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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 4: Advanced Component Development & Prototypes (ACD&P)	R-1 Program Element (Number/Name) PE 0604114A / Lower Tier Air Missile Defense (LTAMD) Sensor
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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	-	366.637	816.663	149.463	-	149.463	122.785	124.002	128.507	123.399	Continuing	Continuing
EX2: Lower Tier Air Missile Defense (LTAMD) Capability	-	366.637	816.663	149.463	-	149.463	122.785	124.002	128.507	123.399	Continuing	Continuing

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the Army Air and Missile Defense Modernization Priority.

The Lower Tier Air Missile Defense Sensor (LTAMDS) is a next generation radar intended to sense and track Tactical Ballistic Missiles and Air Breathing Threats; expand the lower tier air and missile defense battlespace and provide 360-degree sensing capability, surveillance, and fire control.

The LTAMDS program competitively selected Raytheon as the prime vendor in 1st Quarter (Q) Fiscal Year (FY) 2020 to build six (6) prototype sensors under the Middle Tier of Acquisition Rapid Prototyping (MTA-RP) authority. The LTAMDS Radar Set (RS) replaces the baseline PATRIOT RS (AN/MPQ-65A) in an Integrated Air and Missile Defense Battle Command System (IBCS) enabled PATRIOT Battalion mitigating risk associated with threat advances, decreasing Operations and Support (O&S) costs, and growing obsolescence. Additionally, the LTAMDS capability maximizes the inherent PAC-3 MSE Interceptor capabilities to engage threats at greater ranges in addition to addressing critical capability gaps, providing modernized technology, and increasing reliability and maintainability.

LTAMDS will exit the Middle Tier of Acquisition (MTA) Rapid Prototyping pathway in 1Q FY2024 and will enter Major Capability Acquisition (MCA) at Milestone C. FY2025 funds will be used to fund LTAMDS remaining activities that prepare LTAMDS for a Milestone C decision.

LTAMDS will complete Early Operational Capability 2 (EOC 2) Full Sector Operational Assessment with an Integrated Fires test campaign and complete Development Test & Evaluation (DTE). Funding in FY2025 also supports continued software development to counter evolving threats; digital modeling and simulation efforts; critical capabilities; integration activities with the IBCS; sensor enhancements as part of the Pre-Planned Product Improvement (P3I) effort; integration with the PATRIOT family of interceptors (PAC-2 GEM-T, PAC-3, PAC-3 MSE) in support of Integrated Fires and Multi-domain Operations; AMD survivability efforts; and will complete Large Tactical Power System (LTPS) testing.

FY2025 will fund testing activities for the Pre-Planned Product Improvement (P3I) effort to include completion of Qualification Testing and beginning of Developmental Test/Operational Test (DT/OT).

FY2025 funding in the amount of \$30.285 million is in support of the Pacific Defense Initiative.

The total cost of the LTAMDS Middle Tier of Acquisition effort is \$1,578 million RDT&E from FY 2019 to FY 2024.

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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604114A / <i>Lower Tier Air Missile Defense (LTAMD) Sensor</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	380.147	816.663	118.939	-	118.939
Current President's Budget	366.637	816.663	149.463	-	149.463
Total Adjustments	-13.510	0.000	30.524	-	30.524
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-13.510	-			
• Adjustments to Budget Years	-	-	30.524	-	30.524

