Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy	Date: March 2024
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305204N *I Tactical Unmanned Aer Vehicles*

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	304.547	10.576	11.235	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	326.358
2478: *Tactical Control System*	304.547	10.576	11.235	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	326.358

A. Mission Description and Budget Item Justification

The MQ-8 Unmanned Air System is a Joint Military Intelligence Program.

The Tactical Control System FY 2025 budget is dependent on the MQ-8 Fire Scout Program Element 0305231N. There is no funding requested in FY 2025 based on a Navy decision to divest of current inventory of MQ-8C Air Vehicles (AVs) and associated equipment. The Navy will divest the MQ-8C Fire Scout Uncrewed Aircraft System at the conclusion of FY 2024. Through coordination with Commander Naval Air Forces, Commander Naval Surface Forces, Naval Air Systems Command and Naval Sea Systems Command, operational employment of the MQ-8C will end in Q4 FY2024 and sundown will be completed by Q4 FY2026.

This program element provides funding for the software development capabilities associated with Mission modules of the Tactical Unmanned Aerial Vehicle.

The Tactical Control System (TCS), a component of the MQ-8 System, provides software for the joint tactical MQ-8 Fire Scout System. TCS integrated into the MQ-8 Mission Control System (MCS) provides the warfighters with the capability for day/night aerial Intelligence, Surveillance and Reconnaissance (ISR), target acquisition, voice, data and command and control communications/relay, and mine detection and localization. Additionally, TCS provides a multi-level, scalable, and flexible operator control of the air vehicles and payloads as well as direct receipt and dissemination of unmanned aerial vehicle sensor data.

B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	10.576	11.235	10.145	-	10.145
Current President's Budget	10.576	11.235	0.000	-	0.000
Total Adjustments	0.000	0.000	-10.145	-	-10.145
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-10.145	-	-10.145

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy	Date: March 2024
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305204N *I Tactical Unmanned Aer Vehicles*

Change Summary Explanation

Funding and schedule change from PB24 to PB25: FY 2025 funding reduced by $10.145M and schedule truncated due to Navy decision to divest of current inventory of MQ-8C Air Vehicles (AVs) and associated equipment at the conclusion of FY 2024. Through coordination with Commander Naval Air Forces, Commander Naval Surface Forces, Naval Air Systems Command and Naval Sea Systems Command, operational employment of the MQ-8C will end in Q4 FY2024 and sundown will be completed by Q4 FY2026.

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy			Date: March 2024
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305204N / *Tactical Unmanned Aer Vehicles*	Project (Number/Name) 2478 / *Tactical Control System*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
2478: *Tactical Control System*	304.547	10.576	11.235	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	326.358
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Tactical Control System (TCS) program supports the MQ-8 Fire Scout System and is a standards-based system, which provides interoperability and commonality for Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) interfaces of Unmanned Aircraft Systems (UAS). TCS software, operating on Mission Control System (MCS) (also referred to as a Ground Control Station) hardware, utilizes North Atlantic Treaty Organization (NATO) Standardization Agreements (STANAG)-4586 architecture to communicate across a Tactical Common Data Link.

TCS provides a full range of scalable UAS capabilities from passive receipt of air vehicle and payload data to full air vehicle and payload command and control. TCS offers the warfighter a common core operating environment to simultaneously receive, process, and disseminate data from different UAS types for intelligence, reconnaissance, surveillance, and combat assessment.

This program supports enhancements and updates to TCS in order to continue to meet supported air vehicle enhancements, incorporation of new technologies that will be used to enhance overall system performance, includes software updates to support Mission System Trainers (MST), incorporate new payloads and payload capabilities, incorporate multi-vehicle control, incorporate NATO STANAG-4586 and Command, Control, Communications, Computers and Intelligence enhancements, and alignment with OSD direction for UAS control segments.

TCS software is incorporated into the MQ-8 Fire Scout System and fields in conjunction with MQ-8. TCS software addresses MQ-8 requirements validated by the Joint Requirements Oversight Council in the MQ-8 Capability Production Document (Nov 2016) and multiple Joint Emergent Operational Need/Urgent Operational Needs statements. TCS is supported by an Operational Requirements Document (Feb 2000).

