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| Exhibit R-2, PB 2011 Army RDT&E Budget Item Justification | | | | | | | | | DATE: February 2010 | | |
| APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 3: Advanced Technology Development (ATD) | | | | R-1 ITEM NOMENCLATURE PE 0603103A: Explosives Demilitarization Technology | | | | | | | |
| COST (\$ in Millions) | FY 2009 Actual | FY 2010 Estimate | Base FY 2011 Estimate | OCO FY 2011 Estimate | Total FY 2011 Estimate | FY 2012 Estimate | FY 2013 Estimate | FY 2014 Estimate | FY 2015 Estimate | Cost To Complete | Total Cost |
| Total Program Element | 17.213 | 12.495 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0 | 29.708 |
| D51: Explosives Demil Tech | 10.232 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| D91: EXPLOSIVE DEMIL DEMONSTRATIONS | 6.981 | 12.495 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | |
| The objective of this program element (PE) is to support the Explosive Demilitarization Technology Program, a cooperative interservice, interagency effort dedicated to the maturation of safe, efficient, and environmentally acceptable processes for the closed disposal of conventional munitions (project D51). Project D91 funds congressional interest items. This project transitions to PE 0605805/project F24 in FY10. The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan. Work 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 program manager (PM) Demilitarization's technical and programmatic support staff in this effort. | | | | | | | | | | | |

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| APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 3: Advanced Technology Development (ATD) | | R-1 ITEM NOMENCLATURE PE 0603103A: Explosives Demilitarization Technology | | | |
| B. Program Change Summary (\$ in Millions) | | | | | |
| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
| Previous President's Budget | 13.720 | 0.000 | 0.000 | 0.000 | 0.000 |
| Current President's Budget | 17.213 | 12.495 | 0.000 | 0.000 | 0.000 |
| Total Adjustments | 3.493 | 12.495 | 0.000 | 0.000 | 0.000 |
| • Congressional General Reductions | | -0.065 | | | |
| • Congressional Directed Reductions | | | | | |
| • Congressional Rescissions | | 0.000 | | | |
| • Congressional Adds | | 12.560 | | | |
| • Congressional Directed Transfers | | | | | |
| • Reprogrammings | 3.877 | 0.000 | | | |
| • SBIR/STTR Transfer | -0.384 | 0.000 | | | |
| Change Summary Explanation | | | | | |
| FY09 funding increase is due to Congressional interest items reprogrammed for proper execution. This project transitions to Budget Activity 6, PE 0605805A Project F24 beginning in FY 2010. | | | | | |

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| Exhibit R-2A, PB 2011 Army RDT&E Project Justification | | | | | | | | DATE: February 2010 | | | |
| APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 3: <i>Advanced Technology Development (ATD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0603103A: <i>Explosives Demilitarization Technology</i> | | | | PROJECT D51: <i>Explosives Demil Tech</i> | | | |
| COST (\$ in Millions) | FY 2009 Actual | FY 2010 Estimate | Base FY 2011 Estimate | OCO FY 2011 Estimate | Total FY 2011 Estimate | FY 2012 Estimate | FY 2013 Estimate | FY 2014 Estimate | FY 2015 Estimate | Cost To Complete | Total Cost |
| D51: <i>Explosives Demil Tech</i> | 10.232 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

This project matures 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). This project transitions to PE 0605805/project F24 in FY10. The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan. The Technology Directorate, Defense Ammunition Center, serves as the PM Demilitarization's technical and programmatic support staff in this effort.

B. Accomplishments/Planned Program (\$ in Millions)

| | FY 2009 | FY 2010 | Base FY 2011 | OCO FY 2011 | Total FY 2011 |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Program #1 Resource Recovery and Reuse (R3): This effort focused on enhancing existing methods of munitions R3. In FY09, matured and demonstrated demilitarization by induction heating meltout (DIHME) project for 60mm, 81mm, and 120mm mortars; initiated development of machine vision for other projectiles; initiated transition of propellant conversion to fertilizer technology; continued research and development alternatives for ammonium perchlorate; demonstrated nitroamine high explosive (HMX) requalification technology; and continued Joint Program integration. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 | 6.390 | 0.000 | 0.000 | 0.000 | 0.000 |