Change Summary Explanation

\$30M realigned from PROC to RDTE in FY 2025 to support Pacific Deterrence Initiative efforts.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Army										Date: March 2024		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0604114A / Lower Tier Air Missile Defense (LTAMD) Sensor				Project (Number/Name) EX2 / Lower Tier Air Missile Defense (LTAMD) Capability			
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
EX2: Lower Tier Air Missile Defense (LTAMD) Capability	-	366.637	816.663	149.463	-	149.463	122.785	124.002	128.507	123.399	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: Lower Tier Missile Defense Sensor</p> <p>Description: Provides the required sensing capabilities in the lower tier portion of the air and missile defense battlespace and expands the battlespace for the PAC-3 MSE interceptor.</p> <p>FY 2024 Plans: MTA Rapid Prototyping Program:</p> <ul style="list-style-type: none"> - Continue Environmental Qualification, Government Development, and Operational Testing - Complete Primary Sector Operational Assessment - Complete Full Sector (360 degree) CVT - Continue Large Tactical Power System (LTPS) development, conduct prototype vendor down-select, and begin Government Testing - Continue development of critical Program Protection / Anti-Tamper capabilities - Continue P3I sensor enhancements for inclusion into Full Rate Production Configuration - Support AMD Survivability efforts - Continue MCA walk-up activities to include required entry criteria, system verification, development of appropriate milestone documentation, and initiation of contract award activities. <p>Early Operational Capability:</p> <ul style="list-style-type: none"> - Fund three (3) sensors in FY 2024 to support the Pacific Deterrence initiative (PDI) to provide an Early Operational Capability. - Fund two (2) sensors to support LTAMDS testing culminating with Initial Operational Test and Evaluation (IOT&E) in FY 2026/2027 <p>Integration:</p> <ul style="list-style-type: none"> - Conduct an Operational Assessment with as part of the Integrated Fires Test Campaign - Continue integration with IBCS - Continue integration with PATRIOT family of interceptors (PAC-2, GEM-T, PAC-3, PAC-3 MSE) - Continue digital modeling and simulation activities <p>FY 2025 Plans: Program Activities:</p> <ul style="list-style-type: none"> - Continue Government Development, Testing and Evaluation - Complete Full Sector Operational Assessment - Complete Large Tactical Power System (LTPS) development and Government Testing - Continue development of critical Program capabilities 	366.637	816.663	149.463

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Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604114A / Lower Tier Air Missile Defense (LTAMD) Sensor	Project (Number/Name) EX2 / Lower Tier Air Missile Defense (LTAMD) Capability
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Continue P3I sensor enhancements for inclusion into Full Rate Production Configuration - Support AMD Survivability efforts - Continue MS C walk-up activities. - Complete Qualification Testing - Begin P3I DT/OT <p>Integration:</p> <ul style="list-style-type: none"> - Conduct an Operational Assessment as part of the Integrated Fires FY2025 Test Campaign - Continue integration with IBCS - Continue integration with PATRIOT family of interceptors (PAC-2 GEM-T, PAC-3, PAC-3 MSE) - Continue digital modeling and simulation activities <p>Early Operational Capability</p> <ul style="list-style-type: none"> - Continue support of Guam Defense Systems (GDS) activities. <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Decrease in funding associated with transition from Rapid Prototyping to Production associated with Milestone C Decision.</p>			
Accomplishments/Planned Programs Subtotals	366.637	816.663	149.463

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• C12101: Lower Tier Air and Missile Defense Sensor	13.460	6.625	516.838	-	516.838	640.309	708.150	1,080.267	1,091.070	Continuing	Continuing

Remarks

D. Acquisition Strategy

On 25 September 2018, the Army Acquisition Executive (AAE) approved the execution of the LTAMDS Middle Tier Acquisition (MTA) (Sec. 804) for rapid prototyping.

The Army conducted a Sense-Off in 3Q FY 2019 with multiple vendors to demonstrate advanced sensor capabilities with a follow-on competitive source selection informing the LTAMDS Product Office Other Transaction Authority (OTA) award to a single vendor. In 1Q FY 2020, Raytheon was selected to deliver six (6) prototypes in support of the FY18 NDAA language to achieve an Early Operational Capability (EOC) no later than 1Q FY 2024. LTAMDS prototype builds are currently in progress supporting Contractor Verification Testing (CVT) and USG Developmental and Operational Testing.

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Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
2040 / 4	PE 0604114A / <i>Lower Tier Air Missile Defense (LTAMD) Sensor</i>	EX2 / <i>Lower Tier Air Missile Defense (LTAMD) Capability</i>

LTAMDS will exit the MTA pathway in 1Q FY2024 and will enter the MCA pathway at MS C. In 2Q FY2024, LTAMDS Product Office plans to award a contract for three (3) RDT&E funded assets and associated sparing to meet Pacific Deterrence Initiative mission and two (2) RDT&E funded assets to support LTAMDS testing culminating with Initial Operational Test and Evaluation (IOT&E) in FY 2026/2027.

