

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)						February 2004				
BUDGET ACTIVITY 3 - Advanced technology development				PE NUMBER AND TITLE 0603103A - Explosive Demilitarization Technology			PROJECT D51			
COST (In Thousands)				FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
D51	EXPLOSIVES DEMIL TECH			0	24842	9706	9865	10042	10083	10291
<p><u>A. Mission Description and Budget Item Justification:</u> The Explosive Demilitarization Technology Program is a cooperative interservice, interagency effort dedicated to the maturation of safe, efficient and environmentally acceptable processes for the resource recovery and recycling (R3) and disposal of conventional munitions including explosives, missiles, missile components and large rocket motors. Efforts in this program emphasize environmentally compliant technologies to enhance existing methods for munitions R3 and treatment and seeks alternatives over that of open burning/open detonation (OB/OD). There are currently nearly 400,000 tons of these materials requiring disposition with a forecast of 475,000 tons and over 275,000 missiles and missile components to flow through the stockpile by FY2005-2006. The effort employs the highly matured technology base in the DoD Service Laboratories and Technical Centers, the Department of Energy (DoE) National Laboratories, industry, and academia. The program is integrated through the leadership of the Joint Ordnance Commanders Demilitarization Subgroup and seeks to leverage support from the Department’s Environmental Security Technology Certification Program (ESTCP), the Strategic Environmental Research and Development Program (SERDP), the Joint DoD/DOE Munitions Program, and complementary Service science and technology programs. Each project is required to include a federal laboratory sponsor and is provided peer review by the Joint Working Group. The PM Demilitarization R&D IPT and the DoD/DOE Technology Coordination Users Group is utilized to assess and review ongoing and emergent demilitarization requirements for use in planning future investments for this program. The program supports the R&D Technology goals of the PM Demilitarization Strategic Plan, which focuses on technology transfer opportunities and the technical review and data evaluation from ongoing projects and advanced demonstrations. The Explosive Demilitarization Technology Program was previously managed under PE 0603104D8Z. The program element contains no duplication with any effort within the Military Departments. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP) and the Defense Technology Area Plan (DTAP).</p>										

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Accomplishments/Planned Program		FY 2003	FY 2004	FY 2005
Test Site Demonstration Program (TSDP): In FY04, continue testing the Contained Burn Chamber for tactical missiles; complete optimization studies; continue demonstration/validation of Advanced Molten Salt Technology; continue Maturation of an integrated Cryo-fracture/Plasma Arc process and initiate detailed design and equipment fabrication; continue Joint Program integration. In FY05, will continue development of Molten Salt Technology for transition to Systems Development and Demonstration.		0	2175	3566
Advanced Removal/Conversion (AR/C): In FY04, mature technologies for conversion of propellant to fertilizer, flashless powder and slurry explosives, and explosive D conversion to TATB (triamino-trinitrobenzene); complete integration of induction heating meltout into a flexible work cell pilot plant and begin fabrication of prototype equipment; optimize advanced cutting technology using water jets and lasers; continue biodegradation studies on wastewater from waterjet and autoclave de-mil processes; mature HMX recovery technology. In FY05, will complete equipment fabrication for the induction heating meltout flexible work cell prototype and begin installation; will complete wastewater biodegradation studies; will investigate ultrasonic removal technology.		0	1580	2567
Advanced Automated Munitions Disassembly (AAMD): In FY04, continue AAMD efforts in the areas of robotic disassembly of projectiles; demonstrate and validate robotic disassembly workcells matured for the ADAM projectile and the 8 inch RAP round; initiate design of workcells for other improved conventional munitions (ICMs) and cluster bomb units (CBUs) as well as their sub-munitions. In FY05, design of robotic workcell hardware for selected ICMs and CBUs will be completed; will initiate equipment fabrication.		0	1182	1481
In FY04, mature large rocket motor (LRM) washout technology. In FY05 will complete maturation of LRM technology.		0	684	651
Advanced Destruction Systems (ADS): In FY04, complete demonstration of enhanced furnaces for conventional munitions and energetic materials; complete optimization of the fixed/mobile detonation chamber prototypes.		0	1232	0
Maturation of Analytical Tools and Instrumentation (ATI) for optimization of de-mil processes: In FY04, continue ATI maturation focusing on NIR-based analyzers for explosives and propellants; initiate maturation of Design for De-mil AT's. In FY05, will continue expansion of ATIs for explosives and propellant evaluation and optimize for recovered items; will continue design maturation of De-mil AT tools.		0	485	592
Hot Gas Decontamination(HGD):In FY04, demonstration/validation of the HGD system will be completed. In FY05, demonstration of a Hydrothermal Oxidation(HTO) prototype system will be continued on various feed materials at a selected location.		0	980	849

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Accomplishments/Planned Program B(continued)	FY 2003	FY 2004	FY 2005
The purpose of this one year Congressional add is to support the Missile Recycling Center at Anniston. No additional funds are required to complete this project.	0	2100	0
The purpose of this one year Congressional add is to support the Tactical Missile Reuse/Demililitarization at Letterkenny Army Depot. No additional funds are required to complete this project.	0	1750	0
The purpose of this one year Congressional add is to support the Reclamation of Class 1.1 Rocket Propellant. No additional funds are required to complete this project.	0	2000	0
The purpose of this one year Congressional add is to support Innovative Demil Technologies. No additional funds are required to complete this project.	0	2100	0
The purpose of this one year Congressional add is to support HMX Requalification Program. No additional funds are required to complete this project.	0	1000	0
The purpose of this one year Congressional add is to support the Explosives Demil Technology Program. No additional funds are required to complete this project.	0	1000	0
The purpose of this one year Congressional add is to support the Thin Layer Chromotography Program. No additional funds are required to complete this project.	0	2100	0
The purpose of this one year Congressional add is to support the Demilitarization of Obsolete Munitions. No additional funds are required to complete this project.	0	1750	0
Demilitarization and Destruction of Conventional Ammunition. The purpose of this one year Congressional add is to support the Demilitarization and Destruction of Conventional Ammunition. No additional funds are required to complete this project.	0	1000	0
The purpose of this one year Congressional addition is to support the Bluegrass Supercritical Water Oxidation (SWCO) Program Demonstration. No additional funds are required to complete this project.	0	1000	0
Small Business Innovative Research/Small Business Technology Transfer Programs.	0	724	0
Totals	0	24842	9706

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<u>B. Program Change Summary</u>	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2004)	0	9349	9860
Current Budget (FY 2005 PB)	0	24842	9706
Total Adjustments	0	15493	-154
Congressional program reductions		-214	
Congressional rescissions			
Congressional increases		15800	
Reprogrammings		-93	
SBIR/STTR Transfer			
Adjustments to Budget Years			-154

Significant Change Explanation.

FY04 - Ten FY04 Congressional adds totaling \$15800 were added to the PE.