

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2003

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0305111F WEATHER SERVICE

PROJECT

2738

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2738 Weather Service	10,558	14,095	16,317	16,569	16,715	17,005	25,443	32,284	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**

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 Expeditionary Aerospace Force (EAF) concept with weather observing and forecasting capabilities at in-garrison and deployed locations. Air Force Weather (AFW) programs are aligned under the five core competency areas of Weather Data Collection (WDC), Weather Data Analysis (WDA), Weather Forecasting, Product Tailoring/Warfighter Applications (PT/WA), and Dissemination, described in the AFW Mission Support Plan. Through this alignment, AFW ensures an integrated and systems-oriented approach to program management decisions.

WDC provides for terrestrial and space environmental sensing including, but not limited to, Observing System 21st Century (OS-21), which provides a range of 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 and mission-tailored weather forecast products. Forecasting includes but is not limited to the Cloud Depiction and Forecast System II (CDFS II) which upgrades satellite data processing, cloud depiction and forecasting weather support functions for operational commanders and the national intelligence community. Forecasting also includes the Space Weather Analysis and Forecast System (SWAFS) which provides space environmental support through modernization of software capabilities to meet warfighter requirements. Product Tailoring/Warfighter Applications (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. Weather Dissemination provides for the timely and reliable transmission of weather data and products to intermediate and end users.

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(U) \$0 Accomplishments/Planned Program

(U) \$2,576 WDA: Began software development for enhanced analysis capabilities (Analysis)

(U) \$365 CDFS II: Completed development of cloud depiction and forecast software and achieved FOC (Weather Forecasting)

(U) \$1,088 Forecasting: Developed and integrated scientific advances in weather prediction capabilities (Weather Forecasting)

(U) \$2,559 SWAFS: Continued spiral development for incremental deliveries (Weather Forecasting) of space weather prediction capabilities

(U) \$3,970 PT/WA: Continued software development and integration with regional and tactical weather systems (Product Tailoring/Warfighter Applications)

(U) \$10,558 Total

(U) **FY 2003 (\$ in Thousands)**

(U) \$0 Accomplishments/Planned Program

(U) \$2,058 WDA: Continue software development and integration of analysis capabilities (Analysis)

(U) \$2,304 Forecasting: Continue integration of advanced weather forecast capabilities within AFW Strategic Center (Weather Forecasting)

(U) \$2,686 SWAFS: Continue spiral development for incremental deliveries (Weather Forecasting) of space weather prediction capabilities

(U) \$7,047 PT/WA: Continue software development and integration of regional and tactical weather systems and integration with warfighter C4I systems (Product Tailoring/Warfighter Applications)

(U) \$14,095 Total

(U) **FY 2004 (\$ in Thousands)**

(U) \$0 Accomplishments/Planned Program

(U) \$1,844 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.

(U) \$2,826 WDA: Continues incremental software development and integration of enhanced analysis capabilities (Analysis)

(U) \$5,034 Forecasting: Continues integration of advanced weather forecast capabilities within AFW Strategic Center and continues spiral development of SWAFS for incremental deliveries (Weather Forecasting)

(U) \$6,613 PT/WA: Continues software development and integration of regional and tactical weather systems and integration with warfighter C4I systems (Product Tailoring/Warfighter Applications)

(U) \$16,317 Total

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(U) **B. Budget Activity Justification**

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.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	11,202	14,488	16,617	TBD
(U) Appropriated Value	11,452	14,488		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-250	-250		
b. Small Business Innovative Research	-313			
c. Omnibus or Other Above Threshold Reprogram		-143		
d. Below Threshold Reprogram	-280			
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR	-51		-300	TBD
(U) Current Budget Submit/FY 2004 PBR	10,558	14,095	16,317	TBD
(U) <u>Significant Program Changes:</u>				
Not Applicable				

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

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Other Procurement, AF, Weather Service (PE35111F WSC 833070, 838010, and 86190A)	37,834	39,770	43,250	45,293	45,262	46,192	57,146	61,752	Continuing	TBD

(U) **E. Acquisition Strategy**

All major contracts within this program used precompeted DoD contract vehicles or were awarded after full and open competition. Programs support DII COE compliance and use an evolutionary acquisition strategy with a series of incremental IOCs and software releases. This approach accommodates refinement and prioritization of user requirements and improves adaptability to evolving commercial activities.

