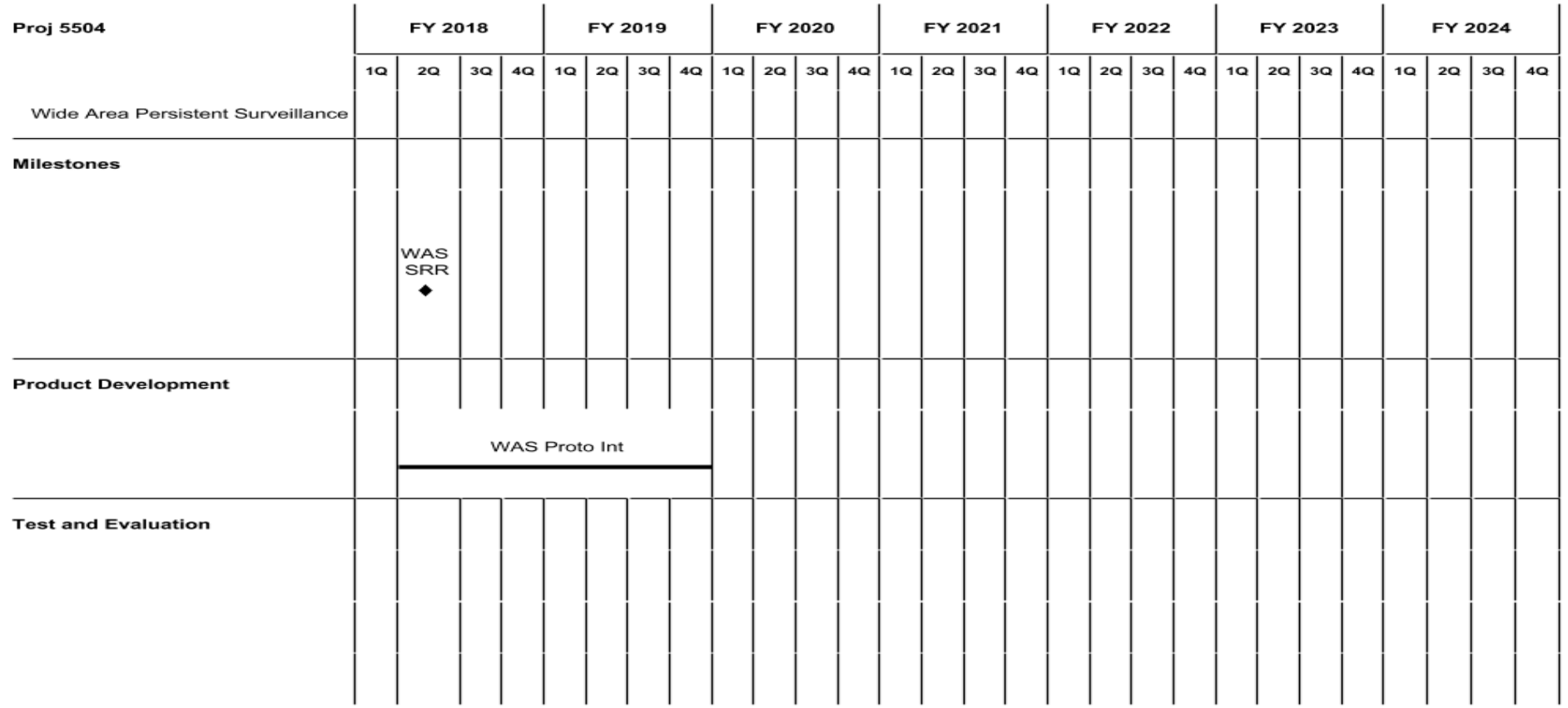
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.000	0.249	Feb 2018	0.000		0.000		-		0.000	0.000	0.249	-
		Subtotal	0.000	0.249		0.000		0.000		-		0.000	0.000	0.249	N/A

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	7.029		0.000		0.000		-		0.000	0.000	7.029	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 5504 / *Wide Area Persistent Surveillance (TNWAS)*



2020PB - 0305242M - 5504

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 5504 / *Wide Area Persistent Surveillance (TNWAS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 5504				
Milestones: WAS System Requirement Review	2	2018	2	2018
Product Development: WAS Prototype Integration	2	2018	4	2019