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Exhibit R-2, RD1&E Budget Item Justification: PB 2012 Army

DATE: February 2011

**APPROPRIATION/BUDGET ACTIVITY**  
 2040: Research, Development, Test & Evaluation, Army  
 BA 6: RD1&E Management Support

**R-1 ITEM NOMENCLATURE**  
 PE 0605805A: Munitions Standardization, Effectiveness and Safety

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	84.951	53.338	57.142	-	57.142	55.166	55.412	55.455	51.884	Continuing	Continuing
296: Close Combat Technology	7.451	7.330	2.824	-	2.824	3.241	2.707	2.388	2.461	Continuing	Continuing
297: Mun Survivability & Log	9.870	8.281	12.803	-	12.803	12.859	13.302	13.444	10.363	Continuing	Continuing
857: DOD EXPLOSIVES SAFETY STANDARDS	1.600	1.736	2.174	-	2.174	2.244	2.223	2.253	2.284	Continuing	Continuing
858: ARMY EXPLOSIVES SAFETY MANAGEMENT PROGRAM	0.450	0.619	0.702	-	0.702	0.590	0.680	0.671	0.680	Continuing	Continuing
<b>859: LIFE CYCLE PILOT PROCESS</b>	31.084	4.546	5.026	-	5.026	4.993	4.824	4.873	4.935	Continuing	Continuing
862: Indirect Fire and Fuze Technology	2.974	12.350	4.621	-	4.621	3.657	3.707	3.768	4.316	Continuing	Continuing
F21: Direct Fire Technology and NATO Ammo Evaluation	2.923	3.489	12.985	-	12.985	11.072	11.072	10.780	9.194	Continuing	Continuing
F24: CONVENTIONAL MUNITIONS DEMIL	28.599	14.987	16.007	-	16.007	16.510	16.897	17.278	17.651	Continuing	Continuing

**Note**

Change Summary Explanation:

FY 2012: Funds increased (\$10.633 million) to support various technology investigations.

**A. Mission Description and Budget Item Justification**

This Program Element supports continuing technology investigations. It provides a coordinated tri-service mechanism for the collection and free exchange of technical data on the performance and effectiveness of all non-nuclear conventional munitions and weapons systems in a realistic operational environment. It provides for NATO interchangeability testing (F21); joint munition effectiveness manuals used by all services; development of standardization agreements (STANAGS) and associated Manuals of Proof and Inspection (MOP); operation of the North American Regional Test Center (NARTC); evaluation of demilitarization methods for existing conventional ammunition (F24); evaluation of useful shelf life, safety, reliability and producibility of pyrotechnic munitions; and improvement of explosives safety criteria for DOD munitions via the DOD Explosives Safety Board (857). Pyrotechnic Reliability and Safety (296) supports pyrotechnic research, development and testing to identify, characterize and resolve reliability, safety, storage and manufacturing issues that impact production availability and field use of pyrotechnics. Project 296 will result in the development and demonstration of new, safe, reliable and environmentally acceptable munitions. Munitions Survivability and Logistics (297) will make

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 Effectiveness and Safety

**PROJECT**  
 859: LIFE CYCLE PILOT PROCESS

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	Articles:	FY 2010	FY 2011	FY 2012
<p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b>                      Completed facility design for production of atomized magnesium within the National Technology and Industrial Base (NTIB). Build a pilot scale reactor.</p> <p><b>Title:</b> Army Range Technology Program (ARTP)</p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b>                      Gathered imaging data of depleted uranium munitions from Army ranges. Tested initial hardware prototype designs. Developed initial software for data analysis. Refine hardware designs and integrate with software for the Army Range Technology Program.</p> <p><b>Title:</b> Joint Munitions and Lethality Mission Integration</p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b>                      Develop streamline business processes and foster integration across the Joint Munitions and Lethality Ammunition Enterprise to more efficiently and effectively support warfighter needs.</p> <p><b>Title:</b> Protective Armor Systems</p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b>                      Developed, proved-out, and fielded several new prototype protective armor solutions that utilize various lightweight ballistic materials. The configured hybrid solution is optimal for weight reduction, high performance and affordability. Continue to improve existing solutions and develop new armor solutions.</p> <p><b>Title:</b> Domestic Production of Nanodiamond for Military Applications</p>	<p>0</p> <p>4.833 0</p> <p>1.585 0</p> <p>4.951 0</p> <p>1.585 0</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p>	