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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>					PE 0702207F: <i>Depot Maintenance (Non-IF)</i>							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	1.531	1.588	1.605	-	1.605	1.425	1.683	1.483	1.510	Continuing	Continuing
673326: <i>Precision Measurement & Calibration</i>	-	1.531	1.588	1.605	-	1.605	1.425	1.683	1.483	1.510	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 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 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	
Previous President's Budget	1.531	1.588	1.605	-	1.605	
Current President's Budget	1.531	1.588	1.605	-	1.605	
Total Adjustments	0.000	0.000	0.000	-	0.000	
• Congressional General Reductions	-	0.000				
• Congressional Directed Reductions	-	0.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	-	0.000				
• Congressional Directed Transfers	-	0.000				
• Reprogrammings	0.000	0.000				
• SBIR/STTR Transfer	0.000	0.000				
• Other Adjustments	0.000	0.000	0.000	-	0.000	
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2012	FY 2013	FY 2014
Title: Weapons Systems Measurement Standards				0.544	0.623	0.640
Description: Continue development of national measurement standards to support Air Force infrared / laser / electro-optical weapon systems and support equipment.						
FY 2012 Accomplishments: Continued development						
FY 2013 Plans: Continue development						
FY 2014 Plans: Continue development						
Title: Electrical Measurements				0.185	0.185	0.185
Description: Continue development of standards for electrical measurements to support high accuracy electronic test equipment.						
FY 2012 Accomplishments: Continued development						
FY 2013 Plans: Continue development						
FY 2014 Plans:						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Continue development				
Title: Radar Support/Communications Description: Continue development of standards for radar support, RF communication systems, and radar cross section range measurements. FY 2012 Accomplishments: Continued development FY 2013 Plans: Continue development FY 2014 Plans: Continue development		0.155	0.155	0.155
Title: Calibration Description: Continue the development of improved calibration standards to support physical, mechanical and electro-mechanical support equipment. FY 2012 Accomplishments: Continued development FY 2013 Plans: Continue development FY 2014 Plans: Continue development		0.320	0.320	0.320
Title: Radiation Hazard Description: Continue the development of national standards for calibration of ionizing radiation hazard instrumentation. FY 2012 Accomplishments: Continued development FY 2013 Plans: Continue development FY 2014 Plans:		0.045	0.045	0.045

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Continue development				
Title: Chemical/Biological Measurements Description: Continue development of improved standards and procedures to support chemical/biological measurements FY 2012 Accomplishments: Continue development FY 2013 Plans: Continue development FY 2014 Plans: Continue development		0.160	0.160	0.160
Title: Analytical Metrology Description: Continue development of standards, models and procedures to support analytical metrology applications FY 2012 Accomplishments: Continue development FY 2013 Plans: Continue development FY 2014 Plans: Continue development		0.122	0.100	0.100
Accomplishments/Planned Programs Subtotals		1.531	1.588	1.605
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
E. Acquisition Strategy				
Primarily accomplish through intergovernmental transfer between the Department of Defense and other Federal Departments.				
F. Performance Metrics				
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
National Institute of Standards & Technology	MIPR	TBD:TBD,	-	1.430		1.483		1.485		-		1.485	Continuing	Continuing	TBD
Department of Energy	MIPR	TBD:TBD,	-	0.022		0.023		0.030		-		0.030	Continuing	Continuing	TBD
DoD Army	MIPR	TBD:TBD,	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	TBD
AFMC	TBD	TBD:TBD,	-	0.079		0.082		0.090		-		0.090	Continuing	Continuing	TBD
Subtotal			0.000	1.531		1.588		1.605		0.000		1.605			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000
Project Cost Totals			0.000	1.531		1.588		1.605		0.000		1.605			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
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Precision Measurement & Calibration

	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Develop Standards							

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE		PROJECT
3600: Research, Development, Test & Evaluation, Air Force		PE 0702207F: Depot Maintenance (Non-IF)		673326: Precision Measurement & Calibration
BA 7: Operational Systems Development				

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Standards Development	1	2012	4	2018