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 0305242M *I (U)Unmanned Aerial Systems (UAS) Payloads*

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	0.000	5.956	10.004	5.000	-	5.000	2.320	1.338	7.197	7.676	Continuing	Continuing
2052: *RQ-21 Payload Development*	0.000	5.956	3.704	0.000	-	0.000	0.000	0.000	5.536	5.647	Continuing	Continuing
8277: *UAS Payloads*	0.000	0.000	0.000	5.000	-	5.000	2.320	1.338	1.661	2.029	Continuing	Continuing
9999: *Congressional Adds*	0.000	0.000	6.300	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.300

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 Strategic and Tactical Intelligence, Surveillance, and Reconnaissance (ISR) and non-ISR capabilities as well as data Processing, Exploitation, and Dissemination (PED) and Communication capabilities for all UAS's within the Navy and Marine Corps. These component, sensor, and PED capabilities will alleviate Navy and 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 Navy and Marine Corps UAS. The UAS Payload program element is to encompass future and as yet unspecified unmanned system technology integration and improvements such as GPS denied environment survey and solutions related to Position, Navigation and Timing (PNT). Additional payload capability improvements and expansion include Communication, Automation and Autonomy, Magnetic Anomaly Detection (MAD), Chemical, Biological, and Radiological/Nuclear (CBRN) collection, Gravitational Sensing, Signals Intelligence Collection (SIGINT), Electronic Warfare Support (EW and ES), Radar Imagery, Moving Target Indicator (MTI) Detection, Tracking and Imagery, Wide Area and Hyperspectral Imagery collection, Artificial Intelligence (AI)processing, Combined Multiple Intelligence (Multi-INT), Light Detection and Ranging (LiDAR), Laser Marking and Designation (LM, LD), Acoustic Detection, Sense and Avoid, Identification of Friend or Foe (IFF), Weapons Integration, capability related PED, and Multi Mission functionality. These advanced capabilities and payloads will provide the Navy Fleet Forces, Marine Air-Ground Task Force (MAGTF) Marine Expeditionary Units (MEU) and Marine Expeditionary Forces (MEF) and their component subordinate commands (divisions and regiments) with dedicated, organic capabilities that facilitate the six functions of Marine Corps Aviation and the Marine Corps ISR Enterprise (MCISRE) across the range of military operations.

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 0305242M *I (U)Unmanned Aerial Systems (UAS) Payloads*

B. Program Change Summary ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	5.956	3.704	6.044	-	6.044
Current President's Budget	5.956	10.004	5.000	-	5.000
Total Adjustments	0.000	6.300	-1.044	-	-1.044
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	6.300			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	0.005	-	0.005
• Rate/Misc Adjustments	0.000	0.000	-1.049	-	-1.049

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2019	FY 2020
Project: 9999: *Congressional Adds*		
Congressional Add: *Spectral and Reconnaissance Imagery for Tactical Exploitation*	0.000	6.300
Congressional Add Subtotals for Project: 9999	0.000	6.300
Congressional Add Totals for all Projects	0.000	6.300

Change Summary Explanation

PU 2052 was updated to reflect the transition to PE 0305242M/PU 8277.

PU 8277 was established in FY21 as a result of the PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development) transition to PE 0305242M/PU 8277 (Unmanned Aerial Systems (UAS) Payloads/UAS Payloads). This is not an FY21 New Start and was created to better support ISR payload requirements, development, and sustainment.

Congressional Add - C415 Spectral and Reconnaissance Imagery for Tactical Exploitation - Wide Area Surveillance (WAS) for $6.300M.

