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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 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</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	0.000	15.545	98.883	108.225	-	108.225	111.698	42.137	24.745	25.294	Continuing	Continuing
3448: <i>Marine Group 5 UAS Development</i>	0.000	15.545	96.883	108.225	-	108.225	111.698	42.137	24.745	25.294	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	0.000	2.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.000

Note

The FY 2024 MALE program funding addresses Tier 1 capability gaps identified in the October 2016 MUX ICD and April 2020 MUX Requirements Clarification document.

A. Mission Description and Budget Item Justification

Project 3448 - The first Marine Air Ground Task Force (MAGTF) Unmanned Aircraft System (UAS) Expeditionary (MUX) Family of Systems (FoS) element is Medium-Altitude, Long-Endurance (MALE), a land-based Group 5 UAS based on the MQ-9A weapon system.

MALE provides Intelligence, Surveillance and Reconnaissance (ISR) in support of Expeditionary Advanced Base Operations (EABO), Littoral Operations in Contested Environments (LOCE), and Distributed Maritime Operations (DMO) and an advanced, unmanned, multi-mission capability for the MAGTF and Marine Littoral Regiment (MLR).

MALE will award contracts for initial MQ-9A mission capabilities (payloads/sensors) design, development and integration with payloads supporting Tier 1 mission capabilities. Payload/sensor capabilities consists of Common Operating and Intelligence Picture (COP/CIP) development and integration, Detect And Avoid System (DAAS), Airborne Network Extension (ANE) / SkyTower II, Electronic Warfare (EW) (previously RDESS/SOAR), Maritime Domain Awareness (MDA) (previously Airborne Early Warning), and Proliferated Low Earth Orbit (PLEO).

The USMC MALE program will be supported by UX-24 as the primary test activity/squadron for capability development as well as system modification validation efforts. UX-24 will provide direct support of testing associated with payloads/sensors in support of USMC requirements. The payloads/sensors which undergo testing may require or drive hardware and software modifications during testing to satisfy system, subsystem and component level test parameters.

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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 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>
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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	16.167	96.883	92.085	-	92.085
Current President's Budget	15.545	98.883	108.225	-	108.225
Total Adjustments	-0.622	2.000	16.140	-	16.140
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	2.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.622	0.000			
• Program Adjustments	0.000	0.000	15.689	-	15.689
• Rate/Misc Adjustments	0.000	0.000	0.451	-	0.451

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Autonomous maritime patrol aircraft*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2022	FY 2023
	0.000	2.000
	0.000	2.000
	0.000	2.000

Change Summary Explanation

Funding: FY24 funding request was increased by \$16.140M due to the acceleration of the Maritime Domain Awareness (MDA) sensor capability.

Schedule changes from PB23 to PB24:

-SkyTower II / ANE development schedule started later in FY22 due to contract award delay with multiple competing vendors. Development completion extended to 1QFY25 due to updated vendor execution plan accounting for delayed contract award in 4QFY22.

-AEW renamed to MDA for consistency in nomenclature across government and industry partners. Development timeline extended to align to USAF and vendor partnership efforts required as predecessors to MUX/MALE integration of the MDA payload.

-RDESS/SOAR EW label truncated to EW for standardization across development partners.

-DAAS development timeline extended to align with partner developer Air National Guard (ANG) and follow-on NAVAIR airworthiness certification.

-PLEO development timeline added to reflect focused effort on enabling capability to SkyTower II. PLEO is a subcomponent of the SkyTower II budget; previously only represented by the SkyTower II timeline.

-Thresher / Common Operating Picture development timeline added to reflect focused effort on enabling capability to EW. Thresher is a subcomponent of the EW budget; previously only represented by the EW timeline.

-Test and Evaluation Activities timeline in PB23 schedule integrated into each of the payload development timelines for the PB24 schedule.

