Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army												Date: March 2024
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*							
COST ($ in Millions)	**Prior Years**	**FY 2023**	**FY 2024**	**FY 2025 Base**	**FY 2025 OCO**	**FY 2025 Total**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Cost To Complete**	**Total Cost**
Total Program Element	-	59.088	50.409	50.766	-	50.766	46.978	46.713	47.140	47.535	0.000	348.629
297: *Mun Survivability & Log*	-	19.821	18.456	16.900	-	16.900	14.903	18.516	18.659	18.790	0.000	126.045
857: *DoD Explosives Safety Standards*	-	-	-	2.104	-	2.104	2.104	2.104	2.104	2.104	0.000	10.520
858: *Army Explosives Safety Management Program*	-	0.972	1.489	1.511	-	1.511	1.538	1.538	1.553	1.569	0.000	10.170
859: *Life Cycle Pilot Process*	-	23.585	5.838	5.873	-	5.873	5.875	5.938	6.003	6.063	0.000	59.175
F21: *NATO Ammo Evaluation*	-	0.738	0.772	0.774	-	0.774	0.775	0.783	0.792	0.800	0.000	5.434
F24: *Conventional Munitions Demil*	-	13.972	23.854	23.604	-	23.604	21.783	17.834	18.029	18.209	0.000	137.285

Note

DoD Explosives Safety Standards is a new start within the Munitions Standardization, Effectiveness and Safety program in FY 2025.

A. Mission Description and Budget Item Justification

This Program Element (PE) supports continuing technology investigations by providing 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.

Project 297 - Munitions Survivability & Logistics: This Project supports the future force by making Army units more survivable through the investigation, testing and demonstration of munitions logistics system improvements that prevent or minimize catastrophic explosive events and accelerate ammunition resupply. Key thrusts are munitions storage area survivability, Insensitive Munitions (IM) technology integration and compliance, ammunition management and asset visibility, weapon system rearm, munitions configured load enablers and advanced packaging and distribution system enhancements. Within each thrust, a broad array of solutions will be identified, tested, and evaluated against developed system measures of effectiveness. Optimum, cost effective and efficient solutions that enable the rapid projection of lethal and survivable forces will be demonstrated. The early stages of force deployment are especially critical. Theater ammunition storage areas are vulnerable and present the enemy with lucrative targets. These areas and distribution nodes contain the only available munitions stocks in theater. Loss of these munition stocks could cripple the force, jeopardize the mission, and result in high loss of life. This Project mitigates vulnerabilities and ensures a survivable fighting force.

Project 857 - DoD Explosives Safety Standards: This Project supports the Research, Development, Test, and Evaluation efforts of the Department of Defense (DoD) Explosive Safety Standards Board. It supports explosive safety effects research and testing to quantify hazards and to develop techniques to mitigate those hazards in all DoD manufacturing, testing, transportation, maintenance, storage, disposal of ammunition and explosives operations, and also to develop risk based explosives

safety standards. Results are essential to the development and improvement of quantity-distance standards, hazard classification procedures, cost effective explosion resistant facility design procedures, and personnel hazard/protection criteria.

Project 858 - Army Explosives Safety Management Program: This Project establishes, validates or modifies explosives technical safety requirements per Department of Defense Manual 6055.09 and Department of the Army Pamphlet 385-64, Ammunition and Explosives Safety Standards. Project activities promote Research, Development, Test, and Evaluation (RDTE) of new and innovative explosives safety technologies that improve the survivability of Army personnel, facilities, and equipment as well as improve the health, safety and welfare of the general public (with highest priority directed to combat theater of operations).

Project 859 - Life Cycle Pilot Process: This Project supports the implementation of the Single Manager for Conventional Ammunition (SMCA) Industrial Base Strategic Plan through technology investigations, model based process controls, pilot prototyping, and industrial assessments. It will assess life cycle production capabilities required for all ammunition families, address design for manufacturability to facilitate economical production, identify industrial and technology requirements, and address the ability of the production base to rapidly and cost effectively produce quality products. Cost reduction is an important part of the Life Cycle Pilot Process (LCPP). LCPP provides the resources to prototype critical technologies and develop the knowledge base to establish cost effective, environmentally safe and modern production processes in support of the munitions Industrial Base transformation. In addition, the LCPP program addresses Single Point Failures (SPFs) / No Source of supply within the National Technology Industrial Base (NTIB). LCPP provides support to reduce supply chain risk by investigating, developing and evaluating additional sources of supply for a known SPF.

