

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 7: Operational Systems Development</i>					<b>R-1 Program Element (Number/Name)</b> PE 0605520M / <i>MARINE CORPS AIR DEFENSE WEAPONS SYS</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	69.425	59.018	69.663	99.860	-	99.860	62.320	32.333	27.730	27.226	Continuing	Continuing
2278: <i>Air Defense Weapons System</i>	69.425	51.474	40.690	77.454	-	77.454	54.489	26.382	25.731	26.246	Continuing	Continuing
2578: <i>GBAD: Medium Range Intercept Capability (MRIC)</i>	0.000	7.544	7.973	22.406	-	22.406	7.831	5.951	1.999	0.980	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	0.000	21.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	21.000

**A. Mission Description and Budget Item Justification**

This program element supports the Low Altitude Air Defense (LAAD) Battalion's missions of Short Range Air Defense (SHORAD), Medium Range Air Defense and provides the Marine Air Ground Task Force (MAGTF) to include; maneuver forces, bases, posts and stations, the necessary force protection to defeat the full spectrum of threats associated with the Marine Corps Low-Altitude Air Defense mission, to include hostile aerial threats from Unmanned Aerial Systems (UAS). With the proliferation of both military and commercial UAS platforms, the program is pursuing and acquiring more lethal and survivable air defense weapon systems platforms; such as JLTV's with armored protection and better maneuverability than a HMMWV, providing increased Counter-UAS capabilities now and continually spiraling out increasing capability for the foreseeable future. The Medium Range Intercept Capability (MRIC) will provide a capability to defend fixed and operationally fixed sites primarily against threat subsonic/supersonic cruise missiles; secondarily against UAS and other aerial threats that enter into the MRIC's Weapons Engagement Zone (WEZ). The system will be integrated into the Integrated Air Missile Defense (IAMD) Family of Systems (FoS) to facilitate a layered defense against aerial threats

**B. Program Change Summary (\$ in Millions)**

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	61.381	48.663	81.235	-	81.235
Current President's Budget	59.018	69.663	99.860	-	99.860
Total Adjustments	-2.363	21.000	18.625	-	18.625
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	21.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.363	0.000			
• Program Adjustments	0.000	0.000	21.977	-	21.977
• Rate/Misc Adjustments	0.000	0.000	-3.352	-	-3.352

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / <i>MARINE CORPS AIR DEFENSE WEAPONS SYS</i>
---	---

<b>Congressional Add Details (\$ in Millions, and Includes General Reductions)</b>	<b>FY 2022</b>	<b>FY 2023</b>
<b>Project:</b> 9999: <i>Congressional Adds</i>		
Congressional Add: <i>COTS expeditionary radar augmentation</i>	0.000	4.000
Congressional Add: <i>Medium-Range Intercept Capability (MRIC)</i>	0.000	7.000
Congressional Add: <i>Next generation counter-UAS hard kill</i>	0.000	10.000
Congressional Add Subtotals for Project: 9999	0.000	21.000
Congressional Add Totals for all Projects	0.000	21.000

**Change Summary Explanation**

Total increase of \$30.197M is comprised of:

Marine Corps Air Defense Weapons Systems increases \$36.764M from FY 2023 to FY 2024 is due to the ramp up of development and testing of the MADIS Inc 1 Block 2 required to support increased lethality. As adversaries advance their capabilities, the MADIS Inc 1 must continue to identify increased capabilities to meet and defeat these advanced capabilities. The increase also supports initiation of System Integration Test (SIT) #2, System Verification Test (SVT) #2 as well as initiation of Initial Operational Test & Evaluation (IOT&E) of the L-MADIS. FY 2024 also initiates the RDT&E to support the I-CsUAS program of record and demonstration of the capability.

Medium Range Intercept Capability (MRIC) increase of \$14.433M from FY 2023 to FY 2024 is required to support the initiation of multiple testing events (to include environmental, interoperability, transportability), as well as the initiation of the Quick Reaction Assessment (QRA) required prior to deployment.

Congressional Add decrease of \$21.000M from FY 2023 to FY 2024 due to the completion of demonstration efforts associated to the Extended Multi-Mission Hemispheric Radar (exMHR), continuation of MRIC deployment efforts within PE 0605520M Project 2578.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 1319 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS				<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
2278: Air Defense Weapons System	69.425	51.474	40.690	77.454	-	77.454	54.489	26.382	25.731	26.246	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

Marine Corps Air Defense Weapons Systems includes multiple Commandant of the Marine Corps (CMC) Force Design priority items. It supports the Low Altitude Air Defense (LAAD) Battalion's mission of Short Range Air Defense (SHORAD) and provides the Marine Air Ground Task Force (MAGTF) to include; maneuver forces, bases, posts and stations, the necessary force protection to defeat the full spectrum of threats associated with the Marine Corps Low Altitude Air Defense mission, to include hostile aerial threats from Unmanned Aircraft Systems (UAS) and manned fixed wing/rotary wing aircraft. With the proliferation of both military and commercial UAS and platforms, the program is pursuing and acquiring more lethal and survivable air defense weapons systems platforms; such as JLTV's with armored protection and better maneuverability than a HMMWV, providing increased Counter-UAS (C-UAS) and FW/RW capabilities now and continually spiraling out increasing capability for the foreseeable future.

Based on an Urgent Universal Need Statement (UUNS), a Joint Urgent Operational Need (JUON), and a Joint Emergent Operational Need (JEON) the Marine Corps has aggressively pursued CUAS solutions in support of deployed Marines and critical facilities. The development of these solutions has been leveraged heavily by the Marine Air Defense Integrated System (MADIS) Increment 1 (Inc 1) on a Joint Light Tactical Vehicle (JLTV), the ACAT II Program of Record that initiated at MS B in 3Q FY 2021.

Marine Air Defense Integrated System Family of Systems (MADIS FoS): The MADIS FoS provides the Marine Corps with an organic, upgradable, and state of the art capability to protect MAGTF maneuver forces, installations and other designated defended assets from Fixed/Rotary Wing (FW/RW) aircraft and Unmanned Aircraft Systems. The MAGTF is at increased risk of lethal air attack and fires coordination from next generation aircraft as well as significant advances from small UAS (sUAS) threats due to their rapid development and proliferation by the commercial sector, which has increased their nefarious use by both state and non-state actors. To address these threats, the MADIS FoS consists of mission tailored variants designed for sustained operations ashore, afloat, and aboard installations.

The MADIS FoS includes the fielded Advanced Man Portable Air Defense System (A-MANPADS) which provides close-in, low altitude, surface-to-air fires and command and control in defense of the MAGTF. It also includes the MADIS Inc 1 which is accomplished with the development, test, and installation of Government Furnished C-UAS and air defense equipment on a Joint Light Tactical Vehicle (JLTV). The MADIS Inc 1 Block 1 system is comprised of two vehicles; a MK 1 (stinger variant), and a MK 2 (CUAS variant). MADIS Increment 1 Block 2 will focus on the development of kinetic and non-kinetic capability supporting increased lethality. This includes the development of a high powered microwave capability to counter swarms and enhancements for a direct fire CUAS capability, and other identified technologies that can be integrated with the MADIS FoS. The MADIS Inc 1 will replace the A-MANPADS fielded systems. The MADIS FoS also includes the Light Marine Air Defense Integrated System (L-MADIS), which will be accomplished with the development, test, and installation of Government Furnished C-UAS equipment on a Ultra-Light Tactical Vehicle (ULTV). The L-MADIS Program of Record (PoR) system is comprised of two vehicles; a MK 1 (Command and Control vehicle), and a MK 2 (Early Warning / Electronic Warfare vehicle). The L-MADIS PoR will replace the systems fielded under a Joint Urgent and Emergent Operational Need Statement. The L-

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System
--	--	---

MADIS will provide the Marine Corps a capability different than that of the MADIS Increment 1. The L-MADIS is transportable within organic Marine Corps R/W aircraft, allowing Marines to face challenging operational scenarios during Marine Expeditionary Unit (MEU) operations. The L-MADIS will protect the maneuver force from threat of Unmanned Aircraft Systems (UAS), Fixed Wing and Rotary Wing (FW/RW), and other airborne threats throughout the operating environment while maintaining Marine Corps expeditionary requirements. The MADIS FoS also includes the Installations-Counter small Unmanned Aircraft System (I-CsUAS). I-CsUAS will provide protection of USMC critical assets on installations from sUAS threats; primarily Group 1 and 2 commercial-off-the-shelf sUAS. This system will enhance force protection of critical defended assets on USMC installations in both CONUS and OCONUS locations. The system will detect, track, identify and defeat sUAS. I-CsUAS is currently operating under an Urgent Statement of Need (USON) and the capability is being provided as a service. This effort will inform a future Program of Record (PoR)

Medium Range Intercept Capability (MRIC): The MRIC provides the Marine Corps Expeditionary Force Commander a capability to defend fixed and operationally fixed sites primarily against threat subsonic/supersonic cruise missiles; secondarily against UAS and other aerial threats that enter into the MRIC's Weapons Engagement Zone (WEZ). MRIC is designed as a system-of-systems and will be integrated with Marine Corps organic Command and Control (C2) and Joint Integrated Air and Missile Defense (IAMD) architecture. The program will enhance the expeditionary force ground based air defense (GBAD) capability to rapidly prosecute aerial threats and expand layered defense of the Expeditionary and Naval Forces. The MRIC Prototype Development was completed 4Q FY 2022 and is comprised of expeditionary missile launchers, intercept missiles, and a C2 system that are able to utilize available AN/TPS-80 G/ATOR radar for surveillance and fire control. FY 2023 focuses on integration testing leading to certification for deployment. This effort informs the investment to meet the Force Design requirements to field an MRIC Battery to each of the three LAAD Battalions in FY 2026, FY 2027, and FY 2028 to support operations including Expeditionary Advanced Based Operations (EABO).