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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 2052 / *RQ-21 Payload 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
2052: *RQ-21 Payload Development*	0.000	5.956	3.704	0.000	-	0.000	0.000	0.000	5.536	5.647	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 Strategic and Tactical Intelligence, Surveillance, and Reconnaissance (ISR) and non-ISR capabilities as well as data Processing, Exploitation, and Dissemination (PED) and Communication capabilities for all Small Tactical UAS's within the Navy and Marine Corps. These component, sensor, and PED capabilities will alleviate Navy and 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 Navy and Marine Corps UAS. Additional payload capability improvements and expansion include Communication, Automation and Autonomy, Magnetic Anomaly Detection (MAD), Chemical Biological, and Radiological/Nuclear (CBRN) collection, Gravitational Sensing, Signals Intelligence Collection (SIGINT), Electronic Warfare Support (EW and ES), Radar Imagery, Moving Target Indicator (MTI) Detection, Tracking and Imagery, Wide Area and Hyperspectral Imagery collection, Artificial Intelligence (AI)processing, Combined Multiple Intelligence (Multi-INT), Light Detection and Ranging (LiDAR), Laser Marking and Designation (LM, LD), Acoustic Detection, Sense and Avoid, Identification of Friend or Foe (IFF), Weapons Integration, capability related PED, and Multi Mission functionality. The UAS Payload program element is to encompass future and as yet unspecified unmanned system technology integration and improvements such as GPS denied environment survey and solutions related to Position, Navigation and Timing (PNT). These advanced capabilities and payloads will provide the Navy Fleet Forces, Marine Air-Ground Task Force (MAGTF) Marine Expeditionary Units (MEU) and Marine Expeditionary Forces (MEF) and their component subordinate commands (divisions and regiments) with dedicated, organic capabilities that facilitate the six functions of Marine Corps Aviation and the Marine Corps ISR Enterprise (MCISRE) across the range of military operations.

The UAS Payload program is developing and transitioning strategic and tactical sensor and PED capabilities to UAS in the areas of SIGINT and Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI) and continuing the integration and prototype mission kit development work in the area of Multiple Intelligence (Multi-INT) and Wide Area Surveillance (WAS) capabilities that were begun under WIPEB.

SIGINT - Locate, target, and exploit adversary Signals of Interest (SOI), ability to cue other ISR sensors to specific target geolocations.

Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI) - Locate and track ground targets day or night under a wide range of atmospheric conditions and at stand-off ranges exceeding those of EO/IR Full Motion Video(FMV) technologies.

Multiple Intelligence (Multi-INT) - Simultaneous area of regard ISR data collection and functionality of sensors operating in widely disparate modalities such as Communications Relay, EW/ES, SIGINT, Radar, and EO/IR. Enables the collection of synchronized data that maximizes the effective employment envelope by

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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

collectively decreasing uncertainties, such as geolocation accuracy, simultaneously prosecuting multiple targets of interest and maximizing datalink capability across a varied range of environments and temporal periods.

Wide Area Persistent Surveillance (WAS) - Imaging over wide areas (multiple square kilometers, city size area) at very spacial and temporal resolution at substantial stand-off distances with full motion video (FMV)access, picture in picture user defined watch boxes, and ability to cue other ISR sensors to specific target geolocations. Ability to monitor and disseminate processed imagery data and static full field of view or user defined FMV watch box imagery and disseminate to ground-based disadvantaged users. Mission applications include battlefield situational awareness and monitoring, providing the capability to assure access and hold at risk, as well as enabling power projection in environments that are not currently accessible.

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. 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.

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). In FY21, PE 0305242M/PU 2052 (Unmanned Aerial Systems (UAS) Payloads/RQ-21 Payload Development) transitioned to 0305242M/PU 8277 (Unmanned Aerial Systems (UAS) Payloads/UAS Payloads).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Product Development	4.512	2.588	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2020 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 2021 Base Plans: N/A					
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 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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
The FY2021 budget decrease of $2.588M due to the transition to the new PU (8277) for UAS Payload Development in FY2021.					
Title: Support	0.846	0.600	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2020 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 2021 Base Plans:*** N/A ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY2021 budget decrease of $0.600M due to the transition to the new PU (8277) for UAS Payload Development in FY2021.					
Title: Test and Evaluation	0.303	0.500	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2020 Plans: -Continue developmental and operational payload testing ***FY 2021 Base Plans:*** -Continue developmental and operational payload testing ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY2021 budget decrease of $0.500M due to the transition to the new PU (8277) for UAS Payload Development in FY2021.					
Title: Management Services	0.295	0.016	0.000	0.000	0.000

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 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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Articles:	-	-	-	-	-
FY 2020 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 2021 Base Plans:*** Government program management support of the SIGINT, SAR/MTI, Multi-INT and WAS capabilities. Management Services will account for Cross-Organization travel funding requirements. ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY2021 budget decrease of $0.016M due to the transition to the new PU (8277) for UAS Payload Development in FY2021.					
Accomplishments/Planned Programs Subtotals	5.956	3.704	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
• APN/0444: *STUASLO*	52.131	51.740	33.937	7.921	41.858	31.346	30.417	29.103	29.685	0.000	469.714

