Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy	Date: April 2022
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305242M *I Unmanned Aerial Systems (UAS) Payloads*

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	0.000	5.000	9.274	9.780	-	9.780	9.472	6.424	5.493	5.511	Continuing	Continuing
8277: *UAS Payloads*	0.000	5.000	9.274	9.780	-	9.780	9.472	6.424	5.493	5.511	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Unmanned Aircraft Systems (UAS) Sensor Payload program provides the capability to develop, integrate, field, and sustain tactical Intelligence, Surveillance, and Reconnaissance (ISR) payloads and enabling technologies for Group 1-3 aerial platforms in the USMC Family of UAS. In support of Force Design 2030 initiative, tactical UAS ISR is primarily focused on Marine Littoral Regiments (MLR) and on Marine Expeditionary Units (MEU) to enhance their ability to operate within an operating environment characterized by Great Power Competition.

In support of the Commandant of the Marine Corps (CMC) 2019 Planning Guidance and service Force Design 2030 requirements, UAS sensor payloads provide modular, low-cost aerial sensing technologies to achieve the Maritime Domain Awareness required by MLRs and MEUs in support of the Joint Forces Maritime Component Command (JFMCC). Within the context of Maritime Domain Operations, Marine forces executing Expeditionary Advanced Base Operations (EABO) require the organic capability to establish and maintain awareness of adversaries and potential adversary activities in communications and navigation degraded or denied environments. UAS Payloads enable sensing of threat indicators across the electromagnetic, gravimetric, chemical, nuclear, and acoustic spectrums and within the visual and radar spectrum, with reduced signature, and minimized risk to personnel. The incorporation of advanced technology enablers such as artificial intelligence/ machine learning (AI/ML) and precision geolocation provide automated recognition, identification, tracking, advanced networks, advanced communications, and cross-cueing in support of accelerated battlespace awareness and targeting. As an essential element of the kill chain, UAS payloads are critical to the JFMCC targeting process to find, fix, track, target, engage, and assess the effects of lethal and non-lethal fires.

Employment of UAS payloads on platforms distributed across the MLRs and MEUs during EABO allows for greater distribution of forces while maintaining persistent awareness, enhances the security of tactical units and personnel moving across the battlespace, and enables the rapid transition between positions necessary for force survivability.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy	Date: April 2022
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305242M *I Unmanned Aerial Systems (UAS) Payloads*

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	5.000	9.274	0.000	-	0.000
Current President's Budget	5.000	9.274	9.780	-	9.780
Total Adjustments	0.000	0.000	9.780	-	9.780
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000
• Adjustments to Budget Year	-	-	9.780	-	9.780

Change Summary Explanation

The net increase of $0.506M from FY 2022 to FY 2023 is primarily due to the development and engineering analysis for payloads specializing in Acoustic Battlefield Mapping and Alt Nav/PNT. Schedules have been updated to reflect Marine Corps Force Design 2030.

The FY 2023 schedule has been updated to break out milestones, project timelines, and decision events.

The FY 2023 funding request was adjusted by $1.957M to account for the availability of prior year execution balances.

FY 2023 funding increase reflects the fact that the FY 2022 President’s Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 8277 / *UAS Payloads*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
8277: *UAS Payloads*	0.000	5.000	9.274	9.780	-	9.780	9.472	6.424	5.493	5.511	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Unmanned Aircraft Systems (UAS) Sensor Payload program provides the capability to develop, integrate, field, and sustain tactical Intelligence, Surveillance, and Reconnaissance (ISR) payloads and enabling technologies for Group 1-3 aerial platforms in the USMC Family of UAS. In support of Force Design 2030 and Pacific Deterrence Initiative (PDI), tactical UAS ISR is primarily focused on Marine Littoral Regiments (MLR) and on Marine Expeditionary Units (MEU) to enhance their ability to operate within an operating environment characterized by Great Power Competition.