Project F21:North Atlantic Treaty Organization (NATO) Ammunition Evaluation program funding ensures interchangeability of ammunition and weapons among all the NATO countries with all of the associated logistic, strategic and tactical advantages of the alliance. This Project involves development and testing compliance of NATO standardization agreements (STANAGS) and staffing of the North American Regional Test Center (NARTC). In addition, this Project supports small caliber ammunition, 50mm ammunition, 40mm grenade munitions, medium caliber cannon ammunition, and large caliber ammunition enhancements to lethality, effectiveness, survivability, accuracy, and general product improvements. This Project also supports the standardization and interchangeability of legacy and new production United States (US) weapons and ammunition with Allied Nations to maximize battlefield interchangeability/ compatibility under the auspices of international agreements to include NATO working groups, the Joint Ballistics Memorandum of Understanding (JBMOU), and information/ data exchange agreements. Maximizing standardization, interchangeability, and exportability will also potentially increase Foreign Military Sales (FMS) of US indirect fire weapon and munition products to support United States industrial base production and affordable Department of Defense pricing through increased economies of scale.

Project F24: Conventional Munitions Demilitarization (Demil): The Conventional Munitions Demilitarization technology Project supports the SMCA responsibility per Department of Defense Instruction (DoDI) 5160.68 to plan, program, budget and fund a Joint Service Research and Development (R&D) program that develops capability and capacity as well as technology and facilities to support the SMCA mission to demil and dispose of conventional ammunition stored in the SMCA Resource, Recovery and Disposition Account (B5A). The program goals include SMCA efforts to increase efficiencies and effectiveness to reduce the demil stockpile; reduce processing costs including packaging, handling and crating; and increase capacity through improved demilitarization capabilities and processes. Project F24 includes activities: (1) to establish requirements and develop processes to focus investments, assess capabilities, analyze alternatives, and recommend and implement R&D projects; (2) to improve products and processes that support existing capabilities; (3) to develop or improve demil methods and processes related to advance the primary demilitarization core thrust areas of destruction, disassembly, removal, resource recovery and recycling, and waste stream treatment; (4) to ensure safe and

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army	Date: March 2024
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environmentally acceptable demil operations; (5) to transition R&D products to United States Army depots or plants as well as commercial facilities performing demil; and (6) to mitigate risk and close-out project activities.

B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	60.645	50.409	50.227	-	50.227
Current President's Budget	59.088	50.409	50.766	-	50.766
Total Adjustments	-1.557	0.000	0.539	-	0.539
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.557	-			
• Adjustments to Budget Years	-	-	0.539	-	0.539

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2023	FY 2024
Project: 859: *Life Cycle Pilot Process*		
Congressional Add: *Program increase - Foamable Celluloid Materials*	5.000	-
Congressional Add: *Program increase - Neutron Radiography*	5.000	-
Congressional Add: *Program increase- Additive Manufactiong for High Temperature Alloys*	8.000	-
Congressional Add Subtotals for Project: 859	18.000	-
Congressional Add Totals for all Projects	18.000	-

Change Summary Explanation

297: $1.621M decrease to support continuous product improvements efforts on small, medium, and large caliber ammunition.
857: $2.104M increase supports the Research, Development, Test, and Evaluation efforts of the Department of Defense (DoD) Explosive Safety Standards Board. New Start.
858: $0.005M decrease to support continuous product improvements efforts on small, medium, and large caliber ammunition.
859: $0.012M decrease to support continuous product improvements efforts on small, medium, and large caliber ammunition.
F21: $0.002M increase to support interchangeability of ammunition and weapons among all the NATO countries..
F24: $0.047M increase to support products and processes that support existing capabilities for Demil.