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-Production Air Vehicles timeline removed as it is not part of Increment II development (RDTE) for MUX/MALE. It is a production activity in Increment I funded by APN-4.
-MALE Increment I EOC milestone removed as it is not part of Increment II development (RDTE) for MUX/MALE. It is a production activity in Increment I funded by APN-4.
-Kit/pod procurements added to align with modification program
-MALE Increment I IOC milestone removed and replaced with IOC to represent Increment II IOC for MUX/MALE.
Technical: N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>				Project (Number/Name) 3448 / <i>Marine Group 5 UAS Development</i>			
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
3448: <i>Marine Group 5 UAS Development</i>	0.000	15.545	96.883	108.225	-	108.225	111.698	42.137	24.745	25.294	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The FY24 MALE program funding, PE 0603128N, addresses Tier 1 capability gaps identified in the October 2016 MUX ICD and April 2020 MUX Requirements Clarification document.

Project 3448 - The first Marine Air Ground Task Force (MAGTF) Unmanned Aircraft System (UAS) Expeditionary (MUX) Family of Systems (FoS) element is Medium-Altitude, Long-Endurance (MALE), a land-based Group 5 UAS based on the MQ-9A weapon system.

MALE provides Intelligence, Surveillance and Reconnaissance (ISR) in support of Expeditionary Advanced Base Operations (EABO), Littoral Operations in Contested Environments (LOCE), and Distributed Maritime Operations (DMO) and an advanced, unmanned, multi-mission capability for the MAGTF and Marine Littoral Regiment.

MALE will award contracts for initial MQ-9A mission capabilities (payloads/sensors) design, development and integration with payloads supporting Tier 1 mission capabilities. Payload/sensor capabilities consists of Common Operating and Intelligence Picture (COP/CIP) development and integration, Detect And Avoid System (DAAS), Airborne Network Extension (ANE) / SkyTower II, Electronic Warfare (EW), Maritime Domain Awareness (MDA), Proliferated Low Earth Orbit (PLEO).

The USMC MALE program will be supported by UX-24 as the primary test activity/squadron for capability development as well as system modification validation efforts. UX-24 will provide direct support of testing associated with payloads/sensors in support of USMC requirements. The payloads/sensors which undergo testing may require or drive hardware and software modifications during testing to satisfy system, subsystem and component level test parameters.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: MALE Primary Hardware/Software Development/Integration	14.215	65.712	72.419	0.000	72.419
Articles:	-	-	-	-	-
Description: Funding supports the development and integration of mission system payloads supporting medium altitude long endurance concept identified within the MUX Initial Capabilities Document (ICD).					
FY 2023 Plans: MALE will initiate contract award for MQ-9A capability and payload development, capability integration studies, design work, technical requirements generation and full integration of sensors into the system.					
FY 2024 Base Plans:					

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 3448 / <i>Marine Group 5 UAS Development</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>MALE will support MQ-9A capability and payloads/sensors primary hardware development, Non-Recurring Engineering (NRE), capability integration studies, design work and Air Vehicle and Ground Control Station integration. MALE will also support programmatic, engineering, logistics, technical requirements generation, development test and full integration of payloads/sensors into the system.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY24 increased by \$6.707 due to the acceleration of development and integration, Detect and Avoid System (DAAS), Airborne Network Extension (ANE) / SkyTower II, Electronic Warfare (EW), Maritime Domain Awareness (MDA), Proliferated Low Earth Orbit (PLEO).</p>					
<p>Title: MALE Program Support</p> <p align="right">Articles:</p> <p>Description: Funding provided for support costs associated with mission system payloads supporting medium altitude long endurance concept identified within the MUX Initial Capabilities Document (ICD).</p> <p>FY 2023 Plans: Program, engineering and logistics support for contract award for MQ-9A capability and payload development, capability integration studies, design work, technical requirements generation and full integration of sensors into the system.</p> <p>FY 2024 Base Plans: Program, engineering and logistics support for contract award for MQ-9A capability and payload development, capability integration studies, design work, technical requirements generation and full integration of sensors into the system.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY24 Management Services increased by \$4.217 to support the development of the four (4) primary sensor capabilities for the MALE program. These services support the prime vendors with overall systems development for air vehicle and sensor capability packages. Additionally, the increase funds government and contractor</p>	0.091	16.197	20.414	0.000	20.414
	-	-	-	-	-

