

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)						February 2006	
BUDGET ACTIVITY <b>3 - Advanced technology development</b>			PE NUMBER AND TITLE <b>0603103A - Explosive Demilitarization Technology</b>			PROJECT <b>D51</b>	
COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
D51 Explosives Demil Tech	18397	21041	10376	10429	10651	11049	11270
<p><b>A. Mission Description and Budget Item Justification:</b> The Explosive Demilitarization Technology Program is a cooperative interservice, interagency effort dedicated to the maturation of safe, efficient and environmentally acceptable processes for the closed 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 resource recovery and recycling (R3) and treatment, and seek alternatives to open burning/open detonation (OB/OD). There are currently nearly 400,000 tons of conventional munitions requiring disposition with a forecast of 475,000 tons and over 275,000 missiles and missile components to flow through the stockpile by FY 2006-2010. 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 Product Manager for Demilitarization and the Joint Ordnance Commanders Group Munitions Demilitarization/Disposal Subgroup leveraging support from the Department's Environmental Security Technology Certification Program (ESTCP), the Strategic Environmental Research and Development Program (SERDP), the Joint DOD/DOE Munitions Technology Program, and complementary Service science and technology programs. The Technology Directorate, Defense Ammunition Center, serves as the PM Demil's technical and programmatic support staff in this effort. The program supports the R&amp;D Technology goals of the PM Demilitarization Strategic Plan which focuses on technology transfer opportunities. The program supports an annual Global Demilitarization Symposium for the technical review and data evaluation from ongoing projects and advanced demonstrations. The PM Demilitarization R&amp;D IPT utilizes a systematic approach for project prioritization. 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>							
<b>Accomplishments/Planned Program</b>				<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	
Resource Recovery and Reuse (R3): In FY 05, increased Near-Infrared (NIR) calibration library for propellants and performed field demonstration of NIR explosives detection unit; continued development of sporting powder formulations; optimized Explosive D conversion process; validated propellant conversion technology; completed design analysis of alternatives for missile demilitarization. In FY 06, continue development of calibration curves for the NIR propellant scanner; complete demonstration/validation of NIR explosives detection unit; continue conversion of gun propellant to small arms ammunition (SAA) propellant for military applications; transition Explosive D conversion process; complete validation of the propellant conversion technology for optimal throughput. In FY 07, will transition NIR explosive detection unit; will continue development of SAA propellant formulations. Will initiate optimization of propellant conversion technology, and will continue Joint Program integration.				5148	4583	4777	
Advanced Destruction: In FY 05, incorporated performance enhancements to the stationary contained detonation technology (CDT) based on prior demonstrations; initiated permitting of transportable CDT. In FY 06, demonstrate/validate enhanced stationary CDT; continue permitting of transportable CDT. In FY 07, will transition stationary CDT; will initiate demonstration of transportable CDT; perform operability demonstration of confined burn technology.				786	1305	1166	
Waste Stream Treatment: In FY 05, demonstrated enhanced Super Critical Water Oxidation (SCWO) technology; completed fabrication and initiated demonstration of Molten Salt Oxidation (MSO). In FY 06, validate SCWO technology; complete MSO validation and continue advanced development of MSO for explosives. In FY 07, will conduct extended demonstration and initiate transition of SCWO and MSO; initiate pilot demonstration of MSO for explosives.				1922	1099	1700	

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Advanced Munitions Disassembly: In FY05, initiated transition demonstration of robotic disassembly for the Area Denial Anti-personnel Mine (ADAM) projectile; optimized water jet cutting parameters for medium caliber projectiles. In FY06, complete demonstration/validation of robotic disassembly for ADAM projectile; design and fabricate waterjet prototype for medium caliber projectiles. In FY07, will complete transition robotic disassembly of ADAM projectile and will initiate design for disassembly of 155mm RAP; will complete fabrication and initiate demonstration/validation of waterjet prototype for medium caliber projectiles; and will initiate advanced cutting for disassembly of CBUs/submunitions.	739	1309	1816	
Advanced Removal: In FY05, optimized induction heating parameters for medium caliber projectiles. In FY 06, design and fabricate induction heating prototype for medium caliber projectiles. In FY 07, will complete fabrication and initiate demonstration/validation of induction heating prototype for medium caliber projectiles.	302	1265	917	
The purpose of this Congressional add is to support an integrated Cryofracture/Plasma Arc capability. Design parameters will be tested with this funding. No additional funds are required to complete this project.	4500	2500	0	
This one year Congressional add supported the Missile Recycling Center capability. No additional funds are required to complete this project.	1400	0	0	
This one year Congressional add supported propellant conversion to fertilizer. No additional funds are required to complete this project.	1500	0	0	
This one year Congressional add supported the Thin Layer Chromatography technology. No additional funds are required to complete this project.	2100	0	0	
This one year Congressional add for Explosives Demilitarization Technology will focus on development of closed disposal technologies for munitions demilitarization. No additional funds are required to complete this project.	0	980	0	
This one year Congressional add for the HMX Requalification Program will refine explosives recovery process and test the recovered explosives for reuse. No additional funds are required to complete this project.	0	1400	0	
This one year Congressional add for NAVAIR Systems Command Data Conversion will need discription. No additional funds are required to complete this project.	0	1300	0	
This one year Congressional add for the Western Area Demilitarization Facility will further development of closed disposal technologies, specifically for advanced incineration, size reduction and recycling of energetics. No additional funds are required to complete this project.	0	5300	0	
Total	18397	21041	10376	

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<b><u>B. Program Change Summary</u></b>	FY 2005	FY 2006	FY 2007	
Previous President's Budget (FY 2006)	18405	9865	10241	
Current BES/President's Budget (FY 2007)	18397	21041	10376	
Total Adjustments	-8	11176	135	
Congressional Program Reductions		-92		
Congressional Rescissions		-212		
Congressional Increases		11480		
Reprogrammings	-8			
SBIR/STTR Transfer				
Adjustments to Budget Years			135	
Five FY06 Congressional adds totaling \$11480 were added to this PE.				