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

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0207455F / <i>Three Dimensional Long-Range Radar (3DELRR)</i>
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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	0.000	13.959	19.763	8.100	0.000	8.100	0.069	0.000	0.000	0.000	0.000	41.891
646002: <i>Three Dimensional Expeditionary Long Range Radar</i>	0.000	13.959	19.763	8.100	0.000	8.100	0.069	0.000	0.000	0.000	0.000	41.891
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

**Program MDAP/MAIS Code:** 393

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

This budget line funds the Three-Dimensional Expeditionary Long-Range Radar (3DELRR) program. The 3DELRR program replaces the unsustainable AN/TPS-75 radar. The AN/TPS-75 radar was first fielded in the early 1970s, is at the end of its service life, and costly to maintain. The 3DELRR system will be the USAF's principal long-range, ground-based sensor for detecting, identifying, tracking, and reporting aerial tracks for the Joint Force Air Component Commander (JFACC).

The 3DELRR system will provide multiple benefits and increased capabilities to the USAF and the Joint Services, including but not limited to: 1) ability to detect and track highly maneuverable, small radar cross-section airborne targets (modern and emerging threats); 2) enable greater battlefield and battlespace awareness through its precise, real-time air picture of sufficient quality to control individual aircraft under a wide range of environmental and operational conditions; and 3) mitigate reliability, operational availability, maintainability, transportability and sustainability issues.

The 3DELRR system consists of the TPY-4 radar and is supported by Prime Movers, Generators, and other smaller PMO Purchased Equipment. Prime Movers and Generators are currently long lead-time items.

FY2025 funding will support continued capability development for the 3DELRR system. Development of the system will consist of electronic protection (EP) techniques, classification and clutter algorithms, and enhanced radar capabilities across various operating environments. FY2025 funds will also support integration of the 3DELRR system with the United States Army using the Integrated Fire Control Network (IFCN) interface.

FY2025 funds will be allocated for 3DELRR decoy development and integration to the USN & USMC Cooperative Engagement Capability/Composite Tracker Network (CEC/CTN) as available.

Test and evaluation will also continue with FY2025 funding to support development of the TPY-4 radar to include cybersecurity and performance assessments, mobility, evaluations, and initial maintenance demonstrations.

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The total cost of the 3DELRR MTA effort is \$360.5 million, including RDT&E and procurement of prototype units. The 3DELRR program is not fully funded across the Future Years Defense Program. The Department of the Air Force is assessing all options to address the funding shortfalls for MTA programs including additional funding in a future budget request, performance trades based on technical maturity, or transition to alternative pathways.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$0.00M was expended for civilian pay expenses in this program element, and in FY24 \$0.00M is forecasted for civilian pay expenses in this program element.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	14.490	19.763	0.584	0.000	0.584
Current President's Budget	13.959	19.763	8.100	0.000	8.100
Total Adjustments	-0.531	0.000	7.516	0.000	7.516
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.531	0.000			
• Other Adjustments	0.000	0.000	7.516	0.000	7.516

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> Development and test of the AN/TPY-4 radar	10.964	5.587	1.966
<b>Description:</b> Funds will be used for the development, integration, and test activities of TPY-4 radar system.			
<b>FY 2024 Plans:</b>			
Activities will include, but are not limited to the following:			
-Finalize technical manuals and training material			
-Conduct test readiness reviews prior to specific test events			
-Continue integrated government developmental test & evaluation and operational test & evaluation to characterize performance and cybersecurity posture			

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2025 Air Force		<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0207455F / <i>Three Dimensional Long-Range Radar (3DELRR)</i>		
<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>-Conduct initial operational test &amp; evaluation to support fielding decision</p> <p>-Develop, test, and implement future requirements based on mission needs</p> <p><b>FY 2025 Plans:</b> Activities will include, but are not limited to the following:</p> <ul style="list-style-type: none"> <li>-Will finalize technical manuals and training material</li> <li>-Will conduct test readiness reviews prior to specific test events</li> <li>-Will continue integrated government developmental test &amp; evaluation and operational test &amp; evaluation to characterize performance and cybersecurity posture</li> <li>-Will conduct initial operational test &amp; evaluation to support fielding decision</li> <li>-Will develop, test, and implement future requirements based on mission needs</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> FY25 budget was decreased because test efforts will transition from baseline system testing to development and testing of additional capabilities as part of the multi-step to full Capabilities Development Document (CDD) compliance acquisition strategy.</p>				
<p><b>Title:</b> Government Development, Operational &amp; Integration Test and Evaluation Planning and Execution</p> <p><b>Description:</b> Planning and Execution of Government-led Developmental, &amp; Operational Test and Evaluation Activities</p> <p><b>FY 2024 Plans:</b> Activities will include but are not limited to the following:</p> <ul style="list-style-type: none"> <li>-Conduct test readiness reviews prior to specific test events</li> <li>-Continue integrated government developmental test &amp; evaluation and operational test &amp; evaluation to characterize performance and cybersecurity posture</li> <li>-Conduct initial operational test &amp; evaluation to support fielding decision</li> <li>-Test selected future requirements based on mission needs</li> </ul> <p><b>FY 2025 Plans:</b> Activities will include but are not limited to the following:</p> <ul style="list-style-type: none"> <li>-Will conduct test readiness reviews prior to specific test events</li> <li>-Will continue integrated government developmental test &amp; evaluation and operational test &amp; evaluation to characterize performance and cybersecurity posture</li> <li>-Will conduct initial operational test &amp; evaluation to support fielding decision</li> <li>-Will test selected future requirements based on mission needs</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b></p>		2.995	14.176	6.134