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Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) 297 / *Mun Survivability & Log*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
297: *Mun Survivability & Log*	-	19.821	18.456	16.900	-	16.900	14.903	18.516	18.659	18.790	0.000	126.045
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project supports the future force by making Army units more survivable through the investigation, testing, and demonstration of munitions logistics system improvements that prevent or minimize catastrophic explosive events and accelerate ammunition resupply. Key thrusts are munitions storage area survivability, Insensitive Munitions (IM) technology integration and compliance, ammunition management and asset visibility, weapon system rearm, munitions configured load enablers, and advanced packaging and distribution system enhancements. Within each thrust, a broad array of solutions will be identified, tested, and evaluated against developed system wide measures of effectiveness. Optimum, cost effective, and efficient solutions that enable the rapid projection of lethal and survivable forces will be demonstrated. Theater ammunition storage areas are vulnerable especially during early stages of force deployment and present the enemy with lucrative targets. These areas and distribution nodes contain the only available munitions stocks in theater. Loss of these munition stocks could cripple the force, jeopardize the mission, and result in high loss of life. This Project mitigates vulnerabilities and ensures a survivable fighting force while providing leap ahead technology to meet the Multi-Domain Operations (MDO) and the priorities identified by the Contested Logistics, Long Range Precision Fires (LRPF), Next Generation Combat Vehicles (NGCV), Future Vertical Lift (FVL), Network, and Soldier Lethality (SL) Cross Functional Teams (CFT).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Munitions Predictive Life	2.751	3.480	3.450
Description: This activity will demonstrate technologies and algorithms that help assess munitions serviceability based on environmental exposure or rough handling that exceeds specified operational threshold. The activity will provide life cycle management tools for risk mitigation strategies, while reducing testing, inspection, and surveillance required while improving weapon system reliability and Warfighter effectiveness. This Project will specifically assess munitions serviceability based upon aggregated environmental exposures, system cycling and munition degradation models during the tactical distribution of munitions after they are re-configured to distribution focused multi-Department of Defense Identification Code (DODIC) consolidation packs, uploaded to resupply assets and any weapon system that has been rearmed.			
FY 2024 Plans: Develop techniques to improve operational lethality and readiness by utilizing commercial off the shelf environmental monitoring technologies/sensors to record temperature, humidity, shock, vibration exposure to ensure ammunition is viable for use. This development effort will investigate potential methods to overcome the high risk/cost of dedicated ammunition health monitoring sensors and predicted remaining useful life algorithms of past investments. As these commercial solutions are evaluated, the most suitable candidates will be integrated with emerging tactical 155mm ammunition storage and transportation systems to mitigate the detrimental effects of environmental exposure on the operational availability of the weapon platform. This tailored capability			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
will be integrated into existing or emerging weapon systems to meet requirements established by the Long Range Precision Fires (LRPF) Cross Functional Team (CFT), and will feed ammunition exposure data into tactical ammunition management systems to ensure only viable ammunition is sourced for use. Conduct an in-depth analysis to establish the potential degradation conditions for 155mm propellant due to regional / seasonal environmental exposure when deployed with Extended Range Cannon Artillery (ERCA) and other Field Artillery (FA) systems, to ensure deployment of selected commercial solution to meet ammunition surveillance requirements. ***FY 2025 Plans:*** Develop techniques to improve operational lethality and readiness by instrumenting emerging and legacy and future tactical vehicles with available environmental monitoring technologies/sensors to record temperature, humidity, shock, and vibration exposure to ensure ammunition is viable for use once it is issued from the Army accountable system. This development effort will investigate various methods of ammunition health monitoring techniques and predicted remaining useful life algorithms of past investments coupled with industry best practices of supply chain management. As these solutions are evaluated, the most suitable candidates will be integrated with emerging maneuver formations for improved ammunition storage, transportation system efficiencies and weapon platform lethality and mobility. This approach will be integrated into legacy and emerging weapon systems to meet requirements established by the Contested Logistics, LRPF, NGCV, FVL, Network, and SL CFTs, and will feed ammunition exposure data into the Tactical Ammunition Management Microservices System (TAMMS) to ensure viable ammunition is sourced for use in meeting fires mission requirements. Conduct an in-depth analysis, develop data architectures to establish the metrics to assess munitions useability for all 155mm ammo items when deployed with the next generation howitzer, and other FA systems to ensure Predictive and Contested Logistics emerging Joint Capabilities Integration and Development System (JCIDS) system requirements are met. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Decrease in funding but there is no change in project authorization from FY 2024 to FY 2025			
Title: Insensitive Munitions (IM) Integration Program	5.570	6.700	5.520
Description: Demonstrate multiple IM technologies and integrate into end item(s) to improve munitions survivability and Warfighter safety. IM Technologies, using State-of-the-Art materials, will be developed in the areas of warhead, propulsion and propellants, explosives, packaging, and barriers. In addition, modeling and simulation will be used to reduce development and testing costs. Efforts will increase the number of IM compliant ammunition items fielded to mitigate munition's reaction to unplanned stimuli such as fire, fragments, enclosed heat build-up (cook-off), bullets, adjacent munition's reaction (sympathetic detonation), and shape charge jet attacks. ***FY 2024 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Complete full-scale full-scale IM and performance testing of medium caliber composite cartridge cases for improved response to shock and thermal threats in support of NGCV, FVL and Soldier Lethality SL modernization priorities. Finalize Phase Change Material design of container heat management technology for mortar packaging and initiate live demonstration testing. Complete hot and cold Highly Accelerated Life testing of Sealed Seam packaging venting technology to improve artillery and tank containers' response to thermal events in support of Long Range Precision Fire (LRPF) modernization priority. Initiate IM testing of container lid venting in selected packaging container. Continue demonstration of the M433E1 40MM Cartridge to integrate explosive technology along with warhead, packaging venting and impact mitigation technologies in support of Next Generation Combat Vehicle (NGCV) priorities. Initiate engineering IM testing of down-selected DNP formulation in end item to support Soldier Lethality (SL) modernization priority. Continue engineering IM and performance tests of Titan II formulation in end item to support Long Range Precision Fires (LRPF) and Air and Missile Defense (AMD) priorities. Continue demonstration of PAX-64 as a replacement for PBXN-12 in mortar auxiliary charges for improved Fragment Impact (FI) response. Complete static fire, fragment impact and ballistic performance testing of new igniter formulations to replace Benite in 120mm tank munitions. Develop combustible cartridge case to replace metal cartridge in 105mm Tank ammunition. Evaluate propellant coating technology for improved cook-off and impact threats. ***FY 2025 Plans:*** Complete hot and cold Highly Accelerated Life (HAL) testing/initial sequential rough handling and initiate IM testing of Sealed Seam packaging venting technology to improve artillery and tank containers' response to thermal events in support of LRPF modernization priority. Continue demonstration of container lid venting in selected packing container. Continue engineering IM testing of down-selected Dinitrophenol (DNP) formulation in end item to support SL modernization priority. Continue engineering IM and performance tests of Titan II (CL-20 based) formulation in end item to support LRPF, and Air and Missile Defense (AMD) priorities. Continue demonstration of PAX-64 as a replacement for PBXN-12 in mortar auxiliary charges for improved Fragment Impact (FI) response. Final demonstration of medium caliber ammunition to integrate explosive technology along with warhead, packaging venting and impact mitigation technologies in support of NGCV priorities. Conduct IM testing of barrier technology for mitigation of sympathetic reaction in support of LRPF. Initiate structural rough handling and ballistic testing of 105mm tank ammunition with combustible cartridge case design. Continue IM testing of propellant coating and initiate ballistic testing. Perform ballistic/auto handling and continue IM testing of 30x173mm cartridge case technology. Conduct fragment impact on M742A2 105mm tank primer. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Decrease due realignment of funding to PE 0607131A (Weapons and Munitions Product Improvement Programs) to support continuous product improvements efforts on small, medium, and large caliber ammunition.			
Title: Improved Munitions Packaging	2.500	2.900	2.500

