

UNCLASSIFIED

PE NUMBER: 0305111F
PE TITLE: WEATHER SERVICE

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2006	
BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0305111F WEATHER SERVICE					
Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	16.848	28.222	34.899	41.555	52.545	34.729	31.126	Continuing	TBD
2738 Weather Service	16.848	28.222	34.899	41.555	52.545	34.729	31.126	Continuing	TBD

(U) **A. Mission Description and Budget Item Justification**

This budget activity funds operational development necessary to acquire, modify, and sustain segments of the Air Force Weather Weapon System (AFWWS). The AFWWS supports worldwide operations of Air Force and Army warfighters, as well as Special Operation Forces (SOF) and other government agencies, by providing observations and forecasts of terrestrial and space weather. The AFWWS provides fixed and transportable equipment supporting the Air and Space Expeditionary Force (EAF) with weather observing and forecasting capabilities at in-garrison and deployed locations. Air Force Weather (AFW) programs are aligned 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 (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 for terrestrial and space environmental sensing using automated weather observing capabilities at fixed and deployed locations worldwide. WDA provides interoperability for the AFW infrastructure with users and data sources, and includes the assimilation of advanced models, radar, lightning, and satellite data into a single user interface for the timely analysis and production of tailored weather products. Weather Forecasting integrates advanced scientific numerical weather prediction capabilities into the AFW Strategic Center for automated, high resolution mission-tailored weather forecast products. Beginning in FY06, funding becomes available within the WDC, WDA, and Forecasting capabilities to exploit data from the National Polar-orbiting Operational Environmental Satellite System (NPOESS), a joint DoD/Department of Commerce program. PT/WA provides timely, fine-scale weather products and services 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 also provides the capability to ingest multiple sources of weather information to provide timely and precisely tailored weather products for the warfighter and supports the 'train as you fight' concept by assuring fixed and deployable systems have a similar look and feel.

This effort is in Budget Activity 7, Operational System Development, because it supports operational software development and system tests associated with the upgrade and replacement of currently operational systems, systems already in production, and systems with approved production funds in the DoD budget.

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(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	16.526	28.675	34.836
(U) Current PBR/President's Budget	16.848	28.222	34.899
(U) Total Adjustments	0.322	-0.453	
(U) Congressional Program Reductions		-0.045	
Congressional Rescissions	-0.206	-0.408	
Congressional Increases	1.000		
Reprogrammings			
SBIR/STTR Transfer	-0.472		

(U) **Significant Program Changes:**

FY05: Congressional Mark-up of \$1.0M for Pacific Islands Ocean Typhoon Experiment (PILOT) to be conducted by US Army Corps of Engineers.

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Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
2738 Weather Service	16.848	28.222	34.899	41.555	52.545	34.729	31.126	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) **A. Mission Description and Budget Item Justification**

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WDC provides for terrestrial and space environmental sensing using automated weather observing capabilities at fixed and deployed locations worldwide. WDA provides interoperability for the AFW infrastructure with users and data sources, and includes the assimilation of advanced models, radar, lightning, and satellite data into a single user interface for the timely analysis and production of tailored weather products. Weather Forecasting integrates advanced scientific numerical weather prediction capabilities into the AFW Strategic Center for automated, high resolution mission-tailored weather forecast products. Beginning in FY06, funding becomes available within the WDC, WDA, and Forecasting capabilities to exploit data from the National Polar-orbiting Operational Environmental Satellite System (NPOESS), a joint DoD/Department of Commerce program. PT/WA provides timely, fine-scale weather products and services 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 also provides the capability to ingest multiple sources of weather information to provide timely and precisely tailored weather products for the warfighter and supports the 'train as you fight' concept by assuring fixed and deployable systems have a similar look and feel.

