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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305242M / <i>Unmanned Aerial Systems (UAS) Payloads</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	5.000	9.274	9.780	13.005	-	13.005	13.402	10.175	11.910	11.336	Continuing	Continuing
8277: <i>UAS Payloads</i>	5.000	9.274	9.780	13.005	-	13.005	13.402	10.175	11.910	11.336	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 Intelligence, Surveillance, and Reconnaissance (ISR) and non-ISR payloads for the USMC Family of UAS. These payloads will alleviate Marine Corps ISR capability gaps caused by changes in mission, threats, and technologies and will increase the versatility of UAS in support of MAGTF mission accomplishment. In support of Force Design 2030 initiative, tactical UAS Reconnaissance, Survivability, and Target Acquisition (RSTA) 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 Planning Guidance and 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 spectrum, gravimetric, chemical, nuclear, and acoustic spectrums and within the visual and physical domain 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.

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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	9.274	9.780	9.472	-	9.472
Current President's Budget	9.274	9.780	13.005	-	13.005
Total Adjustments	0.000	0.000	3.533	-	3.533
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-1.751	-	-1.751
• Rate/Misc Adjustments	0.000	0.000	5.284	-	5.284

Change Summary Explanation

The increase of \$3.225M from FY 2023 to FY 2024 is for efforts within the schedule associated with the Signals Intelligence (SIGINT)/Electronic Warfare Support (ES), Synthetic Aperture Radar (SAR)/Moving Target Indicator (MTI), Artificial Intelligence (AI)/Machine Learning (ML), Wide Area Maritime Target Detection and Classification (WAMTDC), SUAS Reusable Architecture (SRA)/Common Sensor Workstation (CSW), Acoustic Battlefield capabilities, and Government Engineering. There will be an increase in deficiency corrections and enhancements for the SIGINT/ES, SAR/MTI, AI/ML, and WAMTDC capabilities. SRA implementation will be conducted in 2 phases: payload capabilities vendor integration and platform integration.

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Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / <i>Unmanned Aerial Systems (UAS) Payloads</i>	Project (Number/Name) 8277 / <i>UAS Payloads</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
8277: <i>UAS Payloads</i>	5.000	9.274	9.780	13.005	-	13.005	13.402	10.175	11.910	11.336	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 Intelligence, Surveillance, and Reconnaissance (ISR) and non-ISR payloads for the USMC Family of UAS. These payloads will alleviate Marine Corps ISR capability gaps caused by changes in mission, threats, and technologies and will increase the versatility of UAS in support of MAGTF mission accomplishment.

In support of the Commandant of the Marine Corps (CMC) Planning Guidance and 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 spectrum, gravimetric, chemical, nuclear, and acoustic spectrums and within the visual and physical domain 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 Sensor 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 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), Artificial Intelligence/Machine Learning (AI/ML), Wide Area Maritime Target Detection and Classification (WAMTDC), 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, including SUAS Reusable Architecture (SRA) and Common Sensor Workstation (CSW), 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.

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SAR/MTI - Locate and track surface 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 and Classification (WAMTDC) - System that observes a wide area simultaneously, autonomously detecting objects on the water and identification of targets of interest.