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Description: This activity will demonstrate upgrades to existing packaging components and materials to improve legacy ammunition survivability, support emerging weapons system autonomy, and optimize resupply and tactical vehicles ammunition storage configurations. These upgrades will enhance ammunition survivability, accessibility, reliability, improve field ammunition operations, and improve packaging. This activity will also demonstrate intermediate packaging concepts and components to improve survivability once removed from bulk/depot packs for distribution through the Brigade Combat Tea (BCT). ***FY 2024 Plans:*** Develop a suite of robust ammunition consolidators to protect extended range field artillery components after their removal from depot packaging to ensure expected performance will not degrade during distribution. Develop new ammunition stowage designs for associated ammo support vehicles that maximizes inventory / complete round quantities, optimizes storage and retrieval of ammunition, maintain legacy vehicle safety and functionality, while minimizing physical demands of crew when conducting rearm and resupply operations. Continue development of light weight steel rectangular ammunition containers to meet 6.8mm ammunition qualification tests. Begin engineering design of packaging components to promote automation during storage and handling. Develop new designs or concepts for lids, latches, security seals, tie downs, palletization methods and environmental mitigation. Investigate coating materials and processes to enable stenciling/labeling/QR code marking of ammunition for accountability proposes forward of the Ammunition Storage Areas, to meet Multi Domain Operations (MDO) modernization initiatives. Conduct comprehensive industry search of emerging materials/technologies for applicability to ammunition packaging to reduce unit cost and weight in support of the JPEO Armaments & Ammunition portfolio. Conduct engineering testing on packaging prototypes and configurations designed to protect new and legacy items against environmental effects and other stimuli, as required to reflect use cases defined by the CONOPS for Extended Range Cannon Artillery (ERCA). Conduct business case analysis of 2-dimensional bar codes to individual PM Cannon Artillery System items and unitized packaging to include projectiles, fuzes, and propellant charges at the load plant. Assess M992A3 Carrier Ammunition Tracked extended range ammunition stowage designs/mechanisms for automation applicability to meet the PM SPHS/LRPF Cross Functional Team (CFT) autonomy initiatives for ERCA and other field artillery formations. ***FY 2025 Plans:*** Develop tactical vehicle specific ammunition storage applique concepts/prototypes suitable for consolidation of complete rounds (Field Artillery) supporting Indirect Fire, Direct Fire, and Dismounted Infantry formations. Evaluate new storage concepts for associated ammunition support vehicles that maximizes inventory/complete round quantities, optimizes storage and retrieval of ammunition, and maintain legacy vehicle safety and functionality while minimizing physical demands of the crew when conducting rearm and resupply operations. Conduct case study on methods to protect emerging ammunition items and components after their removal from depot packaging to ensure expected performance will not degrade during transportation and distribution. Investigate coating materials and processes to enable stenciling/labeling/data matrix marking of ammunition for accountability purposes forward of the ammunition storage areas to meet MDO modernization initiatives. Assess M992A3 Carrier Ammunition Tracked			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
extended range ammunition stowage designs/mechanisms for automation applicability to meet the PM Self-Propelled Howitzer System (SPHS) and LRPF CFT autonomy initiatives for Next Generation Howitzer. Investigate the application of current point of need parts fabrication techniques when repacking ammunition during field turn-in and Relief in Place/Transfer of Authority activities to minimize sustainment demand. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Decrease due realignment of funding to PE 0607131A (Weapons and Munitions Product Improvement Programs) to support continuous product improvements efforts on small, medium, and large caliber ammunition.			
Title: Ammo Provider	4.727	5.376	5.430
Description: This activity demonstrates technologies that will assure a survivable munitions logistics system by increasing distribution velocity and protecting ammo storage areas. Technology areas to be investigated include ammunition asset visibility, including environmental sensors, marking technologies, and supply chain modeling; ammunition management, including improvements in stockpile surveillance and condition based management; sustainment, including pre-configured loads (soldier to unit size); field ammunition reconfiguration capability, robotic handling, and improved load building capability; and force protection, including site planning software and field storage protection. All research and development initiatives will be supporting the LRPF, NGCV, SL, and Contested Logistics CFTs and the MDOs modernization objectives that consume, store or transport/distribute munitions and munition components in the maneuver formations. ***FY 2024 Plans:*** Conduct extensive system engineering analysis to determine expected life cycle cost and performance of a suite of ammunition logistics enabler prototypes under development to meet the Multi Domain Operations (MDO) modernization objectives for Long Range Precision Fires (LRPF), Next Generation Combat Vehicle, and Network Cross Functional Teams. These logistics enablers will be assessed through lethality, mobility, and readiness benefits as measured across multiple maneuver formations covering field artillery and large/medium caliber direct fire. Results will be used to refine user requirements and inform associated Programs of Record (POR) to provide for the automation and optimization of requisitions, spatial and temporal based inventory data, real-time consumption tracking, and forecasting demand for all ammo items. Extend analysis to optimize tactical multi-class storage areas to efficiently deliver configured loads that are synchronized with available transportation conveyances, and support preparation and planning for future missions to meet the objectives of the Sustainment Mission Command Predictive Logistics concept, for more efficient distribution of Ammunition and other commodities. Mature explosive safety siting techniques to inform a JPEO Material Decision. In collaboration with PM CAS and PM SPHS, develop enhanced high-fidelity models to reflect LRPF increased rate of fire concepts and the lethality and mobility resupply requirements to meet unit readiness. Develop prototypes for large caliber ammo handling and transportation enablers to meet supply chain through-put requirements/distribution velocity, and to enable automation. Integrate enablers as they mature into the Tactical Ammunition Management Micro-Services to continuously improve ammunition distribution velocity. Conduct limited user evaluations of emerging ammunition logistics			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
enablers as they mature to gain direct soldier feedback on potential benefits while also informing RDT&E decision points through the development cycle. ***FY 2025 Plans:*** Conduct extensive system engineering analysis to determine expected life cycle cost and performance of a suite of ammunition logistics enabler prototypes under development to meet the MDO modernization objectives for LRPF, NGCV, Contested Logistics, and Network CFTs. These logistics enablers will be assessed through lethality, mobility, and readiness benefits as measured across multiple maneuver formations covering field artillery, large/medium caliber direct fire, dismounted units, and line of sight area weapons. Results will be used to refine user requirements and inform associated Programs of Record (PoR) to provide for the automation and optimization of requisitions, spatial and temporal based inventory data, real-time consumption tracking, and forecasting demand for all ammunition items. Results will also be assessed for ease of integration into Tactical Army Cloud and Enterprise Convergence concepts. Conduct analysis to leverage ammunition Research Development Test and Evaluation (RDT&E) concepts as applied to tactical multiclass storage areas to efficiently deliver configured loads that are synchronized with available transportation conveyances, and support preparation and planning for future missions to meet the objectives of the Sustainment Mission Command Predictive Logistics concepts. Develop enhanced high-fidelity models to evaluate emerging sustainment concepts to project tactical supply chain performance against Contested Logistics objectives. Investigate technical advances for ammunition handling to meet large caliber ammunition handling and transportation supply chain through-put velocity requirements for manual and autonomous operations. Conduct limited user evaluations and Soldier touch points of maturing ammunition logistics enablers to gain direct Soldier feedback on potential benefits while also informing RDT&E decision points throughout the development cycle. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase in funding reflects planned lifecycle of the effort.			
Title: P2 Supply Chain Assured Munitions ***Description:*** Army added funds to update legacy chemical specifications and expand the Industrial Base Analysis Tool (IBAT) software to illuminate kinetic weapons supply chains involving critical chemicals and raw materials used in missiles and munitions.	4.273	-	-
Accomplishments/Planned Programs Subtotals	19.821	18.456	16.900