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 3448 / <i>Marine Group 5 UAS Development</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
support, along with travel to support MALE Mission Sensors development and integration across sensor systems.					
<p>Title: MALE Developmental and Operational Test</p> <p align="right">Articles:</p> <p>Description: Funding supports the development and operational testing of mission system payloads supporting medium altitude long endurance concept identified within the MUX Initial Capabilities Document (ICD).</p> <p>FY 2023 Plans: FY23 Test plan consists of Environmental Electronic Effects, Electro Magnetic Interference, P-Static (Precipitation Static) Condition, Electromagnetic Radiation Hazards Testing, Emitter verification Direct Inject ID and Geolocation, Sensitivity testing of DAAS pod, EW, AEW sensor, and SkyTower II ANE pod.</p> <p>FY 2024 Base Plans: FY24 Test plan consists of Environmental Electronic Effects, Electro Magnetic Interference, P-Static (Precipitation Static) Condition, Electromagnetic Radiation Hazards Testing, Emitter verification Direct Inject ID and Geolocation, Sensitivity testing of DAAS pod, EW, MDA sensor, and ANE/SkyTower II pod.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY24 increased by \$.418M to support required system level development and testing for the integration of mission system payloads on MALE.</p>	1.239	14.974	15.392	0.000	15.392
	-	-	-	-	-
Accomplishments/Planned Programs Subtotals	15.545	96.883	108.225	0.000	108.225

C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• APN/0452: <i>Marine Group 5 UAS (MALE)</i>	272.666	103.882	89.563	-	89.563	15.519	10.460	11.059	11.457	0.000	514.606
• APN/0507: <i>Marine Group 5 UAS (MALE) Mods</i>	1.982	86.116	98.063	-	98.063	157.964	193.207	166.395	64.147	1.500	769.374

Remarks

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 3448 / <i>Marine Group 5 UAS Development</i>
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D. Acquisition Strategy

The MALE sensor acquisition strategy leverages existing developmental programs with mature technology readiness level (TRL) Airborne Network Extension (ANE) / SkyTower II, Maritime Domain Awareness (MDA), Electronic Warfare (EW), and Detect And Avoid System (DAAS) capabilities for transition and integration on the MQ-9A UAS. The MALE capabilities (payloads/sensor) acquisition strategy uses organic government resources, competitive and sole-source contract awards, and assisted acquisition approaches to develop, integrate, and acquire the discrete capabilities.

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 3448 / <i>Marine Group 5 UAS Development</i>
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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			
Primary Development (Hardware/Software) Detect and Avoid System (DAAS)	C/CPIF	General Atomics : Various	0.000	0.357	Sep 2022	6.821	Apr 2023	5.572	May 2024	-		5.572	0.000	12.750	23.937
Primary Development (Hardware/Software) Airborne Network Extension (ANE) / SkyTower II pod	C/FFP	TBD : TBD	0.000	6.514	Sep 2022	12.923	Apr 2023	11.500	Apr 2024	-		11.500	7.887	38.824	-
Primary Development (Hardware/Software) Electronic Warfare	C/CPIF	General Atomics/L3 : Various	0.000	0.850	Sep 2022	17.400	Mar 2023	5.000	May 2024	-		5.000	Continuing	Continuing	Continuing
Primary Development (Hardware/Software) Maritime Domain Awareness (MDA)	C/BA	TBD : TBD	0.000	0.000		9.000	Aug 2023	23.289	Jun 2024	-		23.289	2.789	35.078	-
DAAS Sensor Integration	C/CPIF	General Atomics : Various	0.000	0.000		2.000	May 2023	1.704	Feb 2024	-		1.704	0.704	4.408	11.127
Airborne Network Extension (ANE) / SkyTower II Integration	C/FFP	TBD : TBD	0.000	0.000		3.608	Apr 2023	12.749	May 2024	-		12.749	46.342	62.699	-
Electronic Warfare (EW) Integration	C/CPIF	General Atomics/L3 : Various	0.000	0.000		11.960	Mar 2023	3.387	Mar 2024	-		3.387	3.962	19.309	-
Maritime Domain Awareness (MDA) Integration	Various	TBD : TBD	0.000	0.000		0.000		3.818	Jun 2024	-		3.818	4.930	8.748	-
Primary Development / Integration Tactical Common Operating Picture / Talon Thresher	C/CPIF	General Atomics : Various	0.000	0.856	Sep 2022	0.000		0.000		-		0.000	0.000	0.856	-
Primary Development (Hardware/Software) PLEO	TBD	General Atomics : Various	0.000	0.000		2.000	May 2023	5.400	Jun 2024	-		5.400	0.000	7.400	-
Subtotal			0.000	8.577		65.712		72.419		-		72.419	Continuing	Continuing	N/A