Remarks

D. Acquisition Strategy

The UAS Payload program utilizes a hybrid acquisition model. Development is a mixture of evolutionary and single step to full capability processes, but typically follows an incremental or spiral approach. Advanced payloads leverages work conducted by Small Business as well as large commercial industry vendors, academic and Federally Funded Research and Development Centers (FFRDC), and 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 Agency (JIDA), the National Security Agency (NSA), and the National Geospatial Agency (NGA). The UAS payloads portfolio consists of a family of mission kits and spans a broad spectrum of capability areas. Capabilities are transitioned from variously sourced, high (5-7) Technology Readiness Level (TRL) science and technology (S&T) projects to the UAS Payloads portfolio for completion of research, development, test, and evaluation (RDTE) of the capability, systems engineering development into mission kits, and entrance into the Engineering Change Proposal (ECP) process for integration into Unmanned Aircraft Systems (UAS). Mission kits field capabilities that meet Navy threshold or objective requirements,

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
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and facilitate the six functions of Marine Corps Aviation and the Marine Corps Intelligence Surveillance, and Reconnaissance Enterprise across the range of military operations.

All payloads follow similar acquisition paths but on independent time schedules. These acquisition paths are 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) 6/7 as the decision gate for entry into Phase II. Phase II establishes full payload-to-Unmanned Aircraft System (UAS) integration during which time all necessary program management, engineering, fabrication, test, and evaluations 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 9 constitute the decision gate for entry into Phase III. Phase III is program of record transition which supports a production decision based on the exit criteria from Phase II.

The UAS Payload Development program will partner with Small Tactical Unmanned Aircraft System (STUAS) PORs to identify required payloads. Conduct RDTE processes to develop capability into TRL9 payload and production level prototypes. Conduct Developmental and Operational testing (DT/OT). Production kits delivered to receiving STUAS platform Program of Record with initial year sustainment, but will be incumbent on POR for long-term sustainment funding.

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 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 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
Systems Engineering SIGINT	MIPR	NSA : Washington DC	0.000	4.017	Dec 2018	2.088	Apr 2020	0.000		-		0.000	Continuing	Continuing	Continuing
Government Engineering	WR	NAWCAD : Patuxent River, MD	0.000	0.495	Dec 2018	0.500	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	0.000	4.512		2.588		0.000		-		0.000	Continuing	Continuing	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
Contractor Engineering Support	Various	Various : Various	0.000	0.846	Dec 2018	0.600	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	0.000	0.846		0.600		0.000		-		0.000	Continuing	Continuing	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
Test and Evaluation	WR	NAWCAD : Patuxent River, MD	0.000	0.303	Dec 2018	0.500	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	0.000	0.303		0.500		0.000		-		0.000	Continuing	Continuing	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
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.000	0.244	Feb 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Travel	Various	Various : Various	0.000	0.051	Oct 2018	0.016	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	0.000	0.295		0.016		0.000		-		0.000	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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 2052 / *RQ-21 Payload Development*	

	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	5.956		3.704		0.000		-		0.000	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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