In support of the Commandant of the Marine Corps (CMC) 2019 Planning Guidance and service Force Design 2030 requirements, UAS sensor payloads provide modular, low-cost aerial sensing technologies to achieve the Maritime Domain Awareness required by MLRs and MEUs in support of the Joint Forces Maritime Component Command (JFMCC). Within the context of Maritime Domain Operations, Marine forces executing Expeditionary Advanced Base Operations (EABO) require the organic capability to establish and maintain awareness of adversaries and potential adversary activities in communications and navigation degraded or denied environments. UAS Payloads enable sensing of threat indicators across the electromagnetic, gravimetric, chemical, nuclear, and acoustic spectrums and within the visual and radar spectrum, with reduced signature, and minimized risk to personnel. The incorporation of advanced technology enablers such as artificial intelligence/ machine learning (AI/ML) and precision geolocation provide automated recognition, identification, tracking, advanced networks, advanced communications, and cross-cueing in support of accelerated battlespace awareness and targeting. As an essential element of the kill chain, UAS payloads are critical to the JFMCC targeting process to find, fix, track, target, engage, and assess the effects of lethal and non-lethal fires.

Employment of UAS payloads on platforms distributed across the MLRs and MEUs during EABO allows for greater distribution of forces while maintaining persistent awareness, enhances the security of tactical units and personnel moving across the battlespace, and enables the rapid transition between positions necessary for force survivability.

The program prototypes, develops, integrates, and transitions strategic and tactical sensors, payloads, and communication capabilities for Processing, Exploitation, and Dissemination (PED) capabilities to UAS in the areas of Signals Intelligence (SIGINT)/Electronic Warfare Support (ES), Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI), Multiple Intelligence (Multi-INT), Wide Area Surveillance (WAS)/Wide Area Motion Imagery (WAMI), AI/ML, Wide Area Maritime Target Detection (WAMTD), Electronic Attack (EA)/High Power Microwave (HPM)/ Electromagnetic Pulse (EMP), Advanced EO/Infrared (IR)/Multi-spectral (MSI)/Hyperspectral (HSI) sensors, Autonomous operations, Advanced processors, Chemical, biological, radiological, and nuclear (CBRN) sensors, Light Detection and Ranging (LiDAR), Alt-Nav, Acoustics, Cross Domain Solutions (CDS) for all sensor modalities, Interfaces for payloads, Gravimetric, Communications, and Advanced Networks capabilities.

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

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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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.

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 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 Surveillance (WAS)/Wide Area Motion Imagery (WAMI) - Imaging over wide areas (multiple square kilometers, city size area) at very spatial and temporal resolution at substantial stand-off distances using various sensor modalities, 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 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.

AI/ML - This effort will place AI/ML edge processing on a small UAS to perform object detection, classification, and identification of targets of interest in the data stream in real time. Edge processing 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. 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.