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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D. Acquisition Strategy

N/A

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COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
857: *DoD Explosives Safety Standards*	-	-	-	2.104	-	2.104	2.104	2.104	2.104	2.104	0.000	10.520
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

DoD Explosives Safety Standards is a new start within the Munitions Standardization, Effectiveness and Safety program in FY 2025.

A. Mission Description and Budget Item Justification

This Program Element (PE) 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.

This Project supports the Research, Development, Test, & Evaluation (RDTE) efforts of the Department of Defense (DoD) Explosive Safety Standards Board. It supports explosive safety effects research and testing to quantify hazards and to develop techniques to mitigate those hazards in all DoD manufacturing, testing, transportation, maintenance, storage, disposal of ammunition and explosives operations, and also to develop risk based explosives safety standards. Results are essential to the development and improvement of quantity-distance standards, hazard classification procedures, cost effective explosion resistant facility design procedures, and personnel hazard/protection criteria.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: DoD Explosives Safety Standards	-	-	2.104
Description: Funding 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 resulting in explosive safety effects research and testing to quantify hazards and to develop techniques to mitigate those hazards in all DoD manufacturing, testing, transportation, maintenance, storage, disposal of ammunition and explosives operations, and also to develop risk based explosives safety standards.			
FY 2025 Plans: Initiate explosives safety standards development to update, modernize, and improve all safety hazard classifications, integrate explosive safety standards, integrate risk evaluation and management. Initiate explosives safety analysis and planning tools to provide methodologies to support site planning and risk assessment, provide methodologies and tools for the design of new protective construction and provide tools to harvest and validate critical infrastructure and operational condition and risk data. Initiate explosion effects testing to gain understanding of the science of explosions to improve standards and prediction tools.			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Increase reflects planned initiation of the effort in FY25.			
Accomplishments/Planned Programs Subtotals	-	-	2.104

