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

June 2001

BUDGET ACTIVITY
3 - ADV TECHNOLOGY DEV

PE NUMBER AND TITLE
0603728A - Environmental Quality Technology Demo

COST (In Thousands)		FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost		1291	11013	4826	0	0	0	0	0	0	0
002	ENVIRONMENTAL COMPLIANCE TECHNOLOGY	1291	1600	2721	0	0	0	0	0	0	0
025	POLLUTION PREVENTION TECHNOLOGY	0	0	0	0	0	0	0	0	0	0
03E	ENVIRONMENTAL RESTORATION TECHNOLOGY	0	0	2105	0	0	0	0	0	0	0
03F	CORROSION MEASUREMENT AND CONTROL	0	9413	0	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

PLEASE NOTE: This administration has not addressed FY2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

The objective of this program element (PE) is to mature and demonstrate technologies which will assist Army installations in becoming environmentally compatible without compromising the readiness or training critical to the success of the Objective Force. This program includes technology demonstrations for: restoration of sites contaminated with toxic and/or hazardous materials (such as unexploded ordnance [UXO]) resulting from Army operations; pollution prevention to minimize the Army's use and generation of toxic chemicals and hazardous wastes; compliance with environmental laws by control, treatment, and disposal of hazardous waste products; and conservation of natural and cultural resources while providing a realistic environment for mission activities. This program will include demonstrations of proof of technological feasibility and assessment of operability and producibility that would lead to a capability for Army use, and includes technology transition from the laboratory to operational use. The program is supported by the Office of the Secretary of Defense's Technology Area Review and Assessment process. This PE develops and demonstrates technology to improve the Army's ability to achieve environmental restoration and compliance at its installations, at active and inactive ranges, and its rework and production facilities. Technologies demonstrated will focus on reducing the cost of remediation of Army sites contaminated by hazardous/toxic materiel. Other technologies will focus on reducing the cost of treating hazardous effluents from Army installations including ammunition plants, depots, and arsenals to satisfy increasingly stringent wastewater and air pollutant discharge standards. Army facilities are now subject to fines and facility shutdowns for violation of Federal, state, and local air and wastewater discharge regulations. These technologies are essential for cost-effective removal, control and reduced generation of wastes to satisfy hazardous waste cleanup and reduction goals, and to avoid future hazardous waste site cleanup and disposal costs and liabilities to the Army. Efforts under this PE will enable the Army's Objective Force to prevent pollution of the air, soil, and groundwater at installations, ranges, facilities operations, and to comply with the myriad of Federal, state, and host country regulations dealing with contaminated soil, groundwater, wastewater, air emissions, and solid wastes. The cited work is consistent with the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan and Project Reliance. The PE contains no duplication with any effort within the Military Departments. Work is performed by the U.S. Army Engineer Research and Development Center (ERDC) and the U.S. Army Materiel Command (AMC).

B. Program Change Summary	FY 2000	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2001 PB)	1327	1616	2708	0
Appropriated Value	1337	11116	0	
Adjustments to Appropriated Value	0	0	0	
a. Congressional General Reductions	0	0	0	
b. SBIR / STTR	-36	0	0	
c. Omnibus or Other Above Threshold Reductions	-5	0	0	
d. Below Threshold Reprogramming	0	0	0	
e. Rescissions	-5	-103	0	
Adjustments to Budget Years Since FY2001 PB	0	0	2118	
Current Budget Submit (FY 2002/2003 PB)	1291	11013	4826	0

Change Summary Explanation: Funding - FY 2001: Congressional add was received for Corrosion Measurement and Control to demonstrate techniques for detecting, inhibiting, and reporting corrosion on weapon systems(+9500). No additional funds are required to complete this project.

FY 2002 (+2105) and FY 2003 (+6305) funding was increased to develop and demonstrate new and improved techniques for the restoration of Army sites contaminated with toxic and/or hazardous materials including unexploded ordnance.