Common Sensor Workstation (CSW) - Ruggedized ground station payload operator designed to support multiple payloads and capabilities on low side.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Product Development	8.494	8.884	12.029	0.000	12.029
Articles:	-	-	-	-	-
FY 2023 Plans:					
- Continue SIGINT/ES product correction of deficiencies, requested enhancements, and integration					
- Continue SAR/MTI product correction of deficiencies, requested enhancements, and integration					
- Continue to improve lab capabilities					
- Continue Integrating AI/ML capability					
- Continue Integrating WAMTDC capability					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							
<ul style="list-style-type: none"> - Continue to transition Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) of advanced technologies and payloads to UAS programs. - Continue to evaluate new sensor technologies and prototype design and fabrication in support of the development and fielding operations of UAS platforms and payloads. - Continue to utilize additive manufacturing techniques, tools, processes and requirements to enable installation production capability for UAS components. - Initiate development of Alt-Nav/PNT capability for STUAS platforms <p>FY 2024 Base Plans:</p> <ul style="list-style-type: none"> - Continue SIGINT/ES product correction of deficiencies, requested enhancements, and integration - Continue SAR/MTI product correction of deficiencies, requested enhancements, and integration - Continue to integrate AI/ML capability - Continue to integrate WAMTDC capability - Continue to transition C4ISR of advanced technologies and payloads to UAS programs. - Continue to evaluate new sensor technologies and prototype design and fabrication in support of the development and fielding operations of UAS platforms and payloads. - Continue to utilize additive manufacturing techniques, tools, processes and requirements to enable installation production capability for UAS components. - Continue to develop Alt-Nav/PNT capability for STUAS platforms - Develop Common Sensor Workstation (CSW) and integrate with Payloads - Platform integration efforts for Small UAS (SUAS) Reusable Architecture (SRA) <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase due to a ramp up in efforts associated with SIGINT/ES, SAR/MTI, WAMTDC, SRA/CSW and Government Engineering capabilities.</p>							
Title: Support							
FY 2023 Plans:							
- Continue government engineering technical support, other government support, program management support.							
		Articles:	0.611	0.536	0.546	0.000	0.546
			-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>- Continue Integrated Logistics Support (ILS), training concept development and data management/documentation.</p> <p>FY 2024 Base Plans:</p> <p>- Continue government engineering technical support, other government support, program management support.</p> <p>- Continue Integrated Logistics Support (ILS), training concept development and data management/documentation.</p> <p>FY 2024 OCO Plans:</p> <p>N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p> <p>No significant change.</p>					
<p>Title: Test and Evaluation</p> <p align="right">Articles:</p>	0.050 -	0.200 -	0.300 -	0.000 -	0.300 -
<p>FY 2023 Plans:</p> <p>- Continue developmental and operational payload testing</p> <p>FY 2024 Base Plans:</p> <p>- Continue developmental and operational payload testing</p> <p>FY 2024 OCO Plans:</p> <p>N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p> <p>Increase is due to additional Test and Evaluation planned in FY 2024 in support of product fielding decisions.</p>					
<p>Title: Management Services</p> <p align="right">Articles:</p>	0.119 -	0.160 -	0.130 -	0.000 -	0.130 -
<p>FY 2023 Plans:</p> <p>Government program management support of the development and integration of sensor payloads. Management Services will account for Cross-Organization travel funding requirements.</p> <p>FY 2024 Base Plans:</p> <p>Government program management support of the development and integration of sensor payloads.</p>					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Management Services will account for Cross-Organization travel funding requirements.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease Management Services is due to a reduction in contract program management support.					
Accomplishments/Planned Programs Subtotals	9.274	9.780	13.005	0.000	13.005

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/4787: <i>UAS Payloads</i>	3.074	8.619	19.088	-	19.088	17.189	16.844	12.761	11.392	0.000	130.935

Remarks

D. Acquisition Strategy
 UAS Sensor Payload 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.

UAS Sensor Payload execution is inclusive of 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.