Overall, Marine Corps Air Defense Weapons Systems increases \$36.764M from FY 2023 to FY 2024 is due to the ramp up of product development and testing of the MADIS Inc 1 Block 2 required to support increased lethality. As adversaries advance their capabilities, the MADIS Inc 1 must continue to identify increased capabilities to meet and defeat these advanced capabilities. The increase also supports initiation of System Integration Test (SIT) #2, System Verification Test (SVT) #2 as well as initiation of Initial Operational Test & Evaluation (IOT&E) of the L-MADIS. FY 2024 also initiates the RDT&E to support the I-CsUAS program of record and demonstration of the capability.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<b>Title:</b> MADIS INC 1: Hardware/Software ECPs	0.000	0.000	7.569	0.000	7.569
<b>Articles:</b>	-	-	-	-	-
<b>FY 2023 Plans:</b> N/A					
<b>FY 2024 Base Plans:</b> -Initiates purchase of components to increase system performance as technology improves. Components include the optic, Inertial Navigation Unit (INU), Global Positioning System (GPS), launcher, and launcher					

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
munitions. These components increase the fidelity of target data and accuracy for the integrated weapons. These components do not increase lethality and are distinct from MADIS Inc 1 Block 2.  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$7.569M from FY 2023 to FY 2024 due to the change in focus from completion of testing events (FY 2023) to the the initial purchase of components that increase system performance and ensures the system is positioned to counter the constantly evolving threat. As adversaries advance their capabilities, the MADIS Inc 1 must continue to identify increased capabilities to meet and defeat these advanced capabilities.					
<b>Title:</b> MADIS INC 1: Product Development  <b>Articles:</b>	4.278	0.000	3.524	0.000	3.524
<b>FY 2023 Plans:</b> N/A  <b>FY 2024 Base Plans:</b> -Initiates MADIS Inc 1 Gunnery Training System development -Initiates MADIS Inc 1 Virtual Training System development  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$3.524M from FY 2023 to FY 2024 supports the initiation of development of the MADIS Inc 1 Gunnery and Virtual Trainers.	-	-	-	-	-
<b>Title:</b> MADIS INC 1: Support Costs  <b>Articles:</b>	10.815	10.092	4.836	0.000	4.836
<b>Description:</b> The Government Technical Support Team provides functions such as technical planning, execution and analysis across multi-disciplinary competencies to include; Systems Architecture, Radar/Jamming Software Engineering, Radar/Jamming Systems Engineering, Cyber Security/Information Assurance, Human Systems Integration, Safety,	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<p>Configuration Management and the coordination necessary to enable a System of Systems interface with other programs in the slew to cue kill chain to ensure platform/software compatibility.</p> <p><b>FY 2023 Plans:</b> -Continues full logistics supportability to include Independent Logistics Assessment (ILA), provisioning conferences, updates of manpower and training plan and manpower task lists for MADIS Inc 1 -Initiates engineering, cyber security, information assurance, and safety support required in preparation of the system verification tests and Initial Operational Test &amp; Evaluation</p> <p><b>FY 2024 Base Plans:</b> -Initiates engineering and logistics support for the engineering changes required post Initial Operational Test &amp; Evaluation (IOT&amp;E) -Initiates engineering and logistics support for components purchased to improve system performance and counter the evolving threat.</p> <p><b>FY 2024 OCO Plans:</b> N/A</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease of \$5.256 is due to the completion IOT&amp;E as well as movement into Full Rate Production (FRP) in Q3 FY 2024.</p>					
<p><b>Title:</b> MADIS INC 1: Test and Evaluation</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2023 Plans:</b> -Initiates and completes the System Integration Test #3 of MADIS Inc 1 -Initiates and completes the System Verification Test #1 &amp; #2 of MADIS Inc 1 -Initiates and completes the transportability and environmental testing of MADIS Inc 1 -Initiates the planning, preparation, and range operations efforts for Initial Operational Test &amp; Evaluation (IOT&amp;E) of the MADIS Inc 1 -Initiates and completes the refurbishment of the MADIS Inc 1 Engineering Development Models (EDM) in order to ensure the systems are prepared for IOT&amp;E</p> <p><b>FY 2024 Base Plans:</b></p>	30.721	18.199	1.288	0.000	1.288
	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
-Initiates testing of the MADIS Inc 1 Gunnery and Virtual Training System <b>FY 2024 OCO Plans:</b> N/A <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease of \$16.911M from FY 2023 to FY 2024 due to the completion of System Integration Tests (SITs), System Verification Tests (SVTs) as well as completion of IOT&E.					
<b>Title:</b> MADIS INC 1: Management Services <b>Articles:</b>	0.495 -	0.447 -	0.421 -	0.000 -	0.421 -
<b>FY 2023 Plans:</b> -Funds travel in support of the System Integration & Verification Tests (SIT, SVT) as well as the Initial Operational Test & Evaluation of the MADIS Increment 1 <b>FY 2024 Base Plans:</b> -Funds travel in support of the development, integration, and testing of the MADIS Increment 1 Block 2. <b>FY 2024 OCO Plans:</b> N/A <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease of \$0.026M from FY 2023 to FY 2024 is due to the completion of the travel in support of SITs, SVTs, as well as IOT&E					
<b>Title:</b> MADIS INC 1 (BLOCK 2) - INCREASED LETHALITY: Product Development <b>Articles:</b>	0.000 -	4.000 -	24.349 -	0.000 -	24.349 -
<b>FY 2023 Plans:</b> -Continue development and integration efforts associated with increased lethality to support constantly evolving threats to include a high powered microwave (HPM). (MADIS Inc 1 BLOCK 2) <b>FY 2024 Base Plans:</b> -Initiates the procurement of hardware to support integration and testing of the MADIS Inc 1 Block 2 capability -Initiates the integration of Block 2 hardware onto the MADIS Inc 1 Engineering Development Models (EDMs) required prior to developmental testing <b>FY 2024 OCO Plans:</b>					

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
N/A					
<p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$20.349M from FY 2023 and FY 2024 is due to the initiation of the development of MADIS Inc 1 Block 2 increased lethality hardware as well as integration onto the MADIS Inc 1 Engineering Development Models. These efforts are required as part of the Capabilities Development Document (CDD) to support increased lethality</p>					
<p><b>Title:</b> MADIS INC 1 (BLOCK 2)-INCREASED LETHALITY: Test and Evaluation</p>	0.000	0.000	15.031	0.000	15.031
<b>Articles:</b>	-	-	-	-	-
<p><b>FY 2023 Plans:</b> N/A</p>					
<p><b>FY 2024 Base Plans:</b> -Initiates source selection fly-off testing -Initiates MADIS Inc 1 Block 2 developmental testing</p>					
<p><b>FY 2024 OCO Plans:</b> N/A</p>					
<p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$15.031M from FY 2023 to FY 2024 is due to the initiation of the source selection fly-off testing and developmental testing in support of the MADIS Inc 1 Block 2. This effort supports the Capabilities Development Document (CDD) requirement of increased lethality</p>					
<p><b>Title:</b> MADIS INC 1 (BLOCK 2)- INCREASED LETHALITY: Support</p>	0.000	0.000	5.502	0.000	5.502
<b>Articles:</b>	-	-	-	-	-
<p><b>FY 2023 Plans:</b> N/A</p>					
<p><b>FY 2024 Base Plans:</b> -Initiates engineering and logistics support to update documentation, such as the performance specifications, technical data package, and other logistics documents for the MADIS Inc 1 Block 2 -Initiates full logistics supportability to include MADIS Inc 1 Block 2 Level of Repair Analysis (LoRA), provisioning conferences, updates of manpower and training plan and manpower task lists</p>					