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 3448 / <i>Marine Group 5 UAS Development</i>
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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			

Remarks
FY24 increase by \$6.707 is due to the of planned hardware development efforts for Airborne Network Extension (ANE)/SkyTower II and MDA. Note: Updates to nomenclature from AEW to MDA, RDESS/SOAR to EW and Global Lightning to PLEO to align to capabilities in development.

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			
Development Support	Various	Various : Various	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Engineering Support	Various	Various : Various	0.000	1.756	Mar 2022	4.000	Apr 2023	3.549	Apr 2024	-		3.549	0.000	9.305	-
Integrated Logistics Support	Various	Various : Various	0.000	0.123	Mar 2022	5.695	Apr 2023	9.733	Apr 2024	-		9.733	3.495	19.046	-
Subtotal			0.000	1.879		9.695		13.282		-		13.282	3.495	28.351	N/A

Remarks
FY24 funding increased by \$3.587 for Engineering Support and Integrated Logistics Support (ILS) costs to support the integration of four sensor capabilities on the MALE program.

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)	Various	Various : Various	0.000	0.000		6.502	Jan 2023	7.132	Jan 2024	-		7.132	44.490	58.124	-
Subtotal			0.000	0.000		6.502		7.132		-		7.132	44.490	58.124	N/A

Remarks
FY24 funding increased by \$0.630 to support required system level development and testing for the costs to support the integration of four sensor capabilities on the MALE program.

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 3448 / <i>Marine Group 5 UAS Development</i>
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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			
Gov Engineering	C/BA	NAWCAD : Patuxent River, MD	0.000	1.788	Nov 2021	5.023	Dec 2022	5.623	Nov 2023	-		5.623	45.207	57.641	-
Program Management Support	C/BA	NAWCAD : Patuxent River, MD	0.000	3.301	Nov 2021	9.801	Dec 2022	9.619	Nov 2023	-		9.619	15.301	38.022	-
Travel	C/BA	NAWCAD : Patuxent River, MD	0.000	0.000	Nov 2021	0.150	Dec 2022	0.150	Nov 2023	-		0.150	0.300	0.600	-
Subtotal			0.000	5.089		14.974		15.392		-		15.392	60.808	96.263	N/A

Remarks
FY24 funding increased by \$0.418 for Government Engineering and Program Management to support workload associated with management of the MALE Mission Sensors development and integration across four sensor systems.

	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	0.000	15.545	96.883	108.225	-	108.225	Continuing	Continuing	N/A

Remarks

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

Date: March 2023

Appropriation/Budget Activity
1319 / 4

R-1 Program Element (Number/Name)
PE 0603128N / *Unmanned Aerial System*

Project (Number/Name)
3448 / *Marine Group 5 UAS Development*

	FY2022				FY2023				FY2024				FY2025				FY2026				FY2027				FY2028	
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
DAAS							◆ PDR/CDR		▲ 3 X Kits				▲ 6 X Kits			▲ 2 X Kits				▲ 7 X Kits				▲ 2 X Kits		
Dev/T&E																										
T&E/Cyber/Integration																										
Airborne Network Extension (ANE) / SkyTower II							◆ TIM		◆ TIM			▲ 2 X RDTE Pods				▲ 7 X Pods				▲ 5 X Pods				▲ 5 Pods		▲ 3 X Kits
Dev/T&E																										
T&E/Cyber/Integration																										
PLEO							◆ PDR/CDR									▲ 8 X Kits				▲ 4 X Kits				▲ 7 X Kits		▲ 1 X Kits
Dev/T&E																										
T&E/Cyber/Integration																										
EW							◆ PDR/CDR		▲ 2 X RDTE Pods				▲ 6 X Pods			▲ 1 X Pods				▲ 3 X Pods						
Dev/T&E																										
T&E/Cyber/Integration																										
MDA							◆ PDR/CDR									▲ 2 X Pods				▲ 3 X Pods				▲ 3 X Pods		▲ 2 X Pods
Dev/T&E																										
T&E/Cyber/Integration																										
Thresher/ Common Operating Picture													▲ 6 X Kits													
Dev/T&E																										
T&E/Cyber/Integration																										
Various Sensor & Mission Systems Integration																										
Program Milestones																										★ IOC
																										★ FOC