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<p>The UAS Sensor 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 and for long-term sustainment funding.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering SIGINT/ES	MIPR	Various : Various	0.396	0.846	Dec 2021	1.000	Dec 2022	1.260	Dec 2023	-		1.260	Continuing	Continuing	Continuing
Systems Engineering SAR/MTI	SS/BOA	Various : Various	0.874	0.836	Dec 2021	0.500	Dec 2022	0.750	Dec 2023	-		0.750	Continuing	Continuing	Continuing
Systems Engineering AI/ML	MIPR	Various : Various	0.350	2.225	Apr 2022	1.000	Feb 2023	1.604	Jan 2024	-		1.604	Continuing	Continuing	Continuing
Systems Engineering Wide Area Maritime Target Detection and Classification	MIPR	Various : Various	0.000	1.029	Apr 2022	1.000	Nov 2023	1.350	Feb 2024	-		1.350	0.000	3.379	-
Government Engineering	MIPR	Various : Various	0.317	0.788	Dec 2021	1.415	Dec 2022	1.750	Dec 2023	-		1.750	Continuing	Continuing	Continuing
Lab	MIPR	DTIC Troop Support : Ft. Belvoir, VA	1.441	0.265	Aug 2022	0.000		0.675	Dec 2023	-		0.675	0.000	2.381	-
DTIC	MIPR	DTIC Troop Support : Ft. Belvoir, VA	0.000	0.670	Apr 2022	1.000	Jan 2023	1.000	Jan 2024	-		1.000	Continuing	Continuing	Continuing
SRA	MIPR	Various : Various	0.350	0.367	Aug 2022	1.500	Jun 2023	0.700	Jun 2024	-		0.700	0.000	2.917	-
CSW	MIPR	Various : Various	0.000	0.850	Aug 2022	0.000		2.240	Feb 2024	-		2.240	0.000	3.090	-
Alt Nav / PNT	MIPR	Various : Various	0.497	0.618	Aug 2022	0.469	Dec 2022	0.500	Dec 2023	-		0.500	0.000	2.084	-
Acoustic Battlefield	SS/BOA	Various : Various	0.000	0.000		1.000	Feb 2023	0.200	Feb 2024	-		0.200	0.000	1.200	-
Subtotal			4.225	8.494		8.884		12.029		-		12.029	Continuing	Continuing	N/A

Remarks
Increase is due to the ramp up of multiple efforts as initial payloads continue development. FY 2024 funds Product Development efforts associated with CSW, CDS, and MLR FOC to meet Force Design 2030 priorities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	Various	Various : Various	0.398	0.611	Dec 2021	0.536	Dec 2022	0.546	Dec 2023	-		0.546	Continuing	Continuing	Continuing
Subtotal			0.398	0.611		0.536		0.546		-		0.546	Continuing	Continuing	N/A

Remarks
No significant change; increase due to inflation.

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	MIPR	NAWCAD : Patuxent River, MD	0.294	0.050	Dec 2021	0.200	Dec 2022	0.300	Dec 2023	-		0.300	Continuing	Continuing	Continuing
Subtotal			0.294	0.050		0.200		0.300		-		0.300	Continuing	Continuing	N/A

Remarks
Increase is due to additional Test and Evaluation planned in FY 2024 in support of product fielding decisions.

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Services	MIPR	NAWCAD : Patuxent River, MD	0.063	0.099	Dec 2021	0.140	Dec 2022	0.100	Dec 2023	-		0.100	Continuing	Continuing	Continuing
Travel	Various	Various : Various	0.020	0.020	Oct 2021	0.020	Oct 2022	0.030	Dec 2023	-		0.030	Continuing	Continuing	Continuing
Subtotal			0.083	0.119		0.160		0.130		-		0.130	Continuing	Continuing	N/A

Remarks
Decrease in Management Services is due to a reduction in contract program management support.

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	Prior Years	FY 2022		FY 2023		FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5.000	9.274		9.780		13.005	-	13.005	Continuing	Continuing	N/A

Remarks
Overall increase due to a ramp up in efforts associated with SIGINT/ES, SAR/MTI, WAMTDC, SRA, prioritization of the CSW and Government Engineering capabilities.