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

June 2001

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
3 - ADV TECHNOLOGY DEV	**0603728A - Environmental Quality Technology Demo**	**002**

COST (In Thousands)		FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
002	ENVIRONMENTAL COMPLIANCE TECHNOLOGY	1291	1600	2721	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification: The objective of this project is to develop and demonstrate technology for achieving environmental compliance at Army installations and rework and production facilities. Technology demonstrated within this project focuses on reducing the cost of treating hazardous effluents from Army installations including ammunition plants, depots and arsenals to satisfy increasingly stringent wastewater and air pollutant discharge standards. Army facilities are now subject to fines and facility shutdowns for violation of Federal, state, and local air and wastewater discharge regulations. This technology is essential to control and reduce the generation of wastes to satisfy hazardous waste reduction goals, and to avoid future hazardous waste disposal costs and liabilities to the Army. Efforts under this project will enable the Army to prevent pollution at installations while complying with the myriad of Federal, state, and host country regulations dealing with hazardous wastewater, air emissions, and solid wastes. The primary developing agency for this project is the U.S. Army Engineer Research and Development Center (ERDC). This project supports the Objective Force transition path of the Transformation Campaign Plan (TCP).

FY 2000 Accomplishments

- 605 - Developed cost effective technologies to remove, characterize, and dispose of or reuse sources of Army unique lead hazards.
- 686 - Developed Hazardous Air Pollutant (HAP) mission control technologies for Army unique pollutants (to be completed in FY 2005).

Total 1291

FY 2001 Planned Program

- 866 - Demonstrate optimal selection of overcoatings and overcoating procedures resulting in a potential cost avoidance of up to 20 percent over current technologies.
- 686 - Demonstrate Mobile Zone Recirculation system with thermal oxidation for control of hazardous organic solvents.
- 48 - Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs.

Total 1600

FY 2002 Planned Program

•	2721	- Demonstrate in-situ extraction technologies for lead in soil to reduce lead levels to below the Environmental Protection Agency's level of concern (400ppm).
		- Demonstrate hazardous organic solvent emissions technologies to remove 95 percent of HAP's and 20 percent cost reduction (baseline - 10,000 cfm unit at $65/cfm).
Total	2721	

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

June 2001

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
3 - ADV TECHNOLOGY DEV	**0603728A - Environmental Quality Technology Demo**	**03E**

COST (In Thousands)		FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
03E	ENVIRONMENTAL RESTORATION TECHNOLOGY	0	0	2105	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification: The objective of this project is to develop and demonstrate new and improved techniques for the restoration of Army sites contaminated with toxic and/or hazardous materials including unexploded ordnance (UXO). This project develops and demonstrates technology to improve the Army's ability to achieve cost-effective environmental restoration of contaminated sites at its installations, active and inactive ranges, and its rework and production facilities. Technologies demonstrated within this project focus on reducing the cost of remediation of Army sites contaminated by hazardous/toxic material and are directly linked to RDT&E Budget Activity 2 technology products originating from program element 0602720A, projects F25 and 835. These technologies are essential for cost- effective removal of hazardous and toxic chemicals and other contaminants to satisfy hazardous waste cleanup goals. Efforts under this project will enable the Army to prevent pollution of the air, soil, and groundwater at installations, ranges, facilities operations, and to comply with the myriad of Federal, state, and host country regulations dealing with contaminated soil and groundwater. This program includes demonstrations of proof of technological feasibility and assessments of operability and productivity that would lead to a capability for Army use, and includes technology transition from the laboratory to demonstration/validation funded under RDT&E program element 0603779, project 04E. The program is supported by the Office of the Secretary of Defense's Technology Area Review and Assessment process. The primary developing agency for this project is the U.S. Army Engineer Research and Development Center (ERDC). This project supports the Objective Force transition path of the Transformation Campaign Plan (TCP).

FY 2000 Accomplishments

Project not funded in FY 2000.

FY 2001 Planned Program

Project not funded in FY 2001.

FY 2002 Planned Program

- 1052 - Conduct a demonstration of off-the-shelf UXO sensor fusion analysis methods and techniques for UXO detection/discrimination
  - Conduct a demonstration of predictive tools for UXO multi-contaminant transport processes in various earth media.
  - Formulate a demonstration plan for a series of UXO detection/discrimination multi-sensing and processing methods, each tailored to a specific set of site environmental conditions.
- 1053 - Formulate a predictive model demonstration to determine explosives toxicity for avian and marine species.
  - Formulate a demonstration of a multi-species model for multi-contaminant pathways.

Total 2105