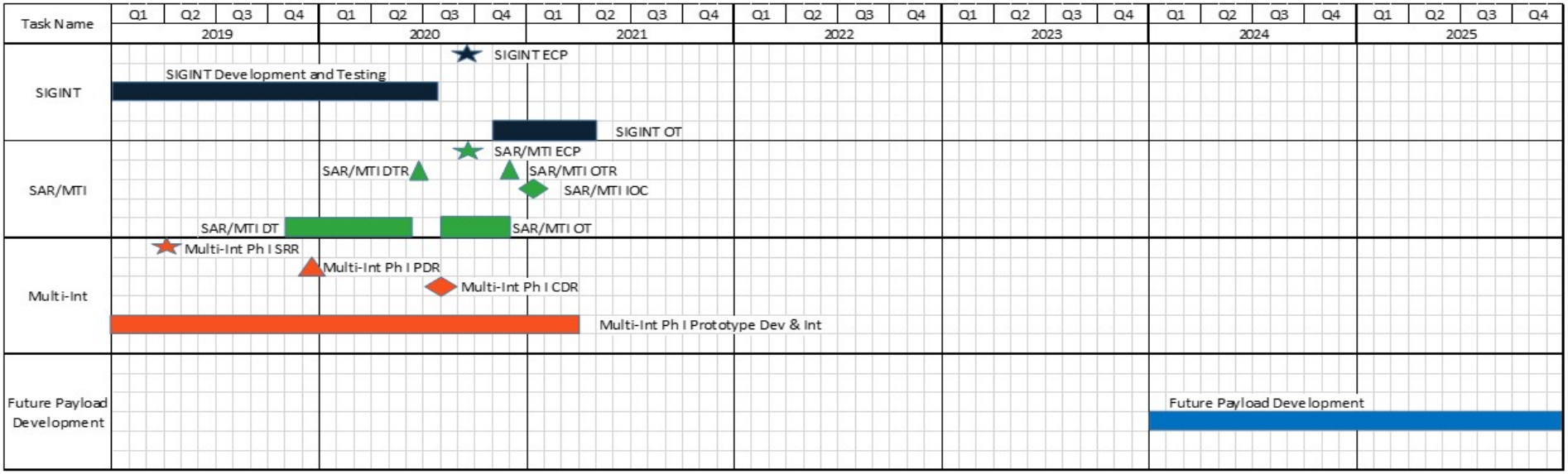

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2052 / *RQ-21 Payload Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2052				
SIGINT: SIGINT Development and Testing	1	2019	3	2020
SIGINT: SIGINT Engineering Change Proposal	3	2020	3	2020
SIGINT: SIGINT Operational Test	4	2020	2	2021
SAR/MTI: SAR/MTI Developmental Test (DT)	4	2019	2	2020
SAR/MTI: SAR/MTI Developmental Test Report (DTR)	2	2020	2	2020
SAR/MTI: SAR/MTI Engineering Change Proposal (ECP)	3	2020	3	2020
SAR/MTI: SAR/MTI Operational Test (OT)	3	2020	4	2020
SAR/MTI: SAR/MTI Operational Test Report(OTR)	4	2020	4	2020
SAR/MTI: SAR/MTI Initial Operational Capability (IOC)	1	2021	1	2021
Multi-Int: Multi-Int Phase I Prototype Development and Integration	1	2019	1	2021
Multi-Int: Multi-Int Phase I Systems Requirement Review (SRR)	2	2019	2	2019
Multi-Int: Multi-Int Phase I Preliminary Design Review (PDR)	4	2019	4	2019
Multi-Int: Multi-Int Phase I Critical Design Review (CDR)	3	2020	3	2020
Future Payload Development: Future Payload Development	1	2024	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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 8277 / *UAS Payloads*	

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
8277: *UAS Payloads*	0.000	0.000	0.000	5.000	-	5.000	2.320	1.338	1.661	2.029	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 Strategic and Tactical Intelligence, Surveillance, and Reconnaissance (ISR) and non-ISR capabilities 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. Additional payload capability improvements and expansion include Communication, Automation and Autonomy, Magnetic Anomaly Detection (MAD), Chemical Biological, and Radiological/Nuclear (CBRN) collection, Gravitational Sensing, Signals Intelligence Collection (SIGINT), Electronic Warfare Support (EW and ES), Radar Imagery, Moving Target Indicator (MTI) Detection, Tracking and Imagery, Wide Area and Hyperspectral Imagery collection, Artificial Intelligence (AI)processing, Combined Multiple Intelligence (Multi-INT), Light Detection and Ranging (LiDAR), Laser Marking and Designation (LM, LD), Acoustic Detection, Sense and Avoid, Identification of Friend or Foe (IFF), Weapons Integration, capability related PED, and Multi Mission functionality. The UAS Payload program element is to encompass future and as yet unspecified unmanned system technology integration and improvements such as GPS denied environment survey and solutions related to Position, Navigation and Timing (PNT). These advanced capabilities and payloads will provide the Marine Air-Ground Task Force (MAGTF) Marine Expeditionary Units (MEU) and Marine Expeditionary Forces (MEF) and their component subordinate commands (divisions and regiments) with dedicated, organic capabilities that facilitate the six functions of Marine Corps Aviation and the Marine Corps ISR Enterprise (MCISRE) across the range of military operations.

The UAS Payload program is developing and transitioning strategic and tactical sensor and PED capabilities to UAS in the areas of SIGINT and Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI) and continuing the integration and prototype mission kit development work in the area of Multiple Intelligence (Multi-INT) and Wide Area Surveillance (WAS) capabilities that were begun under WIPEB.