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 3448 / <i>Marine Group 5 UAS Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3448				
System Development Activites: Detect and Avoid System (DAAS)	3	2022	4	2023
System Development Activites: Airborne Network Extension (ANE) / SkyTower II	4	2022	2	2024
System Development Activites: PLEO	1	2023	1	2024
System Development Activites: Electronic Warfare (EW) sensor production	4	2022	3	2023
System Development Activites: Maritime Domain Awareness (MDA) Sensor integration	2	2023	4	2023
System Development Activites: Thresher / Common Operating Picture	2	2022	3	2023
Test and Evaluation Activities: Detect and Avoid System (DAAS)	4	2023	1	2025
Test and Evaluation Activities: Airborne Network Extension (ANE) / SkyTower II	2	2024	2	2025
Test and Evaluation Activities: Airborne Network Extension (ANE) / SkyTower II RDT&E Pods	3	2024	3	2024
Test and Evaluation Activities: PLEO	1	2024	2	2025
Test and Evaluation Activities: Electronic Warfare (EW)	3	2023	2	2025
Test and Evaluation Activities: Electronic Warfare (EW) sensor production RDT&E Pods	3	2023	3	2023
Test and Evaluation Activities: Maritime Domain Awareness (MDA) Sensor integration	4	2023	3	2025
Test and Evaluation Activities: Thresher / Common Operating Picture	3	2023	4	2027
Production Milestones: Detect and Avoid System (DAAS) Lot 1	4	2023	4	2023
Production Milestones: Detect and Avoid System (DAAS) Lot 2	4	2024	4	2024
Production Milestones: Detect and Avoid System (DAAS) Lot 3	3	2025	3	2025
Production Milestones: Detect and Avoid System (DAAS) Lot 4	3	2026	3	2026
Production Milestones: Detect and Avoid System (DAAS) Lot 5	3	2027	3	2027
Production Milestones: Airborne Network Extension (ANE) / SkyTower II Lot 1	3	2025	3	2025

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

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: Airborne Network Extension (ANE) / SkyTower II Lot 2	3	2026	3	2026
Production Milestones: Airborne Network Extension (ANE) / SkyTower II Lot 3	3	2027	3	2027
Production Milestones: Airborne Network Extension (ANE) / SkyTower II Lot 4	2	2028	2	2028
Production Milestones: PLEO Lot 1	2	2025	2	2025
Production Milestones: PLEO Lot 2	2	2026	2	2026
Production Milestones: PLEO Lot 3	2	2027	2	2027
Production Milestones: PLEO Lot 4	2	2028	2	2028
Production Milestones: Electronic Warfare (EW) sensor production Lot 1	2	2024	2	2024
Production Milestones: Electronic Warfare (EW) sensor production Lot 2	3	2025	3	2025
Production Milestones: Electronic Warfare (EW) sensor production Lot 3	3	2026	3	2026
Production Milestones: Maritime Domain Awareness (MDA) Lot 1	2	2025	2	2025
Production Milestones: Maritime Domain Awareness (MDA) Lot 2	3	2026	3	2026
Production Milestones: Maritime Domain Awareness (MDA) Lot 3	3	2027	3	2027
Production Milestones: Maritime Domain Awareness (MDA) Lot 4	2	2028	2	2028
Production Milestones: Thresher / Common Operating Picture Lot 1	2	2024	2	2024
MALE Program Milestones: Initial Operational Capability (IOC)	4	2025	4	2025
MALE Program Milestones: Full Operational Capability (FOC)	4	2027	4	2027
MALE Program Milestones: Detect and Avoid System (DAAS) PDR/CDR	2	2023	2	2023
MALE Program Milestones: ANE / SkyTower II TIM1	2	2023	2	2023
MALE Program Milestones: ANE / SkyTower II TIM 2	1	2022	1	2022
MALE Program Milestones: PLEO PDR/CDR	2	2023	2	2023
MALE Program Milestones: Electronic Warfare (EW) sensor PDR/CDR	1	2023	1	2023
MALE Program Milestones: Maritime Domain Awareness (MDA) Sensor PDR/CDR	3	2023	3	2023