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(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Accomplishments/Planned Program			
(U) WDC: Includes AF participation with National Weather Service and Federal Aviation Administration in Product Improvement Plans for automated weather sensors and the Next Generation Weather Radar and starting in FY06 includes development of new satellite ingest capabilities preparatory to NPOESS.	0.865	2.338	5.338
(U) WDA: Continues incremental software development and integration of enhanced analysis capabilities including NPOESS and other meteorological satellite data starting in FY06.	2.196	6.527	8.407
(U) Forecasting: Continues integration of advanced terrestrial and space weather forecast capabilities within AFW Strategic Center including NPOESS and other meteorological satellite data starting in FY06.	4.205	11.563	13.002

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R-1 Shopping List - Item No. 183-4 of 183-8

Exhibit R-2a (PE 0305111F)

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(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) PT/WA: Continues software development and integration of regional and tactical weather systems and integration with warfighter C4I systems.	8.582	7.794	8.152
(U) PILOT: Pacific Islands Ocean Typhoon experiment to be conducted by US Army Corps of Engineers.	1.000		
(U) Total Cost	16.848	28.222	34.899

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

	<u>FY 2005</u> <u>Actual</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) Other Procurement, AF, Weather Service (PE 0305111F WSC 833070, 838010, and 86190A)	44.892	48.376	51.760	57.959	65.015	61.399	61.209	Continuing	TBD
(U) Operations and Maintenance	134.483	136.130	139.947	150.719	154.645	164.545	166.545	Continuing	TBD

(U) **D. Acquisition Strategy**

AFWWS employs an incremental development strategy with a series of incremental IOCs and software releases to enable rapid development and fielding of capabilities using full and open competition.

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Exhibit R-3, RDT&E Project Cost Analysis