SIGINT - Locate, target, and exploit adversary Signals of Interest (SOI), ability to cue other ISR sensors to specific target geolocations.

Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI) - Locate and track ground targets day or night under a wide range of atmospheric conditions and at stand-off ranges exceeding those of EO/IR Full Motion Video(FMV) technologies.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
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Wide Area Persistent Surveillance (WAS) - Imaging over wide areas (multiple square kilometers, city size area) at very spacial and temporal resolution at substantial stand-off distances with full motion video (FMV)access, picture in picture user defined watch boxes, and ability to cue other ISR sensors to specific target geolocations. Ability to monitor and disseminate processed imagery data and static full field of view or user defined FMV watch box imagery and disseminate to ground-based disadvantaged users. Mission applications include battlefield situational awareness and monitoring, providing the capability to assure access and hold at risk, as well as enabling power projection in environments that are not currently accessible.

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. 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.

Note: In FY21, funding was added back into this PE/Project to better support ISR Pay load requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Product Development	0.000	0.000	3.517	0.000	3.517
Articles:	-	-	-	-	-
FY 2020 Plans: N/A					
FY 2021 Base Plans: - SIGINT product correction of deficiencies - SAR/MTI product correction of deficiencies - Multi-INT continue contractor test and UAS integration efforts - WAS continue Phase 1 payload system prototype development, contractor testing, and UAS integration efforts					
FY 2021 OCO Plans: N/A					
FY 2020 to FY 2021 Increase/Decrease Statement: The FY2021 budget increase of $3.517M due to funds added back into this PE/Project to better support ISR Payload requirements.					
Title: Support	0.000	0.000	0.613	0.000	0.613
Articles:	-	-	-	-	-
FY 2020 Plans:					

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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
N/A ***FY 2021 Base Plans:*** -Continue Government Engineering Technical Support, other Government Support, Program Management Support,. Allow for slight increase in program related travel in support of payload systems. -Continue Integrated Logistics Support (ILS), training concept development and data management/ documentation. ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY2021 budget increase of $0.613M due to funds added back into this PE/Project to better support ISR Payload requirements.					
Title: Test and Evaluation	0.000	0.000	0.700	0.000	0.700
Articles:	-	-	-	-	-
FY 2020 Plans: N/A ***FY 2021 Base Plans:*** -Continue developmental and operational payload testing ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY2021 budget increase of $0.700M due to funds added back into this PE/Project to better support ISR Payload requirements.					
Title: Management Services	0.000	0.000	0.170	0.000	0.170
Articles:	-	-	-	-	-
FY 2020 Plans: N/A ***FY 2021 Base Plans:*** Government program management support of the SIGINT, SAR/MTI, Multi-INT and WAS capabilities.					

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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Management Services will account for Cross-Organization travel funding requirements. ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The FY2021 budget increase of $0.170M due to funds added back into this PE/Project to better support ISR Payload requirements.					
Accomplishments/Planned Programs Subtotals	0.000	0.000	5.000	0.000	5.000

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
• PMC/4787: *UAS Payloads*	0.000	0.000	5.489	-	5.489	2.300	0.762	0.762	0.762	0.000	46.554

Remarks

D. Acquisition Strategy

The UAS Payload program utilizes a hybrid acquisition model. Development is a mixture of evolutionary and single step to full capability processes, but typically follows an incremental or spiral approach. Advanced payloads leverages work conducted by Small Business as well as large commercial industry vendors, academic and Federally Funded Research and Development Centers (FFRDC), and 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 Agency (JIDA), the National Security Agency (NSA), and the National Geospatial Agency (NGA). The UAS payloads portfolio consists of a family of mission kits and spans a broad spectrum of capability areas. Capabilities are transitioned from variously sourced, high (5-7) Technology Readiness Level (TRL) science and technology (S&T) projects to the UAS Payloads portfolio for completion of research, development, test, and evaluation (RDTE) of the capability, systems engineering development into mission kits, and entrance into the Engineering Change Proposal (ECP) process for integration into Unmanned Aircraft Systems (UAS). Mission kits field capabilities and facilitate the six functions of Marine Corps Aviation and the Marine Corps Intelligence Surveillance, and Reconnaissance Enterprise across the range of military operations.