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
-Initiates engineering, cyber security, information assurance, and safety required in support of MADIS Inc 1 Block 2 developmental test  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$5.502M from FY 2023 to FY 2024 is due to the initiation of engineering and logistics efforts associated to the development and testing of the MADIS Inc 1 Block 2. This effort is included as a requirement of the Capabilities Development Document (CDD) for increased lethality					
<b>Title:</b> L-MADIS: Support Costs  <b>Articles:</b>	0.000 -	2.867 -	3.568 -	0.000 -	3.568 -
<b>FY 2023 Plans:</b> -Initiate engineering, cyber security, information assurance, and safety support required in preparation of the system integration and verification tests.  <b>FY 2024 Base Plans:</b> -Continues engineering, cyber security, information assurance, and safety support required for integration and verification tests as well as Operational Test & Evaluation (IOT&E). -Initiates engineering and logistics efforts to support the purchase and testing of components to enhance the L-MADIS and continue to counter the evolving threat.  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$0.701M from FY 2023 to FY 2024 is due to the support required for the initiation of IOT&E as well as the initiation of efforts supporting the purchase of components to system performance of the L-MADIS.					
<b>Title:</b> L-MADIS: Product Development  <b>Articles:</b>	5.165 -	0.365 -	2.710 -	0.000 -	2.710 -
<b>FY 2023 Plans:</b> -Continue the technical manual development in order to provide the Marines the procedures required to operate, maintain, and sustain the system					

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<p>-Continue curriculum development in order to train Marines on the inherent skill set required to operate and maintain the system.</p> <p><b>FY 2024 Base Plans:</b> -Initiates the purchase of components that increase system performance and support countering the evolving threat. Components include the optic, Global Positioning System (GPS), and an Inertial Navigation System.</p> <p><b>FY 2024 OCO Plans:</b> N/A</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$2.345M from FY 2023 and FY 2024 due to the purchase of components to increase system performance and support countering the evolving threat.</p>					
<p><b>Title:</b> L-MADIS: Test and Evaluation</p> <p align="right"><b>Articles:</b></p>	0.000	4.700	6.032	0.000	6.032
<p><b>FY 2023 Plans:</b> -Initiates and completes System Integration Test #1 of the Light-Marine Air Defense Integrated System (L-MADIS) -Initiates and completes System Verification Test #1 of the Light-Marine Air Defense Integrated System (L-MADIS) -Initiates and completes transportability and environmental testing of the L-MADIS</p> <p><b>FY 2024 Base Plans:</b> -Initiates and completes training to support the System Verification Test #2 and Initial Operational Test &amp; Evaluation (IOT&amp;E) -Initiates and completes System Integration Test #2 -Initiates and completes System Verification Test #2 -Initiates and completes Initial Operational Test &amp; Evaluation (IOT&amp;E) -Initiates testing of components purchased to improve system performance and support countering the evolving threat</p> <p><b>FY 2024 OCO Plans:</b> N/A</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b></p>	-	-	-	-	-

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Increase of \$1.332M is due to the initiation of IOT&E as well as testing of component enhancements to the L-MADIS.					
<b>Title:</b> L-MADIS: Management Services  <b>Articles:</b>  <b>FY 2023 Plans:</b> -Initiates travel required to support the System Integration Tests (SITs) of the Light Marine Air Defense Integrated System (L-MADIS)  <b>FY 2024 Base Plans:</b> -Continues travel in support of System Integration Tests (SITs), System Verification Tests (SVTs) and Initial Operational Test & Evaluation (IOT&E)  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$0.130M due to the increase in travel required for the start of IOT&E.	0.000 -	0.020 -	0.150 -	0.000 -	0.150 -
<b>Title:</b> I-CsUAS: Test & Evaluation  <b>Articles:</b>  <b>FY 2023 Plans:</b> N/A  <b>FY 2024 Base Plans:</b> -Initiates threat assessments -Initiates demonstration of vendor Installation-Counter small Unmanned Aircraft System (I-CsUAS) capabilities -Initiates evaluation in order to maintain pace with evolving threats and new technologies  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b>	0.000 -	0.000 -	1.948 -	0.000 -	1.948 -

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Increase of \$1.948M from FY 2023 to FY 2024 support the initiation of efforts supporting the I-CsUAS program of record to include a demonstration of capabilities as well as threat assessments and evaluation of new technologies.					
<b>Title:</b> I-CsUAS: Support	0.000	0.000	0.526	0.000	0.526
<b>Articles:</b>	-	-	-	-	-
<b>FY 2023 Plans:</b> N/A					
<b>FY 2024 Base Plans:</b> -Initiates Manpower and Training (MPT) analysis to determine the manpower footprint required at the using units to properly operate and maintain the equipment.					
<b>FY 2024 OCO Plans:</b> N/A					
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase of \$0.526M from FY 2023 to FY 2024 is due to the initiation of the Manpower and Training analysis to support the determination of the manpower required to operate and maintain the equipment.					
<b>Accomplishments/Planned Programs Subtotals</b>	51.474	40.690	77.454	0.000	77.454

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<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/3006: Ground Based Air Defense (GBAD)	514.403	169.927	249.103	-	249.103	368.310	436.905	585.147	401.137	0.000	3,020.801
• RDTEN/0605520M/2578: GBAD: Medium Range Intercept Capability (MRIC)	7.544	7.973	22.406	-	22.406	7.831	5.951	1.999	0.275	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**  
Marine Corps Air Defense Weapons Systems: The Marine Corps Air Defense Weapons Systems capability will be developed in increments per the Capabilities Development Document (CDD). Increment 1 modernizes the existing air defense legacy systems (A-MANPADS) by mounting a mix of legacy and technologically

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / <i>MARINE CORPS AIR DEFENSE WEAPONS SYS</i>	<b>Project (Number/Name)</b> 2278 / <i>Air Defense Weapons System</i>
<p>mature capabilities (leveraging UUNS related efforts) onto the Joint Light Tactical Vehicle (JLTV), mitigating the risk of attacks from UAS and FW/RW aircraft, while maintaining pace with maneuver forces. The MADIS full Increment 1 capability will be achieved via a 2 block approach. The first block will include a remote weapon station (RWS) with a direct fire 30MM gun, non-kinetic (via electronic attack) UAS defeat capability, and a dual launch stinger. The second block introduces additional kinetic and non-kinetic C-UAS capability. Each MADIS Inc 1 system built to the block 1 configuration, to include Low Rate Initial Production (LRIP), will be retrofitted to include block 2 capabilities. The Marine Air Defense Integrated System (MADIS Inc 1) has been designated an ACAT II program. The MADIS Inc 1 development leverages JUON and JEON development efforts and initiated at Milestone B in 3Q FY 2021.</p> <p>Medium Range Intercept Capability (MRIC) is an additional component of the layered defense approach to aerial threats. (MRIC) is designed to defend fixed/ operationally fixed assets against Cruise Missiles (CM), group 3+ UAS, Rockets, Artillery, and Mortars (RAM), and Fixed Wing / Rotary Wing threats that enter the MRIC's Weapons Engagement Zone (WEZ). To support an MRIC Material Support Decision, a concept demonstration of a proposed counter cruise missile (CM) defense system occurred in 4Q FY 2019. The MRIC received an approved Middle Tier Acquisition decision in 3Q FY 2020 placing the system into Rapid Prototyping. A single prototype cruise missile defense capability was tested and evaluated during live fire exercises. A decision to certify for deployment was approved in 1Q FY 2023.</p> <p>L-MADIS is fully leveraging JUON efforts and has an approved CDD annex as of 1Q FY 2022. The L-MADIS will develop a C-sUAS capability on the new Ultra-Light Tactical Vehicle (ULTV) and produce Low Rate Initial Production (LRIP) vehicles for testing in FY 2024. The L-MADIS is designated as an ACAT IVT program with MS C scheduled for 1Q FY 2024.</p> <p>I-CsUAS is fully leveraging USON efforts and is pending an approved CDD planned for 3Q FY 2023. A Business Case Analysis (BCA) was developed for economic analysis to inform the PoR acquisition strategy which includes evaluating traditional acquisition, hardware procurement with Performance Based Logistics vendor services, or Customer acquisition as a Service (CAAS). It was determined that the best approach was hardware procurement with Performance Based Logistics vendor services.</p>		