TCS maximizes the use of contractor and government off-the-shelf hardware and software whenever possible and incorporates software/hardware enhancements where appropriate to maintain growth potential and minimize hardware and operating system dependence. TCS software is interoperable and is compliant with the OSD Command and Control, Communications, Intelligence Joint Technical Architecture, Distributed Common Ground System standards, Global Command and Control System, and NATO standards. TCS hardware and software upgrades support the Navy's Common Control System (CCS) migration and as such can be used to support future UAS MCS requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: TCS Development and Integration	9.070	8.906	0.000	0.000	0.000
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
FY 2024 Plans: Continue new TCS capabilities to support requirements for MQ-8 land-based efforts plus support for air capable ships (to include LCS, Frigates (FFG(X)), and Expeditionary Support Bases (ESB). Continue TCS STANAG 4586 compliance. Continue TCS C4ISR interface integration and testing for MQ-8 systems. Continue hardware and operating system independence initiatives. Continue TCS version 11 development and test to integrate user interface enhancements, cyber security updates, and onboard operator proficiency training capability. ***FY 2025 Base Plans:*** N/A ***FY 2025 OCO Plans:*** N/A ***FY 2024 to FY 2025 Increase/Decrease Statement:*** FY2024 to FY2025 Decrease of $8.906 is due to no funding requested in FY2025 based on a Navy decision to divest of current inventory of MQ-8C Air Vehicles (AVs) and associated equipment.					
Title: Technical and Engineering Services	1.506	2.329	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2024 Plans: Developmental testing of TCS software modifications to support capability enhancements and corrections of deficiencies (COD). ***FY 2025 Base Plans:*** N/A ***FY 2025 OCO Plans:*** N/A ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Decrease of 2.329 due to There is no funding requested in FY2025 based on a Navy decision to divest of current inventory of MQ-8C Air Vehicles (AVs) and associated equipment.					
Accomplishments/Planned Programs Subtotals	10.576	11.235	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

The TCS program is government owned, non-proprietary software that currently supports the MQ-8 Fire Scout System. The TCS program continues to focus on Navy requirements and standards-based architecture/software to support interoperability. The government-owned TCS software development toolkit is available to all UAS developers and manufacturers that allows a low-cost integration into the open architecture non-proprietary TCS system.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development	SS/CPIF	Raytheon : Falls Church,VA	83.588	9.070	Jan 2023	8.906	Jan 2024	0.000		-		0.000	0.000	101.564	158.891
Prior Year Cost no longer Funded in the FYDP	Various	Various : Various	195.505	0.000		0.000		0.000		-		0.000	0.000	195.505	195.505
		Subtotal	279.093	9.070		8.906		0.000		-		0.000	0.000	297.069	N/A

Remarks

FY2025 decrease due to no funding requested in FY2025 based on a Navy decision to divest of current inventory of MQ-8C Air Vehicles (AVs) and associated equipment.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	WR	Various : Various	1.487	0.158	Nov 2022	0.938	Nov 2023	0.000		-		0.000	0.000	2.583	-
		Subtotal	1.487	0.158		0.938		0.000		-		0.000	0.000	2.583	N/A

Remarks

FY2025 decrease in Test and Evaluation due to no funding requested in FY2025 based on a Navy decision to divest of current inventory of MQ-8C Air Vehicles (AVs) and associated equipment.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	5.248	0.329	Nov 2022	0.336	Nov 2023	0.000		-		0.000	0.000	5.913	-
Government Engineering Support	WR	Various : Various	12.272	0.687	Nov 2022	0.679	Nov 2023	0.000		-		0.000	0.000	13.638	-
Program Management Support	Various	Various : Various	5.929	0.298	Nov 2022	0.341	Nov 2023	0.000		-		0.000	0.000	6.568	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NAVAIR : Patuxent River, MD	0.518	0.034	Nov 2022	0.035	Nov 2023	0.000		-		0.000	0.000	0.587	-
		Subtotal	23.967	1.348		1.391		0.000		-		0.000	0.000	26.706	N/A

Remarks

FY2025 decreased in Management Services: Due to no funding requested in FY2025 based on a Navy decision to divest of current inventory of MQ-8C Air Vehicles (AVs) and associated equipment.