All payloads follow similar acquisition paths but on independent time schedules. These acquisition paths are 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) 6/7 as the decision gate for entry into Phase II. Phase II establishes full payload-to-Unmanned Aircraft System (UAS) integration during which time all necessary program management, engineering, fabrication, test, and evaluations 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

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
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and schedule estimates, contracting strategy and achievement of TRL 9 constitute the decision gate for entry into Phase III. Phase III is program of record transition which supports a production decision based on the exit criteria from Phase II.

The UAS Payload Development program will partner with Small Tactical Unmanned Aircraft System (STUAS) PORs to identify required payloads. Conduct RDTE processes to develop capability into TRL9 payload and production level prototypes. Conduct Developmental and Operational testing (DT/OT). Production kits delivered to receiving STUAS platform Program of Record with initial year sustainment, but will be incumbent on POR for long-term sustainment funding.

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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

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
Systems Engineering SIGINT	MIPR	NSA : Washington, DC	0.000	0.000		0.000		0.815	Dec 2020	-		0.815	Continuing	Continuing	Continuing
Systems Engineering SAR/ MTI	SS/BOA	ImSAR : Springville, UT	0.000	0.000		0.000		0.700	Dec 2020	-		0.700	Continuing	Continuing	Continuing
Systems Engineering Multi-INT	Various	NRL : Washington, DC	0.000	0.000		0.000		0.700	Dec 2020	-		0.700	Continuing	Continuing	Continuing
Systems Engineering WAS	SS/BOA	Logos : Fairfax, VA	0.000	0.000		0.000		0.802	Dec 2020	-		0.802	Continuing	Continuing	Continuing
Government Engineering	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.000		0.500	Dec 2020	-		0.500	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		3.517		-		3.517	Continuing	Continuing	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
Contractor Engineering Support	Various	Various : Various	0.000	0.000		0.000		0.613	Dec 2020	-		0.613	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		0.613		-		0.613	Continuing	Continuing	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
Test and Evaluation	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.000		0.700	Dec 2020	-		0.700	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		0.700		-		0.700	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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*	

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
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.000		0.150	Dec 2020	-		0.150	Continuing	Continuing	Continuing
Travel	Various	Various : Various	0.000	0.000		0.000		0.020	Oct 2020	-		0.020	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		0.000		0.170		-		0.170	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	0.000	0.000		0.000		5.000		-		5.000	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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