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

Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603128N / Unmanned Aerial System			Project (Number/Name) 9999 / Congressional Adds				
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
9999: <i>Congressional Adds</i>	0.000	0.000	2.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Autonomous Maritime Patrol Aircraft (AMPA) project provides funding to address capability gaps identified in the 2025 Fleet and COCOM Integrated Priority Lists (IPLs), including a need for persistent Command, Control, and Communications (C3) and Intelligence, Surveillance, and Reconnaissance (ISR) capabilities. This ultra-long endurance (ULE) solar-powered unmanned aerial system (UAS) is executing Phase 1 of a Joint Capability Technology Demonstration (JCTD). At the culmination of the JCTD, the AMPA demonstration variant of the aircraft is intended to have a 90+ day endurance, up to an 800-pound payload capacity, and enough electrical power available (target goal is 2kW) to simultaneously operate a suite of C3 and ISR payloads.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2022	FY 2023
Congressional Add: Autonomous maritime patrol aircraft	0.000	2.000
FY 2022 Accomplishments: N/A		
FY 2023 Plans: Planned efforts include conducting design refinement activities, systems engineering, architecture studies, sustainment analysis, and fleet experimentation to inform future integration approaches and decisions for platform, payload, autonomous mission control capabilities, ground control stations, networking and communications infrastructure development.		
Congressional Adds Subtotals	0.000	2.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The AMPA acquisition strategy leverages completion of the ongoing JCTD and experimentation to inform future Fleet capability delivery model. Initial delivery models under analysis include Contractor Owned/Contractor Operated (COCO) or Government Owned/ Contractor Operated (GOCO) operations; or appropriate milestone insertion into a traditional program of record. Additionally, future AMPA Mission System Payloads will leverage other services and government agencies with current technologies in development and will be available at a relatively mature technology.

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
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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			
Operational Payload Integration/ Experimentation events	Various	Various : Various	0.000	0.000		1.170	Jul 2023	0.000		-		0.000	0.000	1.170	-
Subtotal			0.000	0.000		1.170		0.000		-		0.000	0.000	1.170	N/A

Remarks
FY23 increase of \$1.17 supports product development for the transition of the developed the Autonomous Maritime Patrol Aircraft (AMPA).

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 Support	Various	Various : Various	0.000	0.000		0.830	Jul 2023	0.000		-		0.000	0.000	0.830	-
Subtotal			0.000	0.000		0.830		0.000		-		0.000	0.000	0.830	N/A

Remarks
FY23 increase of \$0.830 supports management services for the transition of the Autonomous Maritime Patrol Aircraft (AMPA).

	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	0.000	0.000	2.000	0.000	-	0.000	0.000	2.000	N/A

Remarks
JCTD Phase 1 and Phase 2 in progress, currently supported with OSD Research and Engineering funding.

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
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Proj 9999	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
System Development Activities							Fleet Payload Dev & Integration																						
Test and Evaluation Activities						JCTD Ph1																							
						JCTD Ph2				FLEX/ Op Demos																			

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603128N / <i>Unmanned Aerial System</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 9999</i>				
System Development Activities: Fleet Payload Dev & Integration	3	2023	4	2024
Test and Evaluation Activities: JCTD Ph1	2	2023	2	2023
Test and Evaluation Activities: JCTD Ph2	2	2023	4	2023
Test and Evaluation Activities: FLEX/ Op Demos	1	2024	4	2024