The LTAMDS program is a component of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. This effort includes integration with an evolving common fires mission command, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)					
2040 / 4				PE 0604114A / Lower Tier Air Missile Defense (LTAMD) Sensor						EX2 / Lower Tier Air Missile Defense (LTAMD) Capability					
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	MIPR	Various : Redstone Arsenal, AL	25.015	4.780	Oct 2022	4.950	Nov 2023	4.753	Nov 2024	-		4.753	Continuing	Continuing	-
Systems Engineering and Technical Assistance (SETA)	Various	Systems Engineering and Technical Assistance : Huntsville, AL	30.009	7.655	Oct 2022	7.930	Feb 2024	7.960	Feb 2025	-		7.960	Continuing	Continuing	-
Subtotal			55.024	12.435		12.880		12.713		-		12.713	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development Support	C/Various	University Affiliated Research Center (UARC); MIT; The Federally Funded Research and Development Center (FFRDC) : Various	29.349	12.880	Oct 2022	13.920	Nov 2023	12.090	Nov 2024	-		12.090	Continuing	Continuing	-
OGA Integration (LTPS/IBCS)	C/Various	Various : Various	34.319	54.430	Dec 2022	37.970	Dec 2023	19.950	Dec 2024	-		19.950	Continuing	Continuing	-
Pre-Planned Product Improvements	Various	Raytheon : Various	59.556	212.930	Jan 2023	67.063	Feb 2024	30.235	Feb 2025	-		30.235	Continuing	Continuing	-
PDI / GDS	TBD	Raytheon : Various	-	-		613.670	Nov 2023	30.285	Mar 2025	-		30.285	Continuing	Continuing	-
Subtotal			123.224	280.240		732.623		92.560		-		92.560	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/Various	Army Laboratories, S3I System	11.374	8.930	Dec 2022	10.550	Dec 2023	10.020	Dec 2024	-		10.020	Continuing	Continuing	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604114A / Lower Tier Air Missile Defense (LTAMD) Sensor	Project (Number/Name) EX2 / Lower Tier Air Missile Defense (LTAMD) Capability	

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
Production Representative Unit Manufacturing	[Redacted]				Production Representative Unit Manufacturing																							
Qualification Testing	[Redacted]				Qualification Testing																							
Developmental Test & Evaluation	[Redacted]				Developmental Test & Evaluation																							
Production Contract (PDI/MOTE)					Production Contract																							
IOT&E													IOT&E															
Operational Assessment / Integrated Fires FY23 Campaign	[Redacted]				OA / IF FY23 Campaign																							
Operational Assessment / Integrated Fires FY24 Campaign					[Redacted]				OA / IF FY24 Campaign																			
P3I Effort	[Redacted]																											
Large Tactical Power System (LTPS) Prototyping	[Redacted]				LTPS Prototyping																							
Operational Assessment / Integrated Fires FY25 Campaign									[Redacted]				OA / IF FY25 Campaign															

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604114A / Lower Tier Air Missile Defense (LTAMD) Sensor	Project (Number/Name) EX2 / Lower Tier Air Missile Defense (LTAMD) Capability

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Concept Definition	4	2017	4	2019
Select Single Vendor	1	2020	1	2020
Production Representative Unit Manufacturing	1	2020	4	2023
Qualification Testing	2	2023	4	2024
Developmental Test & Evaluation	3	2023	1	2025
Production Contract (PDI/IOTE)	2	2024	4	2026
IOT&E	3	2026	1	2027
Operational Assessment / Integrated Fires FY23 Campaign	4	2023	1	2024
Operational Assessment / Integrated Fires FY24 Campaign	4	2024	1	2025
P3I Effort	4	2022	4	2029
Large Tactical Power System (LTPS) Prototyping	4	2022	2	2025
Operational Assessment / Integrated Fires FY25 Campaign	4	2025	1	2026