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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305111F: <i>WEATHER SERVICE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	32.116	30.919	29.048	-	29.048	28.903	29.328	29.658	30.256	Continuing	Continuing
672738: <i>Weather Service</i>	32.116	30.919	29.048	-	29.048	28.903	29.328	29.658	30.256	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This budget activity funds operational development necessary to acquire, sustain, and enhance segments of the Air Force Weather Weapon System (AFWWS). Activities also include studies and analysis to support both current program planning and execution and future program planning. The AFWWS provides timely, accurate, consistent and relevant space and terrestrial weather information for global battlespace situational awareness. The AFWWS supports worldwide operations of Air Force and Army warfighters, Special Operation Forces (SOF), and other government agencies with weather observing and forecasting capabilities at in-garrison and deployed locations as well as centralized, reach-back capabilities. Air Force Weather (AFW) programs align under the five capability areas of Weather Data Collection (WDC), Weather Data Analysis (WDA), Weather Forecasting, Product Tailoring/Warfighter Applications (PT/WA), and Weather Dissemination (presently relies on Commercial-off-the-Shelf products and so does not use RDT&E funding). Through this alignment, AFW ensures an integrated and systems-oriented approach to program management decisions. WDC provides automated terrestrial and space environmental sensing capabilities at fixed and deployed locations worldwide. WDA provides a net-centric infrastructure that assimilates worldwide sources of terrestrial and space weather data and produces decision-quality information for warfighters. Improved weather analysis of real-time information also supports DoD's role in transformation of the National Airspace System through the Next Generation Air Transportation System (NextGen) and enhances Air Force energy security plans. Weather Forecasting provides advanced scientific numerical weather prediction capabilities for automated, high resolution forecast products for mission planning, rehearsal, and execution. Additionally, WDA and Forecasting capabilities will be expanded to integrate and exploit data from a new generation of environmental sensing satellites. PT/WA provides timely, local and regional target-scale weather information to operational commanders for a given Area of Responsibility, and at tactical levels, provides front-line weather information to warfighters in support of combat operations. PT/WA supports the 'train as you fight' concept by assuring fixed and deployable systems have a similar look and feel. FY13 funding will enhance current and develop new computations based on dual-polarization technology for improved severe weather detection and rainfall amount forecasting. During FY13, the weather data analysis capability will continue to develop incremental software enhancements and integrate improved analysis capabilities including processing of data from a new generation of environmental sensing satellites. In FY13, the program plans to continue development of software to integrate advanced terrestrial and space weather forecast capabilities to improve models for warfighter operations. In PT/WA program, the FY13 funding will continue developing software for warfighter tailoring and exploitation products and integrate regional and tactical weather systems with warfighter C4I systems. These efforts will enhance the availability and integration of weather information in multiple Wings, Squadrons, Air and Space Operations Centers, Army decision processes, ATC operations, and exploitation of weather at global, regional, and tactical levels.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	32.373	31.084	31.428	-	31.428
Current President's Budget	32.116	30.919	29.048	-	29.048
Total Adjustments	-0.257	-0.165	-2.380	-	-2.380
• Congressional General Reductions	-	-0.165			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.257	-	-2.380	-	-2.380

Change Summary Explanation

FY11 Congressional General Reduction of 0.257M in Other Adjustment row.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.165M.

FY13 funding decrease is due to higher Department of Defense priorities.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Weather Data Collection	0.290	0.310	0.359	-	0.359
Description: WDC provides automated terrestrial and space environmental sensing capabilities at fixed and deployed locations worldwide.					
FY 2011 Accomplishments: Participated with National Weather Service and Federal Aviation Administration in Product Improvement Plans for automated weather sensors and the Next Generation Weather Radar.					
FY 2012 Plans: Participating with National Weather Service and Federal Aviation Administration in Product Improvement Plans for automated weather sensors and the Next Generation Weather Radar.					
FY 2013 Base Plans:					

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Will participate with National Weather Service and Federal Aviation Administration in Product Improvement Plans for automated weather sensors and the Next Generation Weather Radar.					
<p>Title: Weather Data Analysis</p> <p>Description: WDA provides a net-centric infrastructure that assimilates worldwide sources of terrestrial and space weather data and produces decision-quality information for warfighters.</p> <p>FY 2011 Accomplishments: Continued incremental software development and integration of enhanced analysis capabilities including processing of data from a new generation of environmental sensing satellites.</p> <p>FY 2012 Plans: Continuing incremental software development and integration of enhanced analysis capabilities including processing of data from a new generation of environmental sensing satellites.</p> <p>FY 2013 Base Plans: Will continue incremental software development and integration of enhanced analysis capabilities including processing of data from a new generation of environmental sensing satellites.</p>	5.845	6.733	3.500	-	3.500
<p>Title: Weather Forecasting</p> <p>Description: Forecasting provides advanced scientific numerical weather prediction capabilities for automated, high resolution forecast products for mission planning, rehearsal, and execution.</p> <p>FY 2011 Accomplishments: Continued integration of advanced terrestrial and space weather forecast capabilities including exploitation of a new generation of environmental sensing satellites.</p> <p>FY 2012 Plans: Continuing integration of advanced terrestrial and space weather forecast capabilities including exploitation of a new generation of environmental sensing satellites.</p> <p>FY 2013 Base Plans: Will continue integration of advanced terrestrial and space weather forecast capabilities including exploitation of a new generation of environmental sensing satellites.</p>	12.585	16.191	21.683	-	21.683
<p>Title: Product Tailoring/Warfighter Applications</p>	13.396	7.685	3.506	-	3.506

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Description: PT/WA provides timely, local and regional target-scale weather information to operational commanders for a given Area of Responsibility, and at tactical levels, provides front-line weather information to warfighters in support of combat operations.</p> <p>FY 2011 Accomplishments: Continued software development and integration of regional and tactical weather systems and integration with warfighter C4I systems.</p> <p>FY 2012 Plans: Continuing software development and integration of regional and tactical weather systems and integration with warfighter C4I systems.</p> <p>FY 2013 Base Plans: Will continue software development and integration of regional and tactical weather systems and integration with warfighter C4I systems.</p>					
Accomplishments/Planned Programs Subtotals	32.116	30.919	29.048	-	29.048

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0305111F, Weather Service, OPAF: <i>Weather Service, OPAF</i>	32.819	26.021	26.536	5.600	32.136	24.047	30.983	30.422	23.895	Continuing	Continuing
• PE 0305111F, Weather Service, OMAF: <i>Weather Service, OMAF</i>	162.598	133.495	139.385	0.000	139.385	139.698	141.152	143.626	147.166	Continuing	Continuing

E. Acquisition Strategy
AFWWS employs an incremental development strategy with a series of incremental Initial Operational Capabilities (IOCs) and software releases to enable rapid development and fielding of capabilities using full and open competition.

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-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Collections -- NWS/FAA Tri-agency weather sensor/radar agreement	1	2012	4	2017
Weather Data Analysis (WDA) Milestone C	2	2012	2	2012
WDA Increment 4 Build A Delivery	2	2012	2	2012
WDA Increment 4 Build B Delivery	2	2013	3	2014
WDA Increment 4 Build C Delivery	2	2016	4	2016
Forecasting -- Numerical Weather Modeling	3	2012	3	2017
Forecasting -- Space Weather Modeling	1	2012	1	2017
Product Tailoring/Warfighter Applications (PT/WA) Milestone C	2	2012	2	2012
PT/WA Increment 2 Build A Fielding	2	2012	4	2012
PT/WA Increment 2 Build B Fielding	4	2012	2	2013
PT/WA Increment 2 Build C Fielding	4	2014	3	2015