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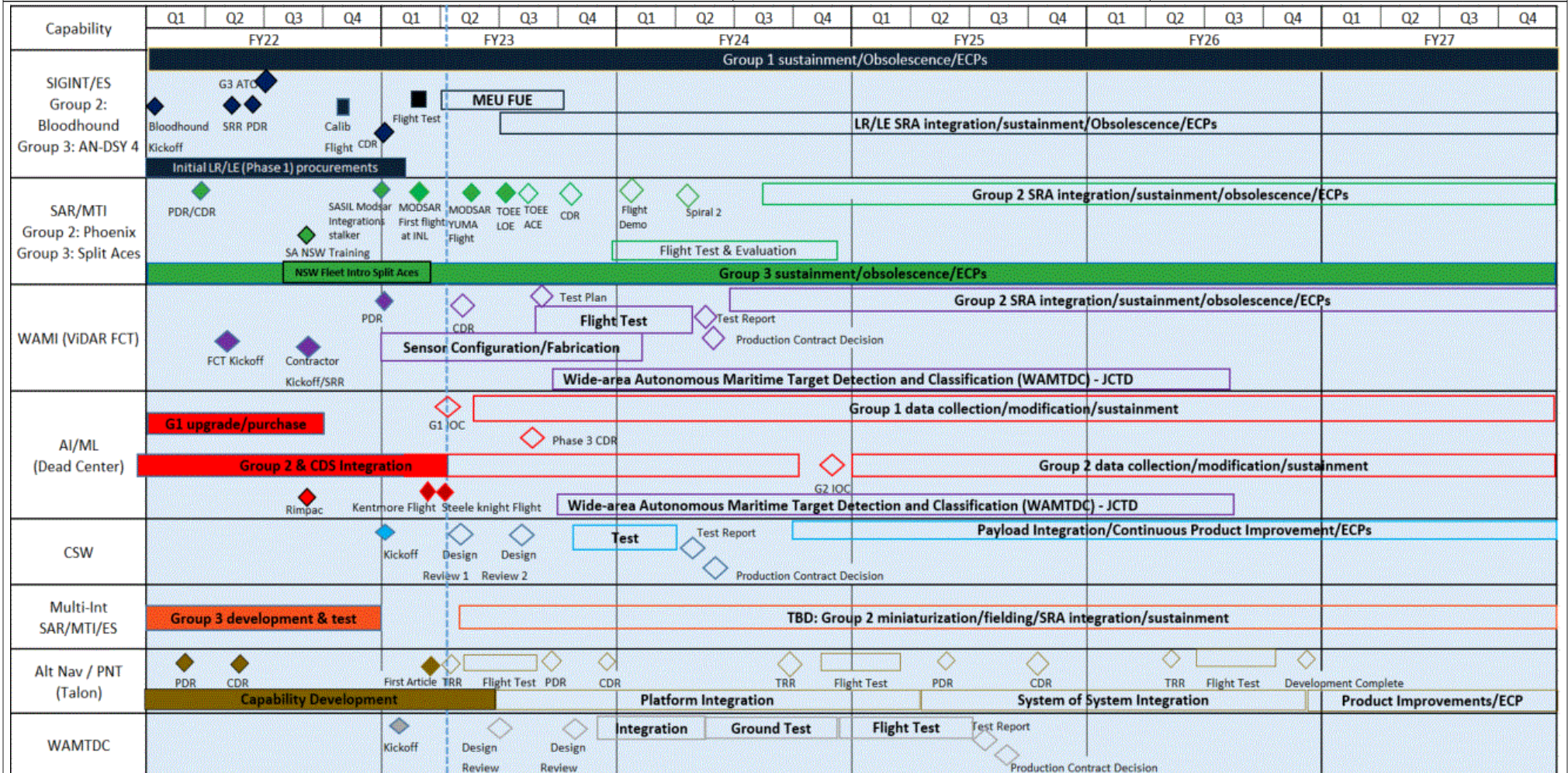
Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy

Date: March 2023

Appropriation/Budget Activity
1319 / 7

R-1 Program Element (Number/Name)
PE 0305242M / Unmanned Aerial Systems
(UAS) Payloads