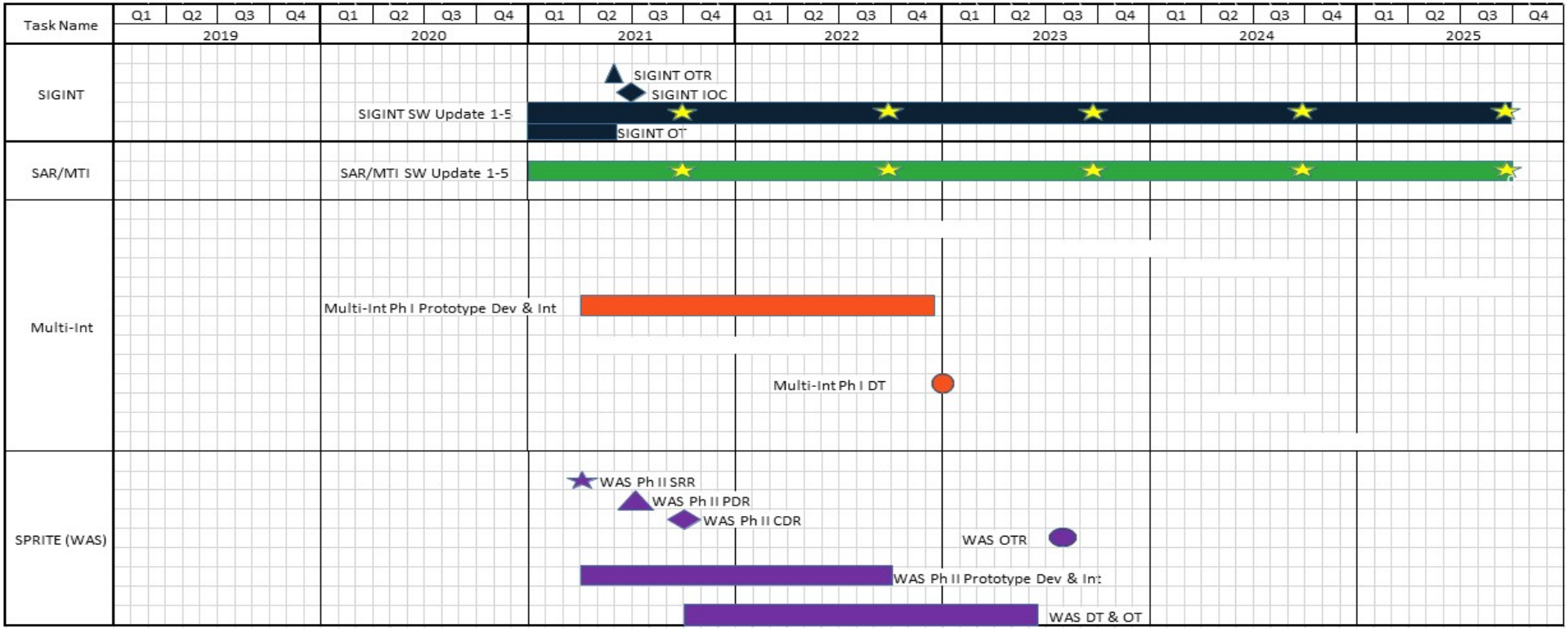

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 8277				
SIGINT: SIGINT Software Updates	1	2021	3	2025
SIGINT: SIGINT Operational Test (OT)	1	2021	2	2021
SIGINT: SIGINT Operational Test Report (OTR)	2	2021	2	2021
SIGINT: SIGINT Initial Operational Capability (IOC)	2	2021	2	2021
SIGINT: SIGINT Software Updates #1	3	2021	3	2021
SIGINT: SIGINT Software Update #2	3	2022	3	2022
SIGINT: SIGINT Software Update #3	3	2023	3	2023
SIGINT: SIGINT Software Update #4	3	2024	3	2024
SIGINT: SIGINT Software Update #5	3	2025	3	2025
SAR/MTI: SAR/MTI Software Updates	1	2021	3	2025
SAR/MTI: SAR/MTI Software Update #1	3	2021	3	2021
SAR/MTI: SAR/MTI Software Update #2	3	2022	3	2022
SAR/MTI: SAR/MTI Software Update #3	3	2023	3	2023
SAR/MTI: SAR/MTI Software Update #4	3	2024	3	2024
SAR/MTI: SAR/MTI Software Update #5	3	2025	3	2025
Multi-Int: Multi-Int Phase I Prototype Development and Integration	2	2021	4	2022
Multi-Int: Multi-Int Phase I Developmental Test (DT)	4	2022	4	2022
SPRITE (WAS): WAS Phase II Systems Requirement Review (SRR)	2	2021	2	2021
SPRITE (WAS): WAS Phase II Prototype Development and Integration	2	2021	3	2022
SPRITE (WAS): WAS Phase II Preliminary Design Review (PDR)	2	2021	2	2021
SPRITE (WAS): WAS Phase II Critical Design Review (CDR)	3	2021	3	2021

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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SPRITE (WAS): WAS Phase II Developmental Test (DT) and Operational Test (OT)	4	2021	2	2023
SPRITE (WAS): WAS Phase II Operational Test Report (OTR)	3	2023	3	2023

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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	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	0.000	6.300	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.300
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Congressional Add for Spectral and Reconnaissance Imagery for Tactical Exploitation (SPRITE) is to continue the maturation, integration, and testing of a Group III UAS Intelligence Surveillance and Reconnaissance (ISR) infra-red (IR) wide area surveillance (WAS) capability. This effort transitions the advanced imaging and data collection and processing technologies developed by the Office of Naval Research SPRITE program into an operational ISR system. Combined, the USMC and CA funds are providing prototype payloads to meet field user evaluations and operational testing requirements.

Group III Wide Area Surveillance (WAS) provides the Marine Air Ground Task Force (MAGTF) with an organic airborne enhanced day/night electro-optic capability. The WAS payload collects and records high resolution Electro Optical / Infrared (EO/IR) images over an instantaneous several kilometer field of regard in order to conduct persistent surveillance of large areas of interest, in near real time, while recording data to enable forensics. Mission applications include situational awareness and site monitoring at significant standoff ranges and altitudes, providing the capability to assure access and hold at risk, as well as enabling power projection in inaccessible environments. It will provide the Marine Corps disadvantaged users spectral and reconnaissance imagery for tactical exploitation and the ability to disseminate multiple high resolution sub-sampled imagery windows to multiple users from a small tactical UAS.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020
Congressional Add: Spectral and Reconnaissance Imagery for Tactical Exploitation	0.000	6.300
FY 2019 Accomplishments: N/A		
FY 2020 Plans: Engineering, flight clearance, test events, and prototype developments/improvements to develop a Phase I SPRITE-WAS capability.		
Congressional Adds Subtotals	0.000	6.300