Wide Area Maritime Target Detection (WAMTD) - System that observes a wide area simultaneously, autonomously detecting objects on the water and identification of targets of interest.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Product Development	4.230	8.429	8.884	0.000	8.884
Articles:	-	-	-	-	-
FY 2022 Plans: - SIGINT/ES product correction of deficiencies & requested enhancements - SAR/MTI product correction of deficiencies & requested enhancements - Improve lab capabilities for Group 1/2 platforms - Integrate AI/ML capability on Group 1/2 platforms - Integrate Enhanced EO capability on Group 1/2 platforms - Transition Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) of advanced technologies and payloads to UAS programs.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Evaluate new sensor technologies and prototype design and fabrication in support of the development and fielding operations of UAS platforms and payloads. - Additive manufacturing techniques, tools, processes and requirements to enable installation production capability for UAS components. ***FY 2023 Base Plans:*** - SIGINT/ES product correction of deficiencies, requested enhancements, and integration - SAR/MTI product correction of deficiencies, requested enhancements, and integration - Improve lab capabilities - Integrate AI/ML capability - Integrate WAMTD capability - Transition Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) of advanced technologies and payloads to UAS programs. - Evaluate new sensor technologies and prototype design and fabrication in support of the development and fielding operations of UAS platforms and payloads. - Additive manufacturing techniques, tools, processes and requirements to enable installation production capability for UAS components. - Develop Alt-Nav/PNT capability for STUAS platforms - Develop Acoustic Battlefield Mapping capability ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The FY 2023 budget increase of $0.455M is primarily due to the development and engineering analysis for payloads specializing in Acoustic Battlefield Mapping and Alt Nav/PNT.					
Title: Support	0.392	0.395	0.536	0.000	0.536
Articles:	-	-	-	-	-
FY 2022 Plans: -Continue government engineering technical support, other government support, program management support. -Continue Integrated Logistics Support (ILS), training concept development and data management/ documentation. ***FY 2023 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
-Continue government engineering technical support, other government support, program management support. -Continue Integrated Logistics Support (ILS), training concept development and data management/ documentation. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The FY 2023 budget increase of $0.141M is due to additional engineering support for payload training development.					
Title: Test and Evaluation ***Articles:*** ***FY 2022 Plans:*** -Continue developmental and operational payload testing ***FY 2023 Base Plans:*** -Continue developmental and operational payload testing ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The FY 2023 budget decrease of $0.100M due to a reduction of cyber payload test requirements associated with SIGINT/ES and SAR/MTI.	0.295 -	0.300 -	0.200 -	0.000 -	0.200 -
Title: Management Services ***Articles:*** ***FY 2022 Plans:*** Government program management support of the SIGINT/ES, SAR/MTI, AI/ML, and Enhanced EO capabilities. Management Services will account for Cross-Organization travel funding requirements. ***FY 2023 Base Plans:*** Government program management support of the development and integration of sensor payloads. Management Services will account for Cross-Organization travel funding requirements. ***FY 2023 OCO Plans:***	0.083 -	0.150 -	0.160 -	0.000 -	0.160 -

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The FY 2023 budget increase of $0.010M is due to additional program management support.					
Accomplishments/Planned Programs Subtotals	5.000	9.274	9.780	0.000	9.780

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• PMC/4787: *UAS Payloads*	5.489	3.730	8.619	-	8.619	7.205	7.187	7.823	7.143	0.000	83.675

Remarks

D. Acquisition Strategy

The UAS Payload program utilizes a hybrid acquisition model. Development typically follows an incremental or spiral approach but also leverages evolutionary and single step to full capability processes. 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), Marine Corps Warfighting Laboratory (MCWL), 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 capabilities 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 RDTE of the capability, systems engineering development into payload suites, and entrance into the fielding process for integration into Unmanned Aircraft Systems (UAS). Payload suites provide capabilities that facilitate the critical functions of the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) across the range of military operations.

The 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 a transition which supports a production decision based on the exit criteria from Phase II.