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2024 Navy</b>											<b>Date: March 2023</b>				
<b>Appropriation/Budget Activity</b> 1319 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS					<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System				

<b>Product Development (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
MADIS Inc 1 SW Development	C/IDIQ	MCSC : Quantico, VA	8.494	3.178	Jun 2022	0.000		0.000		-		0.000	0.000	11.672	-
MADIS Inc 1 Desktop Trainer Development	Various	NSWC : Dahlgren, VA	1.658	1.100	Mar 2022	0.000		0.000		-		0.000	0.000	2.758	-
MADIS Inc 1 Gunnery Training Sys Develop	TBD	TBD : TBD	0.000	0.000		0.000		1.541	Jan 2024	-		1.541	0.000	1.541	-
MADIS Inc 1 Enhanced Hardware (ECPs)	MIPR	DLA : Philadelphia	0.000	0.000		0.000		7.569	Dec 2023	-		7.569	0.000	7.569	-
MADIS Inc 1 Virtual Training Sys Develop	TBD	TBD : TBD	0.000	0.000		0.000		1.983	Jan 2024	-		1.983	0.000	1.983	-
MADIS Inc 1 Blk 2 Kinetic Kill Develop (HPM)	MIPR	ARL : Adelphi, MD	1.919	0.000		4.000	Jul 2023	2.000	May 2024	-		2.000	0.000	7.919	-
MADIS Inc 1 Blk 2 HW	Various	Various : Various	0.000	0.000		0.000		14.080	Nov 2023	-		14.080	0.000	14.080	-
MADIS Inc 1 Blk 2 EDM Integration	MIPR	NIWC : Charleston, SC	0.000	0.000		0.000		8.269	Apr 2024	-		8.269	0.000	8.269	-
L-MADIS Design and Architecture	Various	NSWC : Crane, IN	0.000	5.165	Mar 2022	0.365	Dec 2022	0.000		-		0.000	0.000	5.530	-
L-MADIS Enhanced HW	Various	DLA : Philadelphia, PA	0.000	0.000		0.000		2.710	Dec 2023	-		2.710	0.000	2.710	-
MRIC PY Consolidated	Various	Various : Various	2.743	0.000		0.000		0.000		-		0.000	0.000	2.743	-
MADIS Inc 1 PY Consolidated	Various	Various : Various	23.291	0.000		0.000		0.000		-		0.000	0.000	23.291	-
MADIS Inc 1 Blk 2 PY Consolidated	Various	Various : Various	8.400	0.000		0.000		0.000		-		0.000	0.000	8.400	-
<b>Subtotal</b>			46.505	9.443		4.365		38.152		-		38.152	0.000	98.465	N/A

**Remarks**  
 Increase from FY 2023 to FY 2024 is due to the following efforts:  
 MADIS Inc 1:  
 -Initiation of the purchase of MADIS Inc 1 upgraded components to increase the fidelity of target data and accuracy for the integrated weapons. These components do not increase lethality and are distinct from MADIS Inc 1 Block 2.  
 -The increase supports the initiation of the development of the gunnery and virtual trainer for the MADIS Inc 1.  
 MADIS Inc 1 Block 2:

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEF ENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System
--	--	---

<b>Product Development (\$ in Millions)</b>				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			
-Increase supports the initiation of the purchase and integration of weapons and munitions that support the Capabilities Development Document (CDD) requirement of increased lethality -Increase required to initiate the New Equipment Training Development in support of MADIS Inc 1 Block 2 L-MADIS: -Increase due to the initiation of the purchase of components to increase the performance of the current system															

<b>Support (\$ in Millions)</b>				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			
MADIS Inc 1 HSI	Various	NSWC : Dahlgren	1.000	0.599	Nov 2021	0.576	Nov 2022	0.000		-		0.000	0.000	2.175	-
MADIS Inc 1 NET Development	C/FFP	Lumbee Tribe Enterprises : Pembroke, NC	2.646	2.240	Feb 2022	2.167	Feb 2023	0.000		-		0.000	0.000	7.053	-
MADIS Inc 1 Test Support	C/FFP	MCSC : Quantico, VA	0.000	0.611	Jan 2022	0.622	Jan 2023	0.000		-		0.000	0.000	1.233	-
MADIS Inc 1 Integrated Logistics Spt	Various	Various : Various	1.113	1.730	Nov 2021	1.947	Nov 2022	1.950	Nov 2023	-		1.950	Continuing	Continuing	Continuing
MADIS Inc 1 Eng/Cyber Support	Various	NSWC : Dahlgren, VA	2.030	2.619	Nov 2021	2.201	Nov 2022	0.910	Dec 2023	-		0.910	0.000	7.760	-
MADIS Inc 1 Engineering Spt	C/FFP	MCSC : Quantico, VA	4.171	2.138	May 2022	1.938	May 2023	1.976	May 2024	-		1.976	0.000	10.223	-
MADIS Inc 1 Eng/Cyber Support	Various	NSWC : Crane, IN	0.000	0.878	Nov 2021	0.641	Nov 2022	0.000		-		0.000	0.000	1.519	-
MADIS Inc 1 Blk 2 IA/ Safety/Eng Spt	MIPR	NSWC : Dahlgren, VA	0.000	0.000		0.000		1.988	Dec 2023	-		1.988	0.000	1.988	-
MADIS Inc 1 Blk 2 Integrated Logistics Spt	C/FFP	MCSC : Quantico, VA	0.000	0.000		0.000		2.007	May 2024	-		2.007	0.000	2.007	-
MADIS Inc 1 Blk 2 Eng/ Cyber Support	MIPR	NSWC : Dahlgren, VA	0.000	0.000		0.000		1.507	Dec 2023	-		1.507	0.000	1.507	-
LMADIS IA/Safety/Eng Spt	Various	NSWC : Dahlgren, VA	0.000	0.000		1.236	Dec 2022	1.883	Dec 2023	-		1.883	0.000	3.119	-

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System
--	--	---

<b>Support (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
LMADIS Eng/Cyber Support	TBD	TBD : TBD	0.000	0.000		1.148	Mar 2023	1.185	Mar 2024	-		1.185	0.000	2.333	-
LMADIS Technical Support	C/FFP	MCSC : Quantico, VA	0.000	0.000		0.483	Feb 2023	0.500	Feb 2024	-		0.500	0.000	0.983	-
ICsUAS Manpower Training Analysis	TBD	TBD : TBD	0.000	0.000		0.000		0.526	Nov 2023	-		0.526	0.000	0.526	-
Prior Year Consolidated	Various	Various : Various	4.284	0.000		0.000		0.000		-		0.000	0.000	4.284	-
<b>Subtotal</b>			15.244	10.815		12.959		14.432		-		14.432	Continuing	Continuing	N/A

**Remarks**  
 Total increase is due to the following:  
 MADIS Inc 1:  
 -Increase due to the initiation of engineering and logistics efforts associated to the development and testing of the MADIS Inc 1 Block 2.  
 L-MADIS:  
 -Increase due to the initiation of IOT&E as well as the initiation of efforts supporting the purchase of components to system performance of the L-MADIS  
 ICsUAS:  
 -Increase due to the initiation of the Manpower and Training analysis to support the determination of the manpower required to operate and maintain the equipment

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Developmental Test & Evaluation (DT&E)	MIPR	NSWC : Corona, CA	0.676	0.545	Mar 2022	0.456	Mar 2023	0.000		-		0.000	0.000	1.677	-
Developmental Test & Evaluation (DT&E)	MIPR	NSWC : Crane, IN	0.250	0.650	Nov 2021	3.164	Nov 2022	2.354	Mar 2024	-		2.354	0.000	6.418	-
Developmental Test & Evaluation (DT&E)	MIPR	ATC : Aberdeen, MD	0.523	0.150	Nov 2021	0.000		0.000		-		0.000	0.000	0.673	-
Developmental Test & Evaluation (DT&E)	MIPR	NAWCWD : China Lake, CA	0.505	1.169	Jan 2022	0.172	Jan 2023	0.000		-		0.000	0.000	1.846	-
Developmental Test & Evaluation (DT&E)	MIPR	MCOTEA : Quantico, VA	0.000	0.631	Mar 2022	0.500	Jan 2023	0.000		-		0.000	0.000	1.131	-

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2024 Navy</b>											<b>Date: March 2023</b>				
<b>Appropriation/Budget Activity</b> 1319 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS					<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System				