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| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | |
| | | FY 2009 | FY 2010 | Base FY 2011 | OCO FY 2011 | Total FY 2011 |
| Base FY 2011 Plans: FY 2011 Base | | | | | | |
| OCO FY 2011 Plans: FY 2011 OCO | | | | | | |
| Program #2 Advanced Destruction: This effort focused on destruction of munitions. In FY09, initiated testing and development of Acid Hydrolysis technology; initiated design to demil M433- high explosive dual purpose (HEDP) Cartridges. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 Base FY 2011 Plans: FY 2011 Base OCO FY 2011 Plans: FY 2011 OCO | | 1.703 | 0.000 | 0.000 | 0.000 | 0.000 |
| Program #3 Supercritical Water Oxidation (SCWO): This effort developed technology for use in cleanup of waste streams associated with demilitarization of conventional weapons. In FY09, matured and demonstrated SCWO technology to treat liquid effluent from a supercritical water oxidation reactor. | | 0.589 | 0.000 | 0.000 | 0.000 | 0.000 |
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| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | |
| | | FY 2009 | FY 2010 | Base FY 2011 | OCO FY 2011 | Total FY 2011 |
| FY 2009 Accomplishments: FY 2009 | | | | | | |
| FY 2010 Plans: FY 2010 | | | | | | |
| Base FY 2011 Plans: FY 2011 Base | | | | | | |
| OCO FY 2011 Plans: FY 2011 OCO | | | | | | |
| Program #4 Advanced Munitions Disassembly: This effort focused on the disassembly of conventional munitions. In FY09, completed operational demonstration and initiated transition of rocket motor segmenting technique. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 Base FY 2011 Plans: FY 2011 Base OCO FY 2011 Plans: FY 2011 OCO | | 0.785 | 0.000 | 0.000 | 0.000 | 0.000 |
| Program #5 | | 0.765 | 0.000 | 0.000 | 0.000 | 0.000 |

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| APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 3: <i>Advanced Technology Development (ATD)</i> | | R-1 ITEM NOMENCLATURE PE 0603103A: <i>Explosives Demilitarization Technology</i> | | PROJECT D51: <i>Explosives Demil Tech</i> | | |
| <u>B. Accomplishments/Planned Program (\$ in Millions)</u> | | | | | | |
| | | FY 2009 | FY 2010 | Base FY 2011 | OCO FY 2011 | Total FY 2011 |
| <p>Advanced Removal: This effort developed propellant cooling technology to remove propellant from a rocket motor case. In FY09, initiated design and fabrication of a propellant removal system using Augering techniques; initiated design and fabrication of a flexible multi-missile milling system.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>Base FY 2011 Plans:</i> FY 2011 Base</p> <p><i>OCO FY 2011 Plans:</i> FY 2011 OCO</p> | | | | | | |
| Accomplishments/Planned Programs Subtotals | | 10.232 | 0.000 | 0.000 | 0.000 | 0.000 |
| <u>C. Other Program Funding Summary (\$ in Millions)</u> N/A | | | | | | |
| <u>D. Acquisition Strategy</u> N/A | | | | | | |
| <u>E. Performance Metrics</u> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010. | | | | | | |

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| Exhibit R-2A, PB 2011 Army RDT&E Project Justification | | | | | | | | DATE: February 2010 | | | |
| APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 3: <i>Advanced Technology Development (ATD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0603103A: <i>Explosives Demilitarization Technology</i> | | | | PROJECT D91: <i>EXPLOSIVE DEMIL DEMONSTRATIONS</i> | | | |
| COST (\$ in Millions) | FY 2009 Actual | FY 2010 Estimate | Base FY 2011 Estimate | OCO FY 2011 Estimate | Total FY 2011 Estimate | FY 2012 Estimate | FY 2013 Estimate | FY 2014 Estimate | FY 2015 Estimate | Cost To Complete | Total Cost |
| D91: <i>EXPLOSIVE DEMIL DEMONSTRATIONS</i> | 6.981 | 12.495 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| <u>A. Mission Description and Budget Item Justification</u> These are Congressional Interest Items <u>B. Accomplishments/Planned Program (\$ in Millions)</u> | | | | | | | | | | | |
| | | | | | | | FY 2009 | FY 2010 | Base FY 2011 | OCO FY 2011 | Total FY 2011 |
| Program #1 Cryofracture/Plasma Arc Demilitarization Program: In FY09, this Congressional Interest Item designed and demonstrated a state-of-the-art demilitarization technology that exploits both cryofracture processing and plasma arc thermal treatment as an alternative to open burning, open detonation, and conventional incineration for the demilitarization of small-to medium-sized, explosive-containing conventional items. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>Base FY 2011 Plans:</i> FY 2011 Base <i>OCO FY 2011 Plans:</i> FY 2011 OCO | | | | | | | 1.596 | 6.366 | 0.000 | 0.000 | 0.000 |
| Program #2 | | | | | | | 0.798 | 1.592 | 0.000 | 0.000 | 0.000 |