The UAS Payload program partners with UAS programs to identify required payloads. This includes the following: 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 UAS platform program with initial year sustainment, receiving program is responsible for long-term sustainment funding.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering SIGINT/ES	MIPR	Various : Various	0.000	0.396	Sep 2021	0.945	Dec 2021	1.000	Dec 2022	-		1.000	Continuing	Continuing	Continuing
Systems Engineering SAR/ MTI	SS/BOA	ImSAR : Springville, UT	0.000	0.874	Nov 2021	0.800	Dec 2021	0.500	Dec 2022	-		0.500	Continuing	Continuing	Continuing
Systems Engineering AI/ ML	MIPR	JHU/APL : Baltimore, MD	0.000	0.350	Apr 2021	1.000	Apr 2022	1.000	Feb 2023	-		1.000	Continuing	Continuing	Continuing
Systems Engineering Wide Area Maritime Target Detection	MIPR	TBD : TBD	0.000	0.000	Apr 2021	1.000	Apr 2022	1.000	Feb 2023	-		1.000	0.000	2.000	-
Government Engineering	WR	Various : Various	0.000	0.317	Dec 2020	1.634	Dec 2021	1.415	Dec 2022	-		1.415	Continuing	Continuing	Continuing
Lab	MIPR	DLA : Philadelphia, PA	0.000	1.441	Apr 2021	0.000		0.000		-		0.000	0.000	1.441	-
DTIC	MIPR	DTIC : Ft. Belvoir, VA	0.000	0.000	Apr 2021	3.000	Apr 2022	1.000	Jan 2023	-		1.000	Continuing	Continuing	Continuing
SCCA/SRA/IPP	MIPR	Various : Various	0.000	0.350	Apr 2021	0.000		1.500	Jun 2023	-		1.500	0.000	1.850	-
Alt Nav / PNT	MIPR	TSC : Arlington, VA	0.000	0.497	Apr 2021	0.050	Apr 2022	0.469	Dec 2022	-		0.469	0.000	1.016	-
Acoustic Battlefield	SS/BOA	SARA : Cypress, CA	0.000	0.000		0.000		1.000	Feb 2023	-		1.000	0.000	1.000	-
		Subtotal	0.000	4.225		8.429		8.884		-		8.884	Continuing	Continuing	N/A

Remarks

With the increased budget for Product Development from FY22 to FY23, additional capability will be funded for Acoustic Battlefield Mapping.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	0.000	0.398	Dec 2020	0.395	Dec 2021	0.536	Dec 2022	-		0.536	Continuing	Continuing	Continuing
		Subtotal	0.000	0.398		0.395		0.536		-		0.536	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 8277 / *UAS Payloads*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NAWCAD : Patuxent River, MD	0.000	0.294	Dec 2020	0.300	Dec 2021	0.200	Dec 2022	-		0.200	Continuing	Continuing	Continuing
		Subtotal	0.000	0.294		0.300		0.200		-		0.200	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Services	WR	NAWCAD : Patuxent River, MD	0.000	0.063	Dec 2020	0.130	Dec 2021	0.140	Dec 2022	-		0.140	Continuing	Continuing	Continuing
Travel	Various	Various : Various	0.000	0.020	Oct 2020	0.020	Oct 2021	0.020	Oct 2022	-		0.020	Continuing	Continuing	Continuing
		Subtotal	0.000	0.083		0.150		0.160		-		0.160	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	5.000		9.274		9.780		-		9.780	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