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(U) **F. Schedule Profile**

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Weather Data Collection begin development										X		
(U) CDFS II FOC			*									
(U) Forecasting spiral 1 IOC						X						
(U) Forecasting spiral 2 begin development							X					
(U) Forecasting spiral 2 IOC											X	
(U) Forecasting spiral 3 begin development										X		
(U) WDA increment 1 begin development			*									
(U) WDA increment 1 IOC								X				
(U) WDA increment 2 begin development						X						
(U) WDA increment 2 IOC											X	
(U) SWAFS Spiral 1 IOC				*								
(U) SWAFS Spiral 2 begin development					*							
(U) PT/WA bridge contract award					*							
(U) PT/WA recompeted contract award										X		
* - Denotes completed event												
X - Denotes planned event												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development					0305111F WEATHER SERVICE				2738	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
						FY 2002		FY 2003		FY 2004
(U)	System Software Integration					841		1,366		1,832
(U)	System Engineering Support					401		272		2,234
(U)	Contractor Engineering Support					919		1,562		2,020
(U)	Software Development					7,116		9,386		8,277
(U)	Travel					208		210		237
(U)	Program Management Support					1,023		1,299		1,717
(U)	Laboratory Support					50				
(U)	Total					10,558		14,095		16,317
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Sterling	CPAF	Jun 95	25,933	25,933	25,568	365	0	0	0	25,933
CCPL GSA	LOE	Mar 00	15,055	15,055	5,756	3,224	6,075	0	Continuing	TBD
(GD/TRW/Raytheon)										
Coastal Environmental	C/IDIQ	Aug 01	2,321	2,321	441	0	0	0	Continuing	TBD
NGIT	CPFF	May 02	11,984	11,984	0	3,138	3,989	4,857	Continuing	TBD
TBD [PT/WA]	CPFF	Dec 03	5,865	5,865	0	0	0	5,360	Continuing	TBD
CCPL (TRW/Raytheon)	LOE	Dec 99	14,856	14,856	8,905	2,149	2,250	1,552	Continuing	TBD
AFRL	LOE	Sep 00	339	339	239	50	0	0	Continuing	TBD
TBD [WDC]	CPFF	Feb 04	500	500	0	0	0	350	Continuing	TBD
NWS	MIPR	Jan 04	1,338	1,338	0	0	0	1,314	Continuing	TBD
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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
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(U) Performing Organizations Continued:									
<u>Support and Management Organizations</u>									
Electronic Systems Center (ESC)				1,301	1,061	503	646	Continuing	TBD
Space and Missile Systems Center (SMC)				1,252	170	164	238	Continuing	TBD
MITRE/Aerospace/ITSP				5,594	401	1,114	2,000	Continuing	TBD
<u>Test and Evaluation Organizations</u>									
Not Applicable									
(U) Government Furnished Property:									
<u>Contract</u>									
<u>Method/Type</u>									
<u>Award or</u>									
<u>or Funding</u>									
<u>Obligation</u>									
<u>Delivery</u>									
<u>Total Prior</u>									
<u>Budget</u>									
<u>Budget</u>									
<u>Budget</u>									
<u>Budget to</u>									
<u>Complete</u>									
<u>Total</u>									
<u>Description</u>									
<u>Vehicle</u>									
<u>Date</u>									
<u>Date</u>									
<u>to FY 2002</u>									
<u>FY 2002</u>									
<u>FY 2003</u>									
<u>FY 2004</u>									
<u>Complete</u>									
<u>Program</u>									
<u>Product Development Property</u>									
Not Applicable				0	0	0	0	0	0
<u>Support and Management Property</u>									
Not Applicable				0	0	0	0	0	0
<u>Test and Evaluation Property</u>									
Not Applicable				0	0	0	0	0	0
<u>Subtotals</u>									
Subtotal Product Development				40,909	8,926	12,314	13,433	TBD	TBD
Subtotal Support and Management				8,147	1,632	1,781	2,884	TBD	TBD
Subtotal Test and Evaluation				0	0	0	0	0	0
Total Project				49,056	10,558	14,095	16,317	TBD	TBD
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