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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army **Date:** March 2024

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0305219A / MQ-1 Gray Eagle UAV
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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	-	-	6.629	6.681	-	6.681	6.785	6.890	7.094	7.165	Continuing	Continuing
MQ2: MQ-1C Gray Eagle Modifications	-	-	6.629	6.681	-	6.681	6.785	6.890	7.094	7.165	Continuing	Continuing

Program MDAP/MAIS Code: 420

A. Mission Description and Budget Item Justification

The MQ-1C Gray Eagle provides the Army with an Extended Range, Multi-Purpose (ERMP) Uncrewed Aircraft System (UAS); capable of executing reconnaissance, security, attack, and intelligence collection missions in the Range of Military Operations (ROMO). Sensors/payloads include an Electro-Optical/Infrared/Laser Designator (EO/IR/LD), Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI), Signals Intelligence (SIGINT), and HELLFIRE missiles; providing a near all-weather mission capability. MQ-1C Gray Eagle is a dedicated, assured, multi-mission UAS, fielded to Active Components, Intelligence and Security Command and Army Special Operations Command in support of the commander's warfighting priorities within multi-domain operations.

FY2025 RDTE dollars, in the amount of \$6.681 million, supports development efforts required for integration of Vision Based Navigation (VBN) onto MQ-1C Gray Eagle platforms. This complementary navigation solution supports the ability of the platform to survive, persist, and operate effectively in Global Positioning System (GPS) denied/contested environments (emerging GPS threats). M-Code transition is required by public law 111-383.

B. Program Change Summary (\$ in Millions)	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	0.000	6.629	6.838	-	6.838
Current President's Budget	0.000	6.629	6.681	-	6.681
Total Adjustments	0.000	0.000	-0.157	-	-0.157
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.157	-	-0.157

Change Summary Explanation

The decrease from PB24 to PB25 reduces funding in FY25 and reduces the investment in A-PNT development efforts.

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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
MQ2: MQ-1C Gray Eagle Modifications	-	-	6.629	6.681	-	6.681	6.785	6.890	7.094	7.165	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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FY2025 RDTE dollars, in the amount of \$6.681 million, supports development efforts required for integration of Vision Based Navigation (VBN) onto MQ-1C Gray Eagle platforms. This complementary navigation solution supports the ability of the platform to survive, persist, and operate effectively in Global Positioning System (GPS) denied/contested environments (emerging GPS threats). M-Code transition is required by public law 111-383.

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

	FY 2023	FY 2024	FY 2025
Title: Assured Positioning, Navigation, & Timing	-	6.629	6.681
FY 2024 Plans: FY2024 RDTE dollars, in the amount of \$6.629M, supports development efforts required for integration of vision based navigation (VBN) onto MQ-1C Gray Eagle platforms. This complementary navigation solution supports the ability of the platform to Survive, Persist, and Thrive (continue mission) in GPS denied/contested environments (emerging GPS threats).			
FY 2025 Plans: FY2025 RDTE dollars, in the amount of \$6.681 million, supports development efforts required for integration of vision based navigation (VBN) onto MQ-1C Gray Eagle platforms. This complementary navigation solution supports the ability of the platform to survive, persist, and operate effectively in Global Positioning System (GPS) denied/contested environments (emerging GPS threats). M-Code transition is required by public law 111-383.			
FY 2024 to FY 2025 Increase/Decrease Statement: Increased funding from FY24 to FY25 is due to revised economic assumptions and further supports continued prioritization and investment in A-PNT development efforts.			
Accomplishments/Planned Programs Subtotals	-	6.629	6.681

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

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• AA6601: <i>Gray Eagle Mods2</i>	133.038	14.959	23.865	-	23.865	5.021	5.539	10.536	10.641	Continuing	Continuing
• A00005: <i>MQ-1 UAV</i>	350.000	-	0.000	-	0.000	-	-	-	-	0.000	350.000

Remarks

D. Acquisition Strategy

An Extended Range, Multi-Purpose (ERMP) Operational Requirement Document (ORD) was approved by the Joint Requirement Oversight Council (JROC) 6 Apr 2005. Milestone B occurred on 20 Apr 2005, and the System Development and Demonstration contract was awarded 8 Aug 2005, as a result of a competitive solicitation which included a vendor system capabilities demonstration. A Capabilities Production Document (CPD) was approved 14 Mar 2009. MQ-1C Gray Eagle completed Follow-On Test and Evaluation (FOTE) on 12 Jun 2015.

This RDTE effort funds development/integration and test of key Assured Positioning Navigation and Timing (A-PNT) efforts for Gray Eagle. These include Vision Based Navigation (VBN), which will provide a "non-GPS" based navigation solution on the Gray Eagle aircraft. VBN provides an alternate means of estimating aircraft position during GPS denial/outage by tracking aircraft movement using video imagery. Additionally, the RDTE effort will fund integration of an independent timing source to maintain functionality of time dependent components on the aircraft. Outyear RDTE will fund the selection and integration of an M-Code compatible/capable 3rd Navigator to replace the current obsolete Athena 511 GPS receiver, and also fund the development of other complementary/alternate A-PNT systems. The inclusion of these capabilities on the Gray Eagle aircraft increases survivability and helps ensure operators can continue mission in GPS contested environments. M-Code transition is required by public law 111-383.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army **Date:** March 2024

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Event Name	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Assured Positioning, Navigation & Timing																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army		Date: March 2024
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Assured Positioning, Navigation & Timing	2	2024	4	2029