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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u>												
Northrop Grumman	GSA schedule/L OE	Colorado Springs, CO	4.685	2.072	Feb-05	2.296	Mar-06	2.357	Oct-06	Continuing	TBD	TBD
Raytheon	C/CPFF	Bellevue, NE	2.112	1.681	May-05	1.903	Jun-06	1.949	Mar-07	Continuing	TBD	TBD
Multiple [PT/WA JET]	C/FFP	various	2.730	5.920	Nov-04						8.650	9.089
TBD [JET]	C/CPAF					4.788	Mar-06	5.133	Nov-06	Continuing	TBD	TBD
TBD [WDC - NPOESS]	C/CPAF					2.000	Jun-06	5.000	Jun-07	Continuing	TBD	TBD
TBD [WDA - NPOESS]	C/CPAF					4.300	Jun-06	5.600	Jan-07	Continuing	TBD	TBD
TBD [Forecasting - NPOESS]	C/CPAF					5.650	Jun-06	6.900	Jan-07	Continuing	TBD	TBD
National Center for Atmospheric Research	MIPR	Boulder, CO		1.215	Feb-05	1.200	Mar-06	1.500	Jan-07	Continuing	TBD	TBD
US Army Corps of Engineers [PILOT]	MIPR	Millington, TN		1.000	Feb-05						1.000	1.000
Various	various	various	5.304	2.540	Oct-04	3.046	Oct-05	3.388	Oct-06	Continuing	TBD	TBD
Subtotal Product Development			14.831	14.428		25.183		31.827		Continuing	TBD	TBD
Remarks:												
(U) <u>Management</u>												
Electronic Sytems Center		Hanscom AFB, MA	3.755	2.086	Oct-04	2.709	Oct-05	2.742	Oct-06	Continuing	TBD	TBD
Space & Missile Systems Center		Los Angeles AFB, CA	0.351	0.099	Oct-04	0.095	Oct-05	0.095	Oct-06	Continuing	TBD	TBD
Air Force Research Laboratory		Hanscom AFB, MA		0.235	Oct-04	0.235	Oct-05	0.235	Oct-06	Continuing	TBD	TBD
Subtotal Management			4.106	2.420		3.039		3.072		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			18.937	16.848		28.222		34.899		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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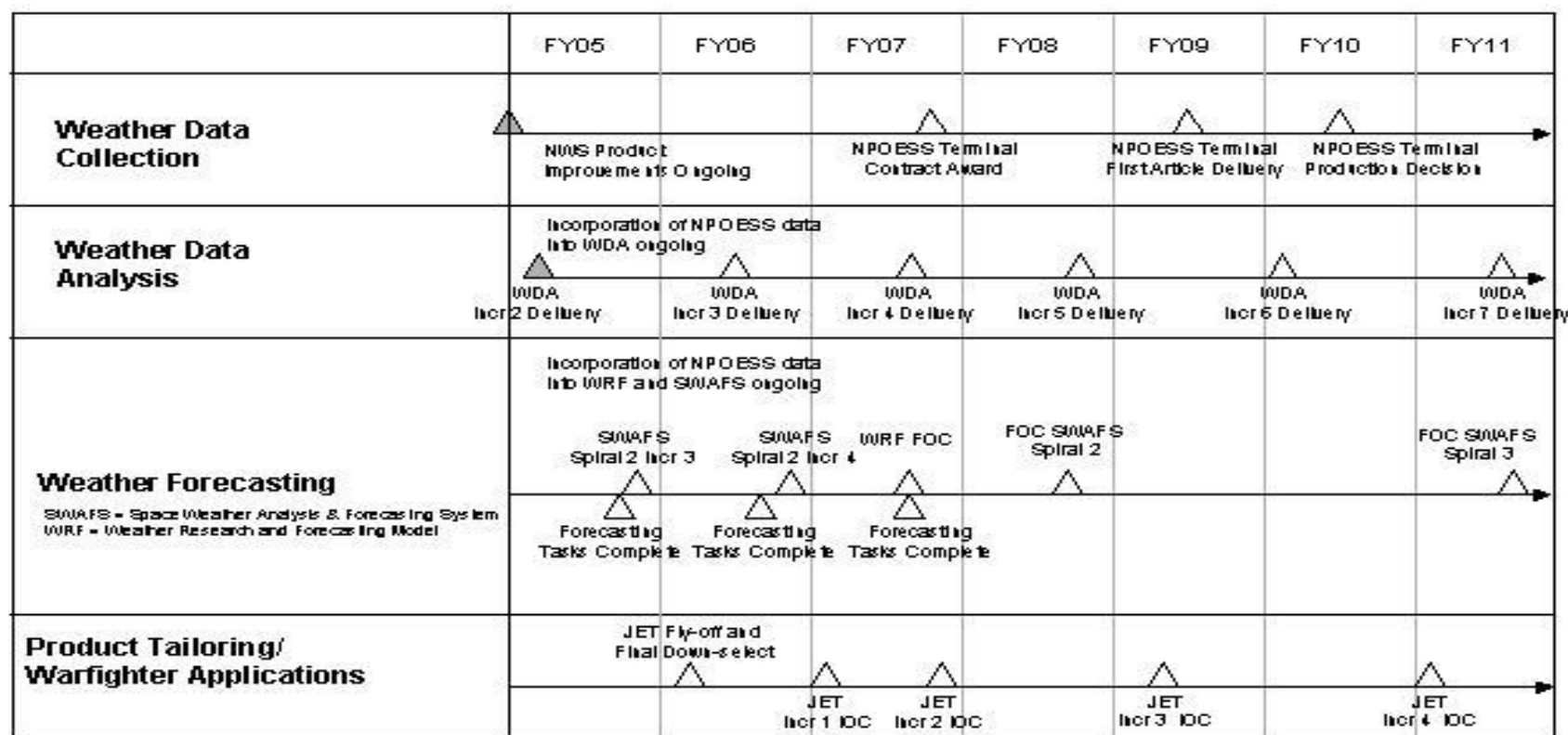
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Exhibit R-4: PE 0305111F Weather Service



As of 10 Jan 05

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Exhibit R-4a, RDT&E Schedule Detail

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	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) <u>Schedule Profile</u>			
(U) WDC NWS Product Improvement Effort (Note 1)	1-4Q	1-4Q	1-4Q
(U) WDC - NPOESS Terminal Award			3Q
(U) WDA Increment Delivery	2Q	3Q	4Q
(U) Forecasting Tasks Complete	3Q	3Q	3Q
(U) Forecasting - SWAFS Spiral 2 Increment 3 IOC	4Q		
(U) Forecasting - SWAFS Spiral 2 Increment 4 IOC		4Q	
(U) PT/WA Final JET Down-Select		2Q	
(U) PT/WA JET Increment 1 IOC			1Q
(U) PT/WA JET Increment 2 IOC			4Q

Note 1: AF participation with National Weather Service (NWS) and Federal Aviation Administration (FAA) in Product Improvement Plans for automated weather sensors and the Next Generation Weather Radar (NEXRAD).