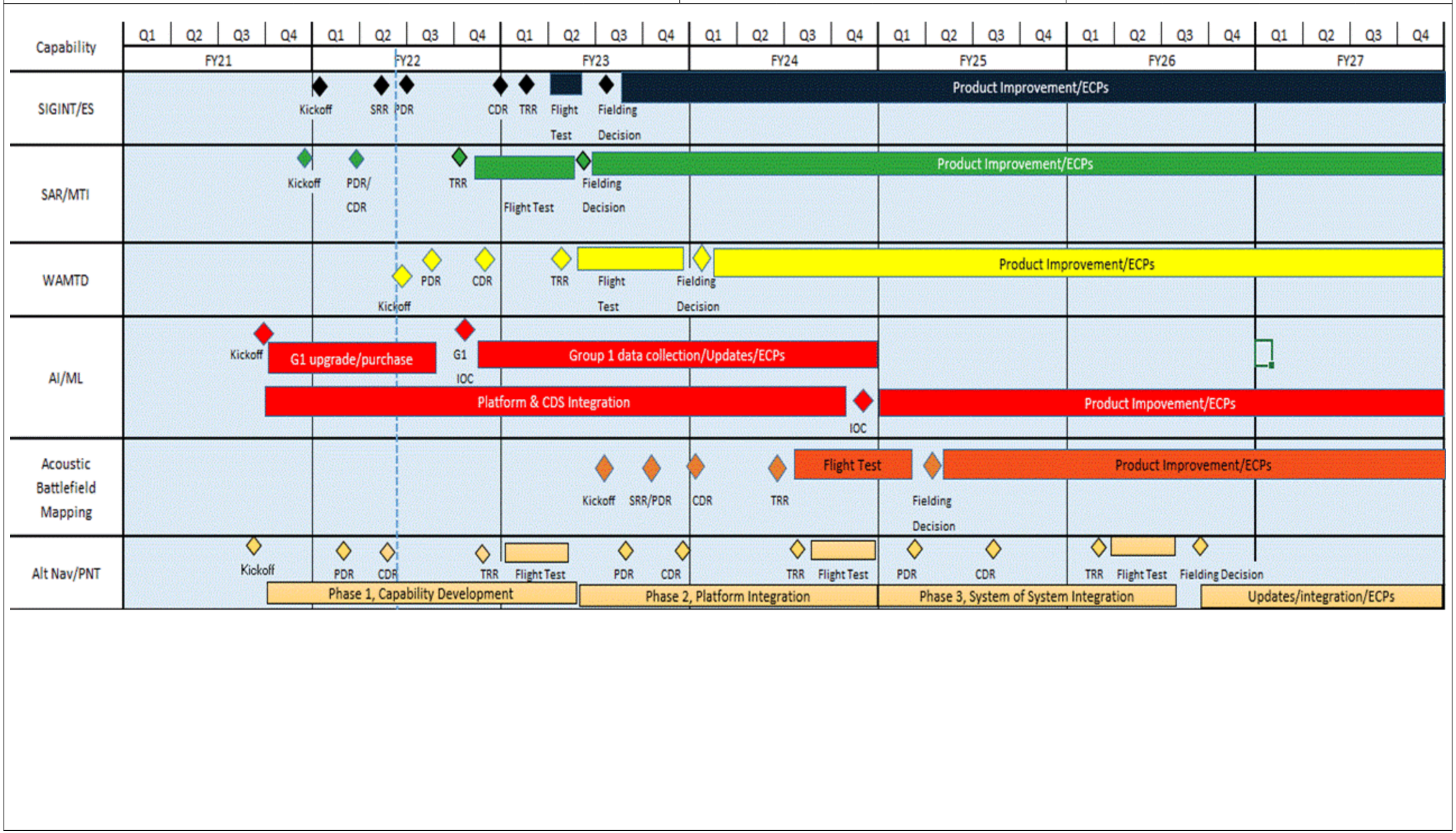

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 8277				
SIGINT/ES: SIGINT/ES Kickoff	1	2022	1	2022
SIGINT/ES: SIGINT/ES SRR	2	2022	2	2022
SIGINT/ES: SIGINT/ES PDR	2	2022	2	2022
SIGINT/ES: SIGINT/ES CDR	4	2022	4	2022
SIGINT/ES: SIGINT/ES TRR	1	2023	1	2023
SIGINT/ES: SIGINT/ES Flight Test	2	2023	2	2023
SIGINT/ES: SIGINT/ES Fielding Decision	3	2023	3	2023
SIGINT/ES: SIGINT/ES Product Improvement/ECPs	3	2023	4	2027
SAR/MTI: SAR/MTI Kickoff	4	2021	4	2021
SAR/MTI: SAR/MTI PDR/CDR	1	2022	1	2022
SAR/MTI: SAR/MTI TRR	4	2022	4	2022
SAR/MTI: SAR/MTI Flight Test	4	2022	2	2023
SAR/MTI: SAR/MTI Fielding Decision	2	2023	2	2023
SAR/MTI: SAR/MTI Product Improvement/ECPs	2	2023	4	2027
Wide Area Maritime Target Detection: Wide Area Maritime Target Detection Kickoff	2	2022	2	2022
Wide Area Maritime Target Detection: Wide Area Maritime Target Detection PDR	3	2022	3	2022
Wide Area Maritime Target Detection: Wide Area Maritime Target Detection CDR	4	2022	4	2022
Wide Area Maritime Target Detection: Wide Area Maritime Target Detection TRR	2	2023	2	2023
Wide Area Maritime Target Detection: Wide Area Maritime Target Detection Flight Test	2	2023	4	2023
Wide Area Maritime Target Detection: Wide Area Maritime Target Detection Fielding Decision	1	2024	1	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Wide Area Maritime Target Detection: Wide Area Maritime Target Detection Product Improvement/ECPs	1	2024	4	2027
AI/ML: AI/ML Kickoff	3	2021	3	2021
AI/ML: AI/ML G1 Upgrade/Purchase	4	2021	3	2022
AI/ML: AI/ML G1 IOC	4	2022	4	2022
AI/ML: AI/ML Group 1 Data Collection/Updates/ECPs	4	2022	4	2024
AI/ML: AI/ML Platform & CDS Integration	4	2021	4	2024
AI/ML: AI/ML IOC	4	2024	4	2024
AI/ML: AI/ML Product Improvement/ECPs	1	2025	4	2027
Acoustic Battlefield Mapping: Acoustic Battlefield Mapping Kickoff	3	2023	3	2023
Acoustic Battlefield Mapping: Acoustic Battlefield Mapping SRR/PDR	4	2023	4	2023