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Developmental Test & Evaluation (DT&E)	Various	NSWC : Dahlgren, VA	5.420	3.100	Nov 2021	3.110	Dec 2022	1.976	Apr 2024	-		1.976	0.000	13.606	-
Developmental Test & Evaluation (DT&E)	Various	YPG : Yuma, AZ	0.000	1.057	Mar 2022	4.301	Dec 2022	3.286	Dec 2023	-		3.286	0.000	8.644	-
Developmental Test & Evaluation (DT&E)	C/FFP	Lumbee Tribe : Pembroke, NC	0.000	3.864	May 2022	2.408	Nov 2022	0.000		-		0.000	0.000	6.272	-
Operational Test & Evaluation (OT&E)	Various	NIWC : Charleston, SC	0.000	19.555	Apr 2022	8.402	Jan 2023	1.224	Dec 2023	-		1.224	0.000	29.181	-
Developmental Test & Evaluation (DT&E)	MIPR	NSWC : China Lake, CA	0.000	0.000		0.386	Dec 2022	0.568	Dec 2023	-		0.568	0.000	0.954	-
Developmental Test & Evaluation (DT&E)	TBD	MCIA : Quantico, VA	0.000	0.000		0.000		0.324	Feb 2024	-		0.324	0.000	0.324	-
Developmental Test & Evaluation (DT&E)	C/FFP	MCSC : Quantico, VA	0.000	0.000		0.000		9.009	Jun 2024	-		9.009	0.000	9.009	-
Developmental Test & Evaluation (DT&E)	Various	Various : Various	0.000	0.000		0.000		2.558	Jun 2024	-		2.558	0.000	2.558	-
Developmental Test & Evaluation (DT&E)	C/FFP	TBD : TBD	0.000	0.000		0.000		3.000	Dec 2023	-		3.000	0.000	3.000	-
<b>Subtotal</b>			7.374	30.721		22.899		24.299		-		24.299	0.000	85.293	N/A

**Remarks**  
Decrease from FY 2023 to FY 2024 is comprised of the following:  
MADIS Inc 1:  
- Decrease due to the completion of System Integration Tests (SITs), System Verification Tests (SVTs) as well as completion of IOT&E.  
MADIS Inc 1 Blk 2:  
- Increase due to the initiation of the developmental, environmental, and transportability testing as well as training prior to DT.  
L-MADIS:  
- Increase due to the initiation of IOT&E as well as testing of component enhancements to the L-MADIS.  
I-CsUAS:  
- Increase due to efforts supporting the I-CsUAS program of record to include a demonstration of capabilities as well as threat assessments and evaluation of new technologies

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System
--	--	---

<b>Management Services (\$ in Millions)</b>				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			
MADIS FoS Travel	Various	Various : Various	0.302	0.495	Sep 2022	0.447	Sep 2023	0.421	Sep 2024	-		0.421	Continuing	Continuing	Continuing
LMADIS Travel	Various	Various : Various	0.000	0.000		0.020	Sep 2023	0.150	Sep 2024	-		0.150	0.000	0.170	-
<b>Subtotal</b>			0.302	0.495		0.467		0.571		-		0.571	Continuing	Continuing	N/A

**Remarks**  
Funding increase due to the increase of travel required to support the Initial Operational Test & Evaluation of the Light-Marine Air Defense Integrated System (L-MADIS)

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	69.425	51.474	40.690	77.454	-	77.454	Continuing	Continuing	N/A

**Remarks**  
Marine Corps Air Defense Weapons Systems increase from FY 2023 to FY 2024 is due to the ramp up of development and testing of the MADIS Inc 1 Block 2 required to support increased lethality. As adversaries advance their capabilities, the MADIS Inc 1 must continue to identify increased capabilities to meet and defeat these advanced capabilities. The increase also supports initiation of System Integration Test (SIT) #2, System Verification Test (SVT) #2 as well as initiation of Initial Operational Test & Evaluation (IOT&E) of the L-MADIS. FY 2024 also initiates the RDT&E to support the I-CsUAS program of record and demonstration of the capability.

UNCLASSIFIED

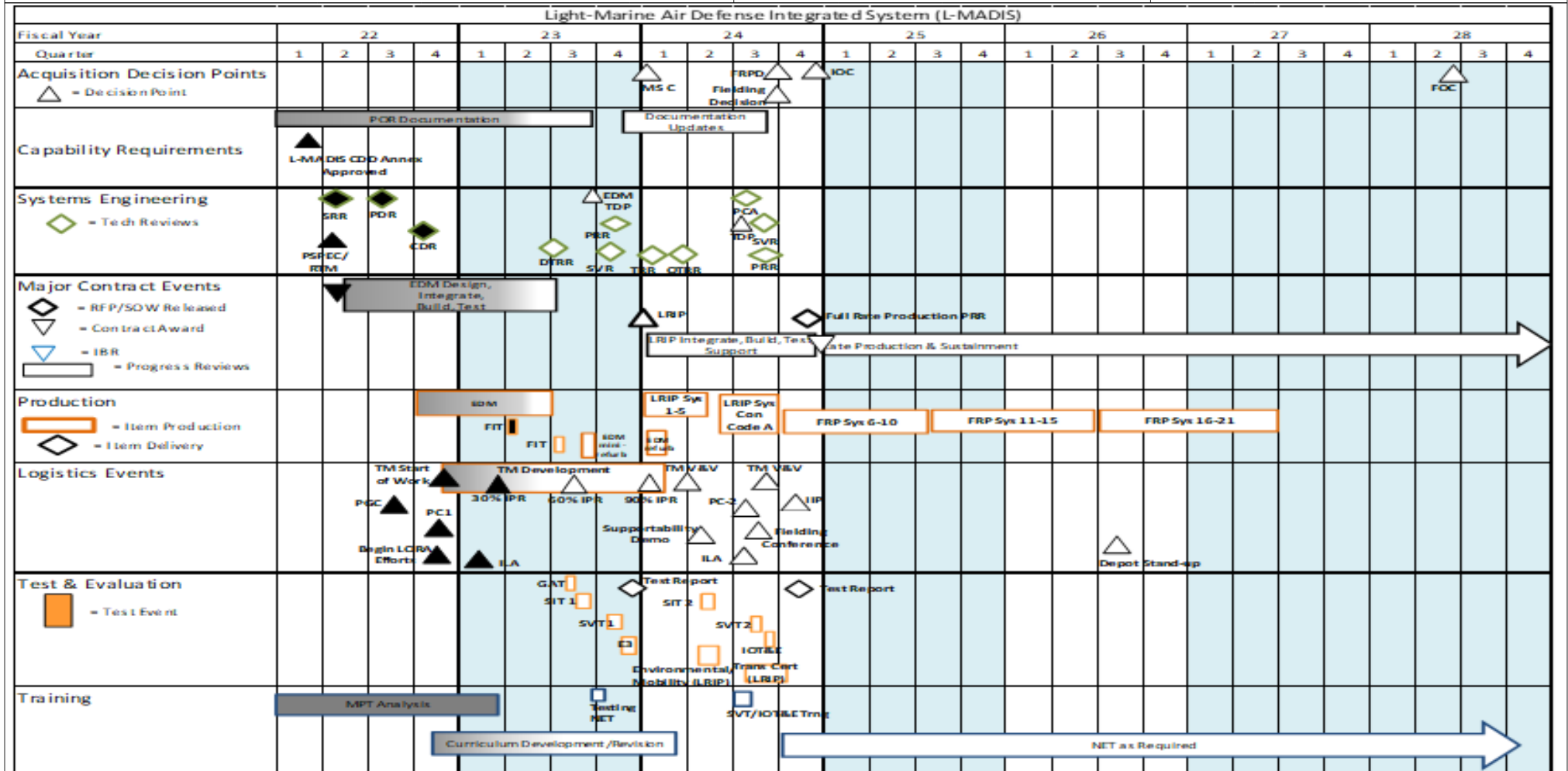
Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy

Date: March 2023

Appropriation/Budget Activity  
1319 / 7

R-1 Program Element (Number/Name)  
PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS

