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

February 2003

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605702A - Meteorological Support to RDT&E Activities**	**128**

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
128	MET SPT TO DTC ACTIVITY	6727	6795	9669	9771	9069	9328	9517	9742

A. Mission Description and Budget Item Justification: Increase in funding from FY2003 to FY2004 provides for the increased development and fielding of the Four-Dimensional Weather System which is critical to provide advanced weather forecasting and atmospheric measurement capabilities to support operational and developmental testing. The increase also provides civilian intern positions for meteorological support.

All functions and resources in this Program Element (PE) are managed by the U.S. Army Developmental Test Command (DTC), a subordinate command of the U.S. Army Test and Evaluation Command (ATEC). Meteorological Support (MET Spt) to Research, Development, Testing and Evaluation (RDT&E) Activities provides standard and specialized weather forecasts and data for test reports to satisfy Army/DoD RDT&E test requirements for modern weaponry, e.g., (1) unique atmospheric analysis and sampling to include atmospheric transmittance, extinction, optical scintillation, infrared temperature, aerosol/smoke cloud dispersion characteristics, ballistic meteorological measurements, snow characterization and crystal structure; (2) test event forecasting to include prediction of sound propagation for ballistic firing tests, specialized prediction of light levels and target to background measurements and predictions for electro-optical testing and ballistic meteorology; (3) advisory and warning products such as go-no-go test recommendations for ballistic and atmospheric probe missiles, smoke obscurant tests, hazard predictions for chemical agent munitions disposal, monitoring dispersion of simulant clouds for chemical/biological detector tests, simulated nuclear blasts, and weather warnings for test range safety. Provides technical support to Army Program Executive Officers (PEOs), Project Managers (PMs), and the Army test ranges and sites at: White Sands Missile Range (WSMR), NM (including the Electronic Proving Ground (EPG), Fort Huachuca, AZ); Dugway Proving Ground (DPG), UT; Aberdeen Test Center (ATC), Aberdeen Proving Ground, MD; Redstone Technical Test Center (RTTC), Redstone Arsenal, AL; Yuma Proving Ground (YPG), AZ (including the Cold Regions Test Center (CRTC), Fort Greely, AK); Fort Belvoir, VA; and Fort A.P. Hill, VA. Develops methodologies and acquires instrumentation and systems that allow meteorological teams to support current and future Army/DoD RDTE requirements. This PE finances indirect meteorological support operating costs not billable to customers and replacement/upgrade of meteorological instrumentation. Direct costs for meteorological support services are not funded by this PE, but are borne by the customer (i.e. materiel/weapons developers and project/product managers) in accordance with DoD Directive 7000.14R, October 1999. This program is integral to the accomplishment of the Army's developmental test and evaluation mission and its support of the Army Transformation Campaign Plan (TCP). It supports all transformation elements of the Army TCP.

Accomplishments/Planned Program	FY 2002	FY 2003	FY 2004	FY 2005
Provides indirect costs (personnel salaries) for generating weather forecasts, severe weather warnings/ advisories, staff meteorological services, and atmospheric measurements in support of Army/DoD tests and projects at nine Army sites/test ranges, and alternate test sites as required. Provides full salaries for interns at each site in FYs 2004 and 2005 to halt the rapid personnel attrition and subsequent loss of institutional knowledge. Note: Senior Army leadership supported increased funding in this account in FY 2004 and FY 2005 for these critical intern positions.	1927	1609	2247	2570
Provides funding for development and fielding of the Four-Dimensional Weather (4DWX) System, an advanced meteorological support system capable of providing highly accurate weather forecasts, analyses, and modeling and simulation capabilities in support of both developmental and operational testing. 4DWX provides a 3-dimensional structure of the atmosphere over time (4th dimension) used in test planning, conduct and forensics. 4DWX development includes extending weather prediction techniques to concentrate on smaller volumes of atmosphere representative at specific test sites; providing the next generation of Linux PC clusters at the five 4DWX sites with mesoscale modeling capabilities; developing globally relocatable mesoscale modeling capability for safari operations and virtual testing; developing model links between 4DWX and other range applications such as ballistic trajectory models; and transitioning the system to the next generation Weather Research and Forecasting Model. Funding also provides for development and upgrade of range/site meteorological instrumentation and equipment including digital sensors and data analysis equipment; lightning sensor arrays for predicting lightning strikes; Surface Atmospheric Measurement System (SAMS) mobile meteorological system upgrades; replacement meteorological towers and sensors; replacement Doppler acoustic sounders for vertical wind profile measurements; laser ceilometers for measuring cloud layers; wind profiling Light Detection and Ranging (LIDAR) system for vertical wind measurements and absolute transmissometers to measure atmospheric transmissivity in support testing electro-optical devices. Note: Senior Army leadership supported increased funding in this account in FY 2004 and FY 2005. This increase in funding is required to provide advanced weather forecasting and atmospheric measurement capabilities needed to test the modern weapons, sensors and advanced electro-optical devices on TCP materiel.	4063	4736	6954	6713
Provides program management for meteorological support to the Army research, development, test and evaluation community and for technical review/assistance to ranges and meteorological support teams. Includes Verification, Validation and Accreditation (VV&A) for the 4DWX System and development of synthetic atmospheres to support virtual testing.	737	450	468	488

Accomplishments/Planned Program (continued)	FY 2002	FY 2003	FY 2004	FY 2005
Totals	6727	6795	9669	9771

B. Program Change Summary	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2003)	6833	7310	10069	10277
Current Budget (FY 2004/2005 PB)	6727	6795	9669	9771
Total Adjustments	-106	-515	-400	-506
Congressional program reductions				
Congressional rescissions		-348		
Congressional increases				
Reprogrammings	29	-39		
SBIR/STTR Transfer	-135	-128		
Adjustments to Budget Years			-400	-506