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The UAS Payload program utilizes a hybrid acquisition model. Development is a mixture of evolutionary and single step to full capability processes, but typically follows an incremental or spiral approach. Advanced payloads leverages work conducted by Small Business as well as large commercial industry vendors, academic and Federally Funded Research and Development Centers (FFRDC), and various government laboratories such as the Office of Naval Research (ONR), Defense Advanced

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
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Research Projects Agency (DARPA), Air Force Research Lab (AFRL), Joint Improvised Threat Defeat Agency (JIDA), the National Security Agency (NSA), and the National Geospatial Agency (NGA). The UAS payloads portfolio consists of a family of mission kits and spans a broad spectrum of capability areas. Capabilities are transitioned from variously sourced, high (5-7) Technology Readiness Level (TRL) Science and Technology (S&T) projects to the UAS Payloads portfolio for completion of research, development, test, and evaluation (RDTE) of the capability, systems engineering development into mission kits, and entrance into the Engineering Change Proposal (ECP) process for integration into Unmanned Aircraft Systems (UAS). Mission kits field capabilities that meet Navy threshold or objective requirements, and facilitate the six functions of Marine Corps Aviation and the Marine Corps Intelligence Surveillance, and ReconnaissanceEnterprise across the range of military operations.

All payloads follow similar acquisition paths but on independent time schedules. These acquisition paths are 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) 6/7 as the decision gate for entry into Phase II. Phase II establishes full payload-to-Unmanned Aircraft System (UAS) integration during which time all necessary program management, engineering, fabrication, test, and evaluations 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 9 constitute the decision gate for entry into Phase III. Phase III is program of record transition which supports a production decision based on the exit criteria from Phase II.

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
Systems Engineering (WAS)	SS/BOA	Logos : Fairfax, VA	0.000	0.000		5.200	Mar 2020	0.000		-		0.000	0.000	5.200	-
		Subtotal	0.000	0.000		5.200		0.000		-		0.000	0.000	5.200	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
Contractor Engineering Support	Various	Various : Various	0.000	0.000		0.500	Mar 2020	0.000		-		0.000	0.000	0.500	-
		Subtotal	0.000	0.000		0.500		0.000		-		0.000	0.000	0.500	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
Test and Evaluation	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.600	Mar 2020	0.000		-		0.000	0.000	0.600	-
		Subtotal	0.000	0.000		0.600		0.000		-		0.000	0.000	0.600	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	0.000		6.300		0.000		-		0.000	0.000	6.300	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 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 9999 / *Congressional Adds*

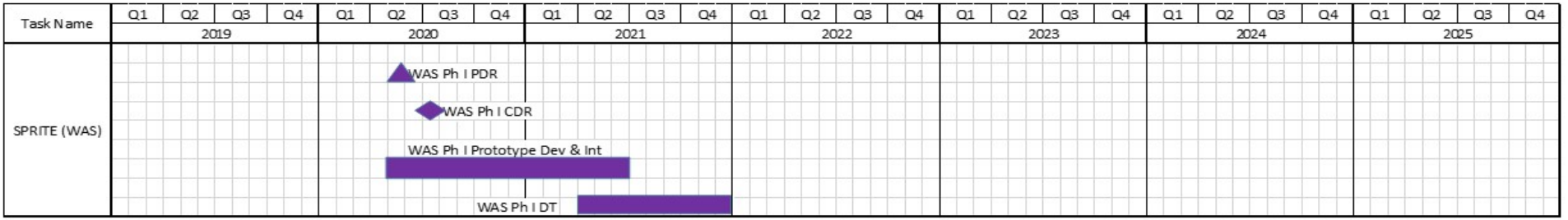

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *(U)Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
SPRITE (WAS): WAS Phase I Preliminary Design Review (PDR)	2	2020	2	2020
SPRITE (WAS): WAS Phase I Critical Design Review (CDR)	3	2020	3	2020
SPRITE (WAS): WAS Phase I Prototype Development and Integration	2	2020	2	2021
SPRITE (WAS): WAS Phase I Develpmental Test	2	2021	4	2021