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| APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 3: Advanced Technology Development (ATD) | R-1 ITEM NOMENCLATURE PE 0603103A: Explosives Demilitarization Technology | PROJECT D91: EXPLOSIVE DEMIL DEMONSTRATIONS | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | |
| | FY 2009 | FY 2010 | Base FY 2011 | OCO FY 2011 | Total FY 2011 |
| Unserviceable Ammunition Demilitarization via Chemical Dissolution: In FY09, this Congressional Interest Item designed and constructed an environmentally friendly system to dispose of high-risk, high-cost, unserviceable, and obsolete ammunition stored at Tooele Army Depot. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 Base FY 2011 Plans: FY 2011 Base OCO FY 2011 Plans: FY 2011 OCO | | | | | |
| Program #3 Press-Loaded Explosive Projectile Washout Line: In FY09, this Congressional Interest Item designed and built a technology to safely dispose of hundreds of thousands of obsolete, Vietnam-era projectiles filled with toxic press-loaded explosives that have been stored for decades. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 | 0.798 | 0.000 | 0.000 | 0.000 | 0.000 |
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| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | |
| | | FY 2009 | FY 2010 | Base FY 2011 | OCO FY 2011 | Total FY 2011 |
| Base FY 2011 Plans: FY 2011 Base | | | | | | |
| OCO FY 2011 Plans: FY 2011 OCO | | | | | | |
| Program #4 Zumwalt National Program for Countermeasures to Biological and Chemical Threats. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 Base FY 2011 Plans: FY 2011 Base OCO FY 2011 Plans: FY 2011 OCO | | 0.000 | 1.194 | 0.000 | 0.000 | 0.000 |
| Program #5 Advanced Reactive Armor Systems. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 | | 0.000 | 1.592 | 0.000 | 0.000 | 0.000 |

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| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | |
| | | FY 2009 | FY 2010 | Base FY 2011 | OCO FY 2011 | Total FY 2011 |
| FY 2010 Plans: FY 2010 | | | | | | |
| Base FY 2011 Plans: FY 2011 Base | | | | | | |
| OCO FY 2011 Plans: FY 2011 OCO | | | | | | |
| Program #6 Ultra Wideband Active RF Detection of IEDs. This is a Congressional Interest Item. | | 0.000 | 1.751 | 0.000 | 0.000 | 0.000 |
| FY 2009 Accomplishments: FY 2009 | | | | | | |
| FY 2010 Plans: FY 2010 | | | | | | |
| Base FY 2011 Plans: FY 2011 Base | | | | | | |
| OCO FY 2011 Plans: FY 2011 OCO | | | | | | |
| Program #7 Range Scrap Disposal, Hawthorne Army Depot. This is a Congressional Interest Item. | | 0.798 | 0.000 | 0.000 | 0.000 | 0.000 |
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| B. Accomplishments/Planned Program (\$ in Millions) | | | | | |
| | FY 2009 | FY 2010 | Base FY 2011 | OCO FY 2011 | Total FY 2011 |
| FY 2009 Accomplishments: FY 2009 | | | | | |
| FY 2010 Plans: FY 2010 | | | | | |
| Base FY 2011 Plans: FY 2011 Base | | | | | |
| OCO FY 2011 Plans: FY 2011 OCO | | | | | |
| Program #8 MLRS Disposal System. This is a Congressional Interest Item. | 2.991 | 0.000 | 0.000 | 0.000 | 0.000 |
| FY 2009 Accomplishments: FY 2009 | | | | | |
| FY 2010 Plans: FY 2010 | | | | | |
| Base FY 2011 Plans: FY 2011 Base | | | | | |
| OCO FY 2011 Plans: FY 2011 OCO | | | | | |
| Accomplishments/Planned Programs Subtotals | 6.981 | 12.495 | 0.000 | 0.000 | 0.000 |
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| C. Other Program Funding Summary (\$ in Millions) N/A | | |
| D. Acquisition Strategy N/A | | |
| E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010. | | |

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