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	304.547	10.576		11.235		0.000		-		0.000	0.000	326.358	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*

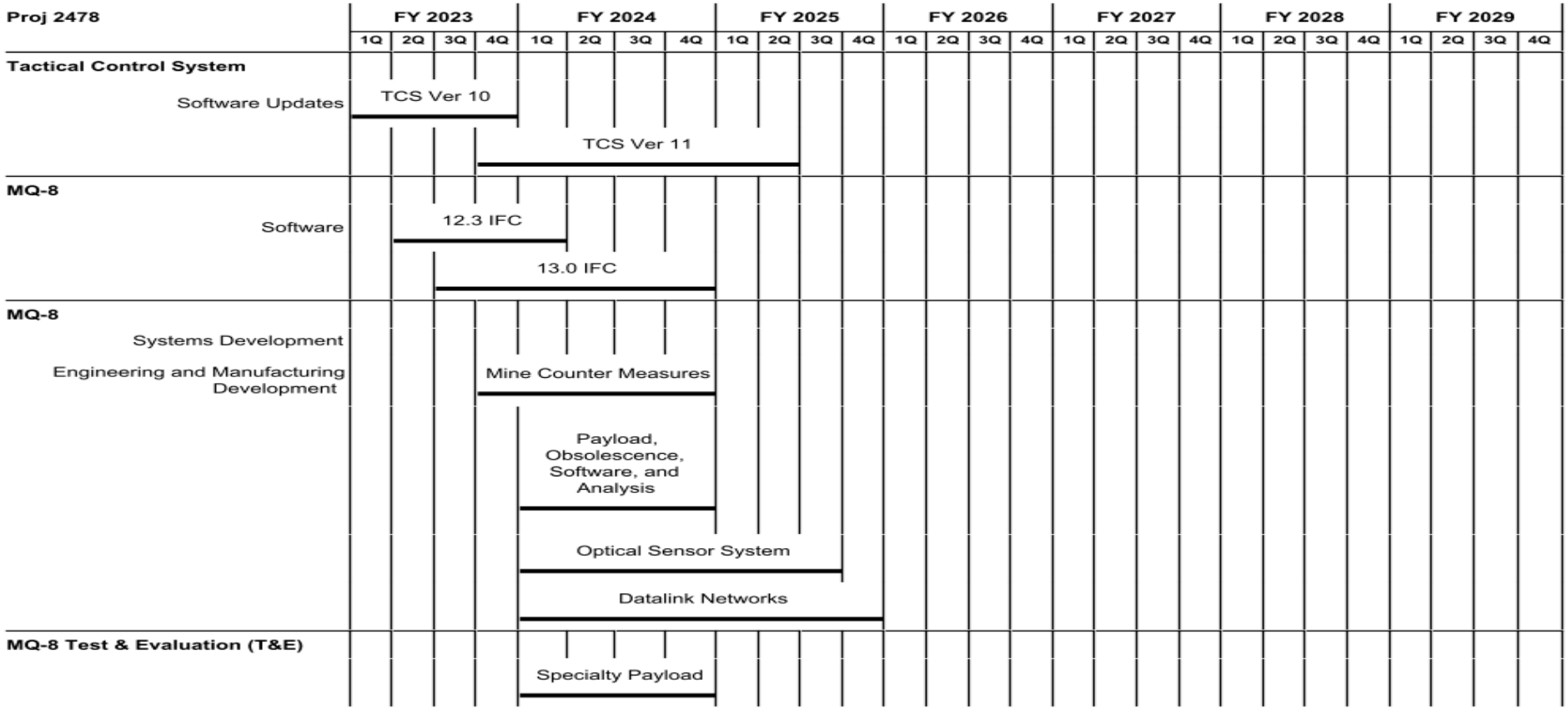

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2478				
Tactical Control System: Software Updates: TCS Version 10	1	2023	4	2023
Tactical Control System: Software Updates: TCS Version 11	4	2023	2	2025
MQ-8: Software: 12.3 IFC	2	2023	1	2024
MQ-8: Software: 13.0 IFC	3	2023	4	2024
MQ-8: Engineering and Manufacturing Development: Mine Counter Measures (MCM)	4	2023	4	2024
MQ-8: Engineering and Manufacturing Development: Payload, Obsolescence, Software, and Analysis	1	2024	4	2024
MQ-8: Engineering and Manufacturing Development: Optical Sensor System	1	2024	3	2025
MQ-8: Engineering and Manufacturing Development: Datalink Networks	1	2024	4	2025
MQ-8 Test & Evaluation (T&E): Specialty Payload	1	2024	4	2024