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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207521F / <i>Air Force Calibration Programs</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	-	20.226	2.172	2.223	0.000	2.223	2.281	2.327	2.412	2.461	Continuing	Continuing
673326: <i>Precision Measurement & Calibration</i>	-	20.226	2.172	2.223	0.000	2.223	2.281	2.327	2.412	2.461	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program develops, tests, and evaluates national and Air Force measurement standards (hardware) and calibration equipment in support of all Air Force programs and activities, including Precision Measurement Equipment Laboratories (PMELs) worldwide. Metrology research and development provides technology to support systems in all phases of development and acquisition, as well as Air Force R&D laboratories, test ranges, ground test facilities, and operational weapons systems support. Rapidly changing technology requires continuing research and development of measurement standards and calibration equipment to ensure modern weapon systems meet Air Force readiness objectives. This program addresses all metrology disciplines and includes the technology areas of laser, infrared, microwave, millimeter wave, optical, physical, mechanical, electrical, electronic, and ionizing radiation measurements. Metrology is a technical discipline devoted to the science of measurements and to the study and improvement of measurement technology. Measurements are the foundation of military system development, quality assurance, hardware conformance testing and system readiness tests. The integrity of these tests is assured through calibration and traceability assurance schemes.

The capability to measure and calibrate must parallel the emergence of new technology, new ranges, and new capabilities of military systems. Lack of new measurement capability impedes or blocks the successful exploitation of new technologies, especially in the movement from development laboratory to production to deployment. R&D efforts are essential within the DoD to pace these requirements, otherwise, these same new systems will suffer time delays, excessive cost, and increased risk due to unreliable test results in all phases of development, production, deployment and operation.

This program element may include necessary civilian pay expenses required to manage, execute and deliver Air Force Calibration capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, 0605898F, and 0605833F. In FY23 \$0 was expended for civilian pay expenses in the program element and in FY24 \$175K is forecasted for civilian pay expenses in this program element.

Program is managed by Air Force Materiel Command, Agile Combat Support Directorate, Air Force Metrology Division (WNM).

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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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	2.123	2.172	2.220	0.000	2.220
Current President's Budget	20.226	2.172	2.223	0.000	2.223
Total Adjustments	18.103	0.000	0.003	0.000	0.003
• 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	18.103	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.003	0.000	0.003

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: Weapons System Measurement Standards</p> <p>Description: Develop national measurement standards to support Air Force infared / laser / electro-optical weapon systems and support equipment.</p> <p>FY 2024 Plans: Continue development of national measurement standards to support Air Force infared / laser / electro-optical weapon systems and support equipment.</p> <p>FY 2025 Plans: Continue development of national measurement standards to support Air Force infared / laser / electro-optical weapon systems and support equipment.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to inflation.</p>	0.439	0.450	0.462
<p>Title: Electrical Measurements</p> <p>Description: Develop Standards for electrical measurements to support high accuracy electronic test equipment.</p> <p>FY 2024 Plans: Continue development of standards for electrical measurements to support high accuracy electronic test equipment.</p> <p>FY 2025 Plans:</p>	0.425	0.436	0.449

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Continue development of standards for electrical measurements to support high accuracy electronic test equipment. FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to inflation.				
Title: Calibration Standards Description: Develop improved calibration standards to support physical, mechanical, and electro-mechanical support equipment. FY 2024 Plans: Continue to develop improved calibration standards to support physical, mechanical, and electro-mechanical support equipment. FY 2025 Plans: Continue to develop improved calibration standards to support physical, mechanical, and electro-mechanical support equipment. FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to inflation.		0.681	0.692	0.308
Title: Radar Support/Communications Description: Develop standards for radar support, RF communication, and radar cross section range measurements. FY 2024 Plans: Continue to develop standards for radar support, RF communication, and radar cross section range measurements. FY 2025 Plans: Continue to develop standards for radar support, RF communication, and radar cross section range measurements. FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to inflation.		0.578	0.594	0.604
Title: Development of Self Calibrating Equipment Description: Development of self-calibrating, quantum-based calibration standards for all calibration domains. FY 2024 Plans: Tempurature, Air Data ongoing projects FY 2025 Plans:		18.103	0.000	0.400

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Tempurature, Air Data ongoing projects			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Tempurature, Air Data ongoing projects			
Accomplishments/Planned Programs Subtotals	20.226	2.172	2.223

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy
Primarily accomplished through intergovernmental transfer between the Department of Defense and other Federal Departments.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207521F / <i>Air Force Calibration Programs</i>	Project (Number/Name) 673326 / <i>Precision Measurement & Calibration</i>

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

<i>Precision Measurement & Calibration</i>	
Precision Measurement & Calibration	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207521F / <i>Air Force Calibration Programs</i>	Project (Number/Name) 673326 / <i>Precision Measurement & Calibration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Precision Measurement & Calibration</i>				
Precision Measurement & Calibration	1	2023	4	2028