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2023	FY 2024	FY 2025
FY25 budget was decreased because test efforts will transition from baseline system testing to development and testing of additional capabilities as part of the multi-step to full CDD compliance acquisition strategy.			
<b>Accomplishments/Planned Programs Subtotals</b>	13.959	19.763	8.100

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

Line Item	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
• OPAF 03 833060: 3D Expeditionary Long-Range Radar	92.587	83.735	96.022	-	96.022	107.017	110.332	113.226	28.310	0.000	631.229

**Remarks**

**E. Acquisition Strategy**

The Service Acquisition Executive (SAE) designated the 3DELRR program a Middle Tier of Acquisition (MTA) Rapid Prototyping effort on 27 Dec 19. The program used Other Transactional Agreements to conduct the competitive prototype capability demonstrations. On 15 Mar 21, the SAE delegated contract award and down select decision authority to the Air Force Program Executive Officer (PEO) Digital. On 1 Apr 22, the SAE designated 3DELRR an MTA Rapid Fielding effort, thereby concluding the Rapid Prototyping effort and enabling the program to start production of the first two initial production units. 3DELRR is tentatively scheduled to transition from an MTA to a Major Capability Acquisition program in early 2025.

The Milestone Decision Authority for the 3DELRR program is the Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics. Program management for the 3DELRR program is under direction of PEO Digital, located at Hanscom AFB, MA. The Air Force Life Cycle Management Center located at Wright-Patterson AFB, OH is the contracting authority for the 3DELRR program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 4				PE 0207455F / Three Dimensional Long-Range Radar (3DELRR)				646002 / Three Dimensional Expeditionary Long Range Radar							
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
TPY-4 Prime Contract	C/FFP	Lockheed Martin : Syracuse, NY	0.000	10.964	Jan 2023	9.763	Mar 2024	1.966	Jan 2025	-		1.966	Continuing	Continuing	-
<b>Subtotal</b>			0.000	10.964		9.763		1.966		-		1.966	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
System Engineering - C	SS/CPFF	GTRI : Atlanta, GA	0.000	0.500	Jun 2023	1.900	Jun 2024	0.301	Jun 2025	-		0.301	Continuing	Continuing	-
System Engineering - D	SS/CPFF	MITRE : Bedford, MA	0.000	0.000	Sep 2023	0.000	Sep 2024	1.800	Sep 2025	-		1.800	Continuing	Continuing	-
<b>Subtotal</b>			0.000	0.500		1.900		2.101		-		2.101	Continuing	Continuing	N/A
Test and Evaluation (\$ 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
Air Force Operational Test and Evaluation Center (AFOTEC)	PO	AFOTEC Det 2/C2 : TBD	0.000	-		2.837	Sep 2024	1.633	Dec 2024	-		1.633	Continuing	Continuing	-
Government Developmental Test and Evaluation Planning and Preparation	PO	46 TS : Eglin AFB, FL	0.000	2.168	Oct 2023	4.983	Sep 2024	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			0.000	2.168		7.820		1.633		-		1.633	Continuing	Continuing	N/A
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
Program Support Costs	Various	AFLCMC/HBDD : Hanscom AFB, MA	0.000	0.327	Jul 2023	0.280	Jul 2024	2.400	Jul 2025	-		2.400	Continuing	Continuing	-





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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0207455F / <i>Three Dimensional Long-Range Radar (3DELRR)</i>	<b>Project (Number/Name)</b> 646002 / <i>Three Dimensional Expeditionary Long Range Radar</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Three Dimensional Expeditionary Long Range Radar</i></b>				
Government Test	1	2024	1	2026
Develop and test interface to Integrated Fire Control Network	2	2023	2	2026
Develop and test full complement of electronic protection techniques	2	2023	2	2026
Develop and test unique classification techniques and additional clutter algorithms	2	2023	2	2026
Develop and test radar templates for other natural and electronic attack environments	2	2023	2	2026