Project (Number/Name)  
2278 / Air Defense Weapons System



UNCLASSIFIED

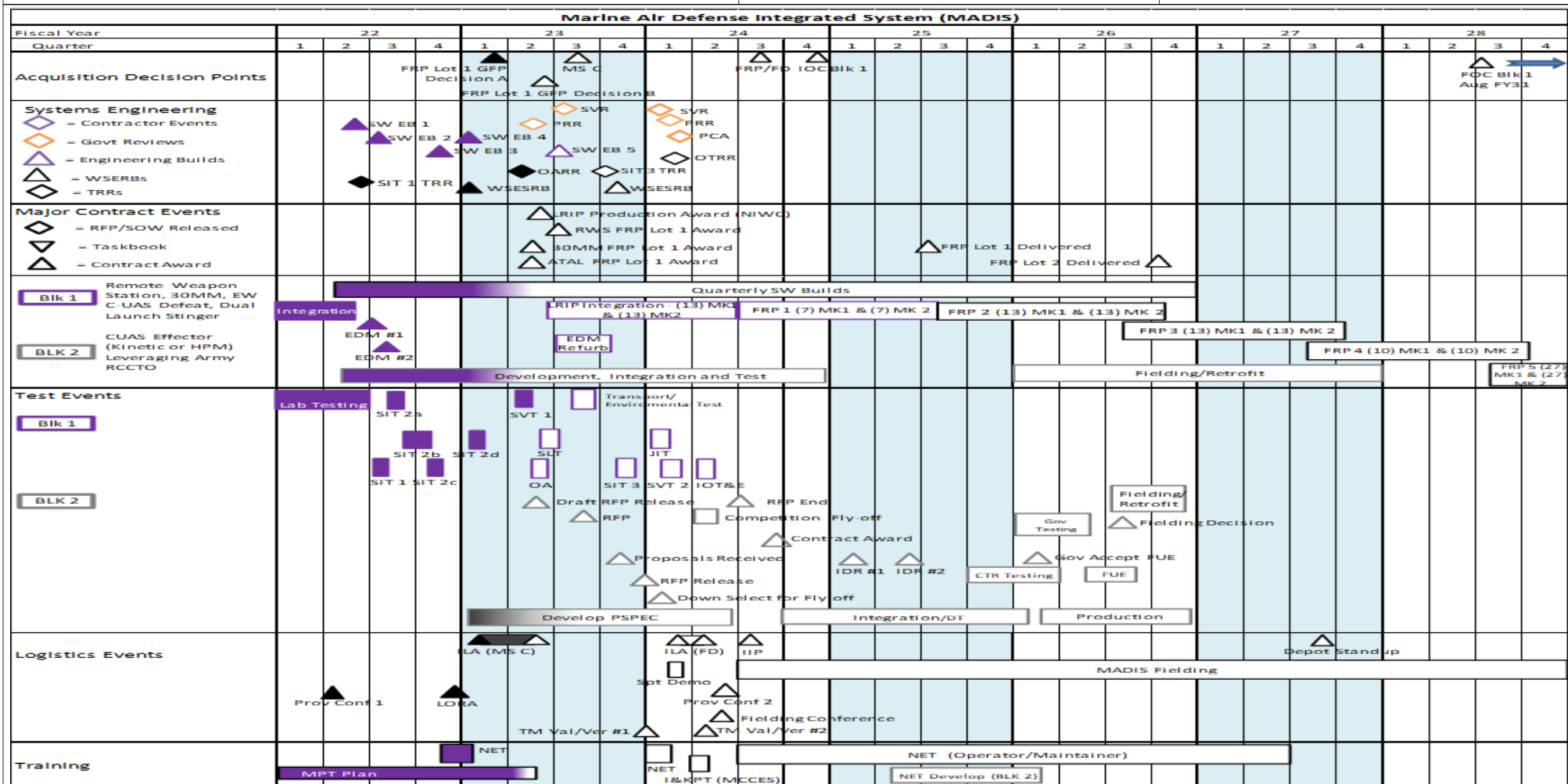
Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy

Date: March 2023

Appropriation/Budget Activity  
1319 / 7

R-1 Program Element (Number/Name)  
PE 0605520M / MARINE CORPS AIR DEF  
ENSE WEAPONS SYS

Project (Number/Name)  
2278 / Air Defense Weapons System



**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 2278</b>				
MADIS INCREMENT 1: MS "C"/LRIP DECISION	3	2023	3	2023
MADIS INCREMENT 1: FRP GFP CONTRACT AWARD	2	2023	2	2023
MADIS INCREMENT 1: LRIP COMPONENT PRODUCTION INTEGRATION	2	2023	2	2024
MADIS INCREMENT 1: OPERATIONAL ASSESSMENT	2	2023	2	2023
MADIS INCREMENT 1: INITIAL OPERATIONAL TEST & EVALUATION	2	2024	2	2024
MADIS INCREMENT 1: FULL RATE PRODUCTION DECISION	3	2024	3	2024
MADIS INCREMENT 1: MADIS INC 1 BLOCK 2 CONTRACT AWARD	4	2024	4	2024
MADIS INCREMENT 1: MADIS INC 1 BLOCK 2 DESIGN INTEGRATION	4	2024	1	2026
MADIS INCREMENT 1: INITIAL OPERATIONAL CAPABILITY	4	2024	4	2024
MADIS INCREMENT 1: MADIS INC 1 BLOCK 2 FLY OFF	2	2024	2	2024
MADIS INCREMENT 1: MADIS INC 1 BLOCK 2 DT/FIELD USER EVALUATION	2	2026	3	2026
L-MADIS: CRITICAL DESIGN REVIEW	4	2022	4	2022
L-MADIS: MILESTONE C	1	2024	1	2024
L-MADIS: LRIP Build	1	2024	4	2024
L-MADIS: FULL RATE PRODUCTION DECISION	3	2024	3	2024
L-MADIS: INITIAL OPERATIONAL CAPABILITY (IOC)	4	2024	4	2024
I-CsUAS: BUSINESS CASE ANALYSIS	4	2022	4	2022
I-CsUAS: CAPABILITIES DEVELOPMENT DOCUMENT	1	2023	1	2023
I-CsUAS: THREAT ASSESSMENT	2	2024	2	2024
I-CsUAS: SOURCE SELECTION DEMONSTRATION	2	2024	2	2024
I-CsUAS: EVALUATION OF EVOLVING THREAT AND NEW TECHNOLOGIES	2	2024	4	2028

**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2278 / Air Defense Weapons System

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
I-CsUAS: AWARD CONTRACT	2	2025	2	2025

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 1319 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS				<b>Project (Number/Name)</b> 2578 / GBAD: Medium Range Intercept Capability (MRIC)			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
2578: GBAD: Medium Range Intercept Capability (MRIC)	0.000	7.544	7.973	22.406	-	22.406	7.831	5.951	1.999	0.980	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Medium Range Intercept Capability (MRIC) is a CMC Force Design program providing the Marine Corps Expeditionary Force Commander a capability to defend forward deployed forces primarily against threat subsonic/supersonic cruise missiles; secondarily against UAS and other aerial threats that enter into the MRIC's Weapons Engagement Zone (WEZ). MRIC is designed as a system-of-systems and will be integrated with Marine Corps organic Command and Control (C2) and Joint Integrated Air and Missile Defense (IAMD) architecture. The program will enhance the expeditionary force ground-based air defense (GBAD) capability to rapidly prosecute aerial threats and expand layered defense of the Expeditionary and Naval Forces. The MRIC prototype firing exercises were completed 4Q FY 2022 and informed the decision point in 1Q FY2023 to certify for deployment. The certification efforts will occur FY 2023 through FY 2024. This effort informs the investment to meet the Force Design requirements to field an MRIC Battery to each of the three LAAD Battalions in FY 2026, FY 2027, and FY 2028 to support operations including Expeditionary Advanced Based Operations (EABO).

Increase from FY 2023 to FY 2024 is required to support the initiation of multiple testing events (to include environmental, interoperability, transportability), as well as the initiation of the Quick Reaction Assessment (QRA) required prior to deployment.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<b>Title:</b> Medium Range Intercept Capability (MRIC) Test and Evaluation	2.881	3.427	17.993	0.000	17.993
<b>Articles:</b>	-	-	-	-	-
<b>FY 2023 Plans:</b>					
-Initiate integration testing required prior to certification for deployment of the prototype capability. This includes software and cybersecurity testing					
-Initiate safety testing and evaluation					
<b>FY 2024 Base Plans:</b>					
-Continues integration testing required prior to Developmental Testing (DT) and Quick Reaction Assessment (QRA). This includes software and cybersecurity testing					
-Initiates and completes developmental test, transportability testing, environmental testing, and joint interoperability testing (JIT).					
-Initiates and completes training prior to DT and QRA and travel associated with testing events					
-Continues safety testing and evaluation					

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEF ENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2578 / GBAD: Medium Range Intercept Capability (MRIC)

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
-Initiates the QRA and QRA findings required prior to Middle Tier Acquisition (MTA) rapid fielding decision point -Initiates required engineering changes to the system based on testing  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase from FY 2023 to FY 2024 supports the ramp up of testing to include Developmental Testing (DT) and the Quick Reaction Assessment (QRA) required prior to deployment.					
<b>Title:</b> Medium Range Intercept Capability (MRIC) Support  <b>Articles:</b>	4.663 -	4.546 -	4.413 -	0.000 -	4.413 -
<b>FY 2023 Plans:</b> -Continues modeling and simulation verification through testing -Initiates the engineering and logistics support required for training development, assembly of the deployable prototype, and integration testing  <b>FY 2024 Base Plans:</b> -Initiates the engineering and logistics support required for system review, as well as, updates to documentation required post test and prior to prototype deployment -Continues modeling and simulation verification through testing  <b>FY 2024 OCO Plans:</b> N/A  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease of \$0.133M from FY 2023 to FY 2024 based on completion of integration testing prior to the Quick Reaction Assessment (QRA).					
<b>Accomplishments/Planned Programs Subtotals</b>	7.544	7.973	22.406	0.000	22.406

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• PMC/3006: Ground Based Air Defense (GBAD)	514.403	169.927	249.103	-	249.103	368.310	436.905	585.147	510.784	0.000	3,130.448

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2578 / GBAD: Medium Range Intercept Capability (MRIC)

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

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
------------------	----------------	----------------	-------------------------------	------------------------------	--------------------------------	----------------	----------------	----------------	----------------	-----------------------------------	-------------------

**Remarks**

MRIC PMC begins in FY 2023 and is only a portion of the GBAD PMC funding line under BLI 3006.