Project (Number/Name)
8277 / UAS Payloads



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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 8277				
SIGINT/ES: SIGINT/ES Bloodhound 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	1	2023	1	2023
SIGINT/ES: SIGINT/ES Flight Test	1	2023	1	2023
SIGINT/ES: SIGINT/ES FUE	1	2023	4	2023
SIGINT/ES: SIGINT/ES Continuous Product Improvement/ECPs	2	2023	4	2028
SIGINT/ES: SIGINT/ES MEU FUE LR/LE Procurements	1	2022	1	2023
SAR/MTI: SAR/MTI PDR/CDR	1	2022	1	2022
SAR/MTI: SAR/MTI Critical Design Review	4	2023	4	2023
SAR/MTI: SAR/MTI Flight Demo	1	2024	1	2024
SAR/MTI: SAR/MTI Spiral 2 Release	2	2024	2	2024
SAR/MTI: SAR/MTI T&E	4	2023	4	2024
Wide Area Maritime Target Detection and Classification (WAMTDC): WAMTDC Kickoff/SRR	2	2022	2	2022
Wide Area Maritime Target Detection and Classification (WAMTDC): WAMTDC Design Review	1	2023	1	2023
Wide Area Maritime Target Detection and Classification (WAMTDC): WAMTDC Integration/Flight Test	3	2023	2	2024
Wide Area Maritime Target Detection and Classification (WAMTDC): WAMTDC Continuous Product Improvement/ECPs	2	2024	4	2028
Artificial Intelligence/Machine Learning (AI/ML): AI/ML G1 Upgrade/Purchase	1	2022	3	2022

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / <i>Unmanned Aerial Systems (UAS) Payloads</i>	Project (Number/Name) 8277 / <i>UAS Payloads</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Artificial Intelligence/Machine Learning (AI/ML): AI/ML G1 IOC	2	2023	2	2023
Artificial Intelligence/Machine Learning (AI/ML): AI/ML Platform & CDS Integration	1	2022	4	2024
Artificial Intelligence/Machine Learning (AI/ML): AI/ML G2 IOC	4	2024	4	2024
Artificial Intelligence/Machine Learning (AI/ML): AI/ML Continuous Product Improvement/ECPs	1	2025	4	2028
Common Sensor Workstation (CSW): CSW Kickoff	1	2023	1	2023
Common Sensor Workstation (CSW): CSW Design Review 1	2	2023	2	2023
Common Sensor Workstation (CSW): CSW Design Review 2	3	2023	3	2023
Common Sensor Workstation (CSW): CSW Test	4	2023	2	2024
Common Sensor Workstation (CSW): CSW Payload Integration/Continuous Product Improvement/ECPs	3	2024	4	2028
Common Sensor Workstation (CSW): CSW Production Contract Decision	2	2024	2	2024
Alt Nav/PNT: Alt Nav/PNT Capability Development	1	2022	2	2023
Alt Nav/PNT: Alt Nav/PNT Capability Development PDR	1	2022	1	2022
Alt Nav/PNT: Alt Nav/PNT Capability Development CDR	2	2022	2	2022
Alt Nav/PNT: Alt Nav/PNT Capability Development TRR	2	2023	2	2023
Alt Nav/PNT: Alt Nav/PNT Capability Development Flight Test	2	2023	3	2023
Alt Nav/PNT: Alt Nav/PNT Platform Integration	2	2023	2	2025
Alt Nav/PNT: Alt Nav/PNT Platform Integration PDR	3	2023	3	2023
Alt Nav/PNT: Alt Nav/PNT Platform Integration CDR	4	2023	4	2023
Alt Nav/PNT: Alt Nav/PNT Platform Integration TRR	3	2024	3	2024
Alt Nav/PNT: Alt Nav/PNT Platform Integration Flight Test	4	2024	1	2025
Alt Nav/PNT: Alt Nav/PNT System of System Integration	2	2025	4	2026
Alt Nav/PNT: Alt Nav/PNT System of System Integration PDR	2	2025	2	2025
Alt Nav/PNT: Alt Nav/PNT System of System Integration CDR	4	2025	4	2025
Alt Nav/PNT: Alt Nav/PNT System of System Integration TRR	2	2026	2	2026

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Alt Nav/PNT: Alt Nav/PNT System of System Integration Flight Test	2	2026	4	2026
Alt Nav/PNT: Alt Nav/PNT Development Complete	4	2026	4	2026
Alt Nav/PNT: Alt Nav/PNT Continuous Product Improvement/ECPs	4	2026	4	2028