Acoustic Battlefield Mapping: Acoustic Battlefield Mapping CDR	1	2024	1	2024
Acoustic Battlefield Mapping: Acoustic Battlefield Mapping TRR	2	2024	2	2024
Acoustic Battlefield Mapping: Acoustic Battlefield Mapping Flight Test	3	2024	1	2025
Acoustic Battlefield Mapping: Acoustic Battlefield Mapping Fielding Decisioin	2	2025	2	2025
Acoustic Battlefield Mapping: Acoustic Battlefield Mapping Product Improvement/ECPs	2	2025	4	2027
Alt Nav/PNT: Alt Nav/PNT Kickoff	3	2021	3	2021
Alt Nav/PNT: Alt Nav/PNT Phase 1 Capability Development	4	2021	2	2023
Alt Nav/PNT: Alt Nav/PNT Phase 1 Capability Development PDR	1	2022	1	2022
Alt Nav/PNT: Alt Nav/PNT Phase 1 Capability Development CDR	2	2022	2	2022
Alt Nav/PNT: Alt Nav/PNT Phase 1 Capability Development TRR	4	2022	4	2022
Alt Nav/PNT: Alt Nav/PNT Phase 1 Capability Development Flight Test	1	2023	2	2023
Alt Nav/PNT: Alt Nav/PNT Phase 2 Platform Integration	2	2023	4	2024
Alt Nav/PNT: Alt Nav/PNT Phase 2 Platform Integration PDR	3	2023	3	2023
Alt Nav/PNT: Alt Nav/PNT Phase 2 Platform Integration CDR	4	2023	4	2023
Alt Nav/PNT: Alt Nav/PNT Phase 2 Platform Integration TRR	3	2024	3	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 8277 / *UAS Payloads*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Alt Nav/PNT: Alt Nav/PNT Phase 2 Platform Integration Flight Test	3	2024	4	2024
Alt Nav/PNT: Alt Nav/PNT Phase 3 System of System Integration	1	2025	3	2026
Alt Nav/PNT: Alt Nav/PNT Phase 3 System of System Integration PDR	1	2025	1	2025
Alt Nav/PNT: Alt Nav/PNT Phase 3 System of System Integration CDR	3	2025	3	2025
Alt Nav/PNT: Alt Nav/PNT Phase 3 System of System Integration TRR	1	2026	1	2026
Alt Nav/PNT: Alt Nav/PNT Phase 3 System of System Integration Flight Test	1	2026	3	2026
Alt Nav/PNT: Alt Nav/PNT Fielding Decision	3	2026	3	2026
Alt Nav/PNT: Alt Nav/PNT Updates/Integration/ECPs	3	2026	4	2027