**D. Acquisition Strategy**

To support an MRIC Material Support Decision, a concept demonstration of a proposed counter cruise missile (CM) defense system occurred in 4Q FY 2019. The MRIC received an approved Middle Tier Acquisition decision in 3Q FY 2020 placing the system into Rapid Prototyping. A single prototype cruise missile defense capability was successfully demonstrated during live fire testing events and a Certification Decision occurred in 1Q FY 2023. Prototype efforts support the anticipated development of a capability that meets Force Design requirements providing an MRIC Battery to each of the three USMC LAAD Battalions in FY 2026, FY 2027, and FY 2028, and to support Expeditionary Advanced Base Operations (EABO) planning.

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2578 / GBAD: Medium Range Intercept Capability (MRIC)
--	--	---

<b>Support (\$ in Millions)</b>				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			
Modeling & Simulation	MIPR	NSWC : Dahlgren, VA	0.000	2.603	Nov 2021	2.417	Apr 2023	2.612	Nov 2023	-		2.612	0.000	7.632	-
MRIC IA/Safety/Eng/Log Spt	MIPR	NSWC : Dahlgren, VA	0.000	2.060	Nov 2021	2.129	Mar 2023	1.801	Nov 2023	-		1.801	0.000	5.990	-
<b>Subtotal</b>			0.000	4.663		4.546		4.413		-		4.413	0.000	13.622	N/A

**Remarks**  
Decrease from FY 2023 to FY 2024 based on completion of engineering and logistics support required for integration testing.

<b>Test and Evaluation (\$ in Millions)</b>				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			
Live Fire Test & Evaluation (LFT&E)	MIPR	WSMR : White Sands, NM	0.000	2.611	Dec 2021	0.000		0.000		-		0.000	0.000	2.611	-
Live Fire Test & Evaluation (LFT&E)	Various	NSWC : Corona, CA	0.000	0.270	Dec 2021	0.000		0.000		-		0.000	0.000	0.270	-
Developmental Test & Evaluation (DT&E)	MIPR	WSMR : White Sands, NM	0.000	0.000		0.000		5.642	Feb 2024	-		5.642	0.000	5.642	-
Developmental Test & Evaluation (DT&E)	TBD	TBD : TBD	0.000	0.000		0.000		2.253	Nov 2023	-		2.253	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	MIPR	Rafael/Raytheon : Tucson, AZ	0.000	0.000		3.427	Mar 2023	4.550	Dec 2023	-		4.550	0.000	7.977	-
Operational Test & Evaluation (OT&E)	C/FFP	DMEA : McClellan, CA	0.000	0.000		0.000		3.658	Jun 2024	-		3.658	0.000	3.658	-
Operational Test & Evaluation (OT&E)	Various	Various : Various	0.000	0.000		0.000		1.890	Jan 2024	-		1.890	0.000	1.890	-
<b>Subtotal</b>			0.000	2.881		3.427		17.993		-		17.993	Continuing	Continuing	N/A

**Remarks**  
Increase from FY 2023 to FY 2024 supports the ramp up of cyber security scans and testing, to include: developmental, environmental, interoperability, transportability and the Quick Reaction Assessment (QRA) required prior to deployment.

**UNCLASSIFIED**

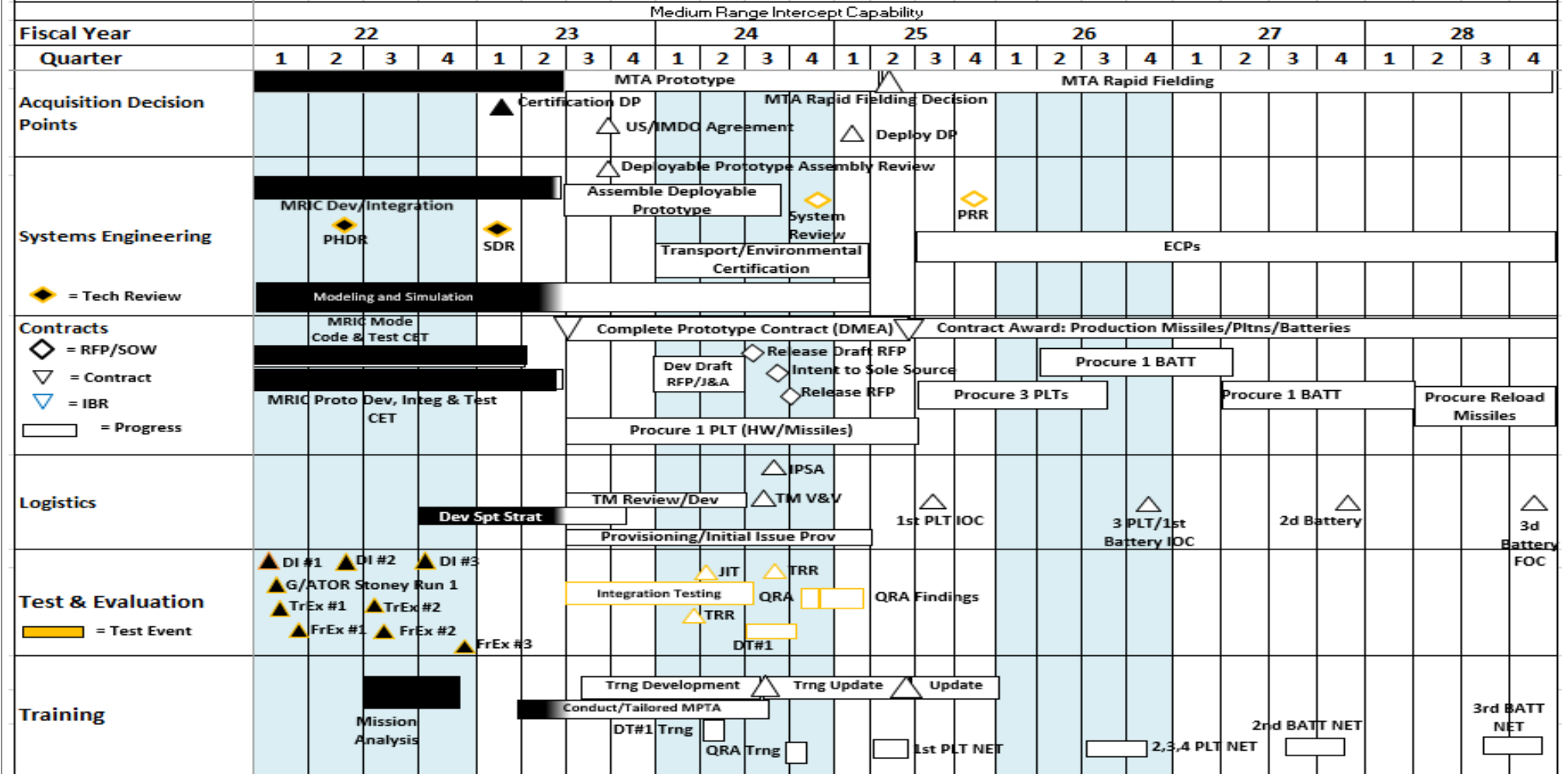
<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2024 Navy</b>								<b>Date: March 2023</b>					
<b>Appropriation/Budget Activity</b> 1319 / 7				<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS				<b>Project (Number/Name)</b> 2578 / GBAD: Medium Range Intercept Capability (MRIC)					
	<b>Prior Years</b>	<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	0.000	7.544		7.973		22.406		-		22.406	Continuing	Continuing	N/A

**Remarks**  
 Increase from FY 2023 to FY 2024 is required to support the initiation of multiple testing events (to include developmental, environmental, interoperability, transportability), as well as the initiation of the Quick Reaction Assessment (QRA) required prior to deployment.

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEF ENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2578 / GBAD: Medium Range Intercept Capability (MRIC)
--	--	--



**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2024 Navy</b>		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 2578 / GBAD: Medium Range Intercept Capability (MRIC)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 2578</b>				
Acquisition Decisions: Certification Decision	1	2023	1	2023
Systems Engineering: Modeling and Simulation	1	2022	1	2025
Systems Engineering: MRIC Development/Integration	1	2022	2	2023
Contracting: MRIC/PSR Mode Development and Test	1	2022	2	2023
Contracting: MRIC Prototype Develop, Integ, Test	1	2022	2	2023
Training: DT #1 Training	2	2024	2	2024
Training: QRA Training	3	2024	4	2024
Test and Evaluation: Digital Integration #1	1	2022	1	2022
Test and Evaluation: Target Tracking Exercise #1	1	2022	1	2022
Test and Evaluation: Live Firing Exercise #1	1	2022	1	2022
Test and Evaluation: Digital Integration #2	2	2022	2	2022
Test and Evaluation: Target Tracking Exercise #2	3	2022	3	2022
Test and Evaluation: Live Firing Exercise #2	3	2022	3	2022
Test and Evaluation: Live Firing Exercise #3	4	2022	4	2022
Test and Evaluation: Integration Testing	3	2023	3	2024
Test and Evaluation: Developmental Test (DT #1)	3	2024	3	2024
Test and Evaluation: Quick Reaction Assessment (QRA)	4	2024	4	2024

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 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	21.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	21.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

C906: COTS expeditionary radar augmentation  
Development of a radar mode file to support the counter cruise missile mission with the use of the Extended Multi-Mission Hemispheric Radar (exMHR) in order to demonstrate a more expeditionary subset of Medium Range Intercept Capabilities (MRIC).

C907: Medium Range Intercept Capability (MRIC)  
The Medium Range Intercept Capability (MRIC) is a CMC Force Design program providing the Marine Corps Expeditionary Force Commander a capability to defend forward deployed forces primarily against threat subsonic/supersonic cruise missiles; secondarily against UAS and other aerial threats that enter into the MRIC's Weapons Engagement Zone (WEZ). MRIC is designed as a system-of-systems and will be integrated with Marine Corps organic Command and Control (C2) and Joint Integrated Air and Missile Defense (IAMD) architecture. The program will enhance the expeditionary force ground based air defense (GBAD) capability to rapidly prosecute aerial threats and expand layered defense of the Expeditionary and Naval Forces. The MRIC prototype firing exercises were completed 4Q FY 2022 and informed the decision point in 1Q FY 2023 to certify for deployment. The certification efforts will occur FY 2023 through FY 2024. This effort informs the investment to meet the Force Design requirements to field an MRIC Battery to each of the three LAAD Battalions in FY 2026, FY 2027, and FY 2028 to support operations including Expeditionary Advanced Based Operations (EABO)

C908: Next generation counter-Unmanned Aerial Systems (UAS) hard kill  
Funding supports the development of the Expeditionary-Mobile Air Defense Integrated System (X-MADIS) that is currently executed within the Department of the Navy (DON).

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

	FY 2022	FY 2023
<b>Congressional Add:</b> COTS expeditionary radar augmentation	0.000	4.000
<b>FY 2022 Accomplishments:</b> N/A		
<b>FY 2023 Plans:</b> -Initiated and completed an analysis, integration, and development of radar mode files for the exMHR to integrate with selected government Command and Control (C2) hardware/software -Initiated and completed a demonstration event at a government test range -Initiated and completed a trade study identifying a recommended technical approach		
<b>Congressional Add:</b> Medium-Range Intercept Capability (MRIC)	0.000	7.000

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEF ENSE WEAPONS SYS	<b>Project (Number/Name)</b> 9999 / Congressional Adds
--	--	---

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>
<b>FY 2022 Accomplishments:</b> N/A		
<b>FY 2023 Plans:</b> -Initiate purchase of hardware for safety testing (HERO missile, Electro Static Discharge (ESD) missile) -Initiate labor and hardware in support of containerized transport of the mini-Battle Management & Control (mini-BMC) -Initiate labor in support of safety, cyber, and uplink information that can only be provided Government to Government		
<b>Congressional Add:</b> Next generation counter-UAS hard kill	0.000	10.000
<b>FY 2022 Accomplishments:</b> N/A		
<b>FY 2023 Plans:</b> -Develop X-MADIS (to be executed by the Department of Navy)		
<b>Congressional Adds Subtotals</b>	0.000	21.000

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• RDTEN/0605520M/2578: GBAD: Medium Range Intercept Capability (MRIC)	7.544	7.973	22.406	-	22.406	7.831	5.951	1.999	0.980	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**  
 C906: COTS expeditionary radar augmentation  
 A demonstration will be held in order to provide data to support a trade study that will identify a recommended technical approach to meet detection and track rate update requirements.

C907: Medium Range Intercept Capability (MRIC)  
 To support an MRIC Material Support Decision, a concept demonstration of a proposed counter cruise missile (CM) defense system occurred in 4Q FY 2019. The MRIC received an approved Middle Tier Acquisition decision in 3Q FY 2020 placing the system into Rapid Prototyping. A single prototype cruise missile defense capability was successfully demonstrated during live fire testing events and a Certification Decision occurred in 1Q FY 2023. Prototype efforts support the anticipated development of a capability that meets Force Design requirements providing an MRIC Battery to each of the three USMC LAAD Battalions in FY 2026, FY 2027, and FY 2028, and to support Expeditionary Advanced Base Operations (EABO) planning.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / <i>MARINE CORPS AIR DEFENSE WEAPONS SYS</i>	<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>

C908: Next generation counter-UAS hard kill  
The acquisition strategy for X-MADIS will be determined by the DON  
Funding will be executed by the Department of the Navy

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEFENSE WEAPONS SYS	<b>Project (Number/Name)</b> 9999 / Congressional Adds
--	--	---

<b>Product Development (\$ in Millions)</b>				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			
C908: X-MADIS	Various	DON : DON	0.000	0.000		10.000	Sep 2023	0.000		-		0.000	0.000	10.000	-
C907: Labor/HW for mini-BMC/Safety/Cyber/Uplink	C/FFP	Rafael/Raytheon : Tucson, AZ	0.000	0.000		5.643	Apr 2023	0.000		-		0.000	0.000	5.643	-
<b>Subtotal</b>			0.000	0.000		15.643		0.000		-		0.000	0.000	15.643	N/A

**Remarks**  
Decrease of \$15.643M from FY 2023 to FY 2024 is due to DON decisions on path forward on exMHR as well as the continuation of MRIC deployment efforts under PE 0605520M; Project 2578

<b>Test and Evaluation (\$ in Millions)</b>				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)	C/CPFF	Rada : Germantown, MD	0.000	0.000		4.000	Apr 2023	0.000		-		0.000	0.000	4.000	-
Developmental Test & Evaluation (DT&E)	C/FFP	Rafael/Raytheon : Tucson, AZ	0.000	0.000		1.357	Jun 2023	0.000		-		0.000	0.000	1.357	-
<b>Subtotal</b>			0.000	0.000		5.357		0.000		-		0.000	0.000	5.357	N/A

**Remarks**  
Decrease of \$5.357M from FY 2023 to FY 2024 is due to the completion of the demonstration of the xMHR capability as well as the continuation of MRIC efforts within PE 0605520M; Proj 2578.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>		0.000	0.000	21.000	0.000	0.000	0.000	21.000	N/A

**Remarks**  
Total decrease of \$21.000M from FY 2023 to FY 2024 is due to the completion of the exMHR demonstration as well as continuation of efforts for MRIC deployment within PE 0605520M; Proj 2578. X-MADIS is a program executed within the DON.

**UNCLASSIFIED**

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

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEF ENSE WEAPONS SYS	<b>Project (Number/Name)</b> 9999 / Congressional Adds
--	--	---

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
C906: COTS expeditionary radar augmentation (exMHR)							Contract Award ▲																					

2024PB - 0605520M - 9999

**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0605520M / MARINE CORPS AIR DEF ENSE WEAPONS SYS	<b>Project (Number/Name)</b> 9999 / Congressional Adds

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 9999</b>				
C906: COTS expeditionary radar augmentation (exMHR): Contract Award	3	2023	3	2023