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army											Date: March 2024	
Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*				Project (Number/Name) 858 / *Army Explosives Safety Management Program*			
COST ($ in Millions)	**Prior Years**	**FY 2023**	**FY 2024**	**FY 2025 Base**	**FY 2025 OCO**	**FY 2025 Total**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Cost To Complete**	**Total Cost**
858: *Army Explosives Safety Management Program*	-	0.972	1.489	1.511	-	1.511	1.538	1.538	1.553	1.569	0.000	10.170
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project establishes, validates or modifies explosives technical safety requirements per Department of Defense Pamphlet 385-64, Ammunition and Explosives Safety Standards. Project activities promote Research, Development, Test, and Evaluation (RDTE) of new and innovative explosives safety technologies that improve the survivability of Army personnel, facilities, and equipment as well as improve the health, safety and welfare of the general public.

FY 2025 funding will support continued testing, validation, and regulatory integration for permanent, temporary and mobile ammunition and explosives facilities focusing on construction and instrumentation of destructive test structures; data collection and analyses; policy change identification and implementation. The Defense Ammunition Center/US Army Technical Center for Explosives Safety (DAC/USATCES), Engineer Research and Development Center will team with and sponsor agencies (Joint Service, Academia, and Contractor) to improve the effectiveness of identifying, analyzing, and apply risk acceptance to ammunition and explosive environments. Naval Facilities Engineering and Expeditionary Warfare Center Branch to provide technical support in the areas of risk assessment Program, DDESB Science Panel, and the DoD protective construction.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Risk based explosives safety criteria	0.219	0.367	0.373
Description: Development of risk based explosives safety criteria that will aid commanders and safety personnel in the transition from regulation to risk management. ***FY 2024 Plans:*** Provide critical resources to support explosives testing in support of hazard research and exposure consequences. Assess hazards and risks for combat units. Development, promulgate and application of explosives safety technologies and practices. ***FY 2025 Plans:*** Provide critical resources to leverage the knowledge gained from extensive explosives testing and modeling to develop explosives safety risk-based consequence models and have these peer reviewed by panels of experts. Effort will develop, promulgate and apply explosives safety consequence technologies and practices. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase in funding reflects planned lifecycle of the effort.			
Title: Development of enhanced protective structure designs	0.623	0.887	0.899

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 858 / *Army Explosives Safety Management Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Description: Develop enhanced protective structure designs that improve the survivability of Army personnel, facilities and equipment. ***FY 2024 Plans:*** Destructive testing of protective infrastructure in support of safety regulation update to protect personnel/assets and improving protective structure design. Tailor and connect data driven Earth Covered Magazines and Above Ground Magazine (ECM/AGM) requirements to increase explosive storage capacity and reduce sustainment costs. ***FY 2025 Plans:*** Effort will fund destructive testing of protective infrastructure designs in support of safety regulation updates to protect personnel, facilities, and equipment while still executing mission requirements. FY 2025 dollars support second phase of explosives testing of a Hesco barricaded-container filled with 150 lbs of fragmenting munitions to validate the safety of personnel, facilities and equipment. This will allow warfighters to ensure quarters, TOC, and DFAC 200 feet from critical mission ammunition. Effort wll also evaluate protective construction of new equipment installed at Army ammunition and explosives production facilities. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase in funding reflects planned lifecycle of the effort.			
Title: Development of explosive safety tools ***Description:*** Develop explosive safety tools for use by Army personnel. Explosive safety tools allow commanders and safety personnel to make explosive safety decisions using risk management methodologies. ***FY 2024 Plans:*** Continue to develop new methods and tools for risk assessment to improve explosive safety risk management decisions. This program will develop and implement quantity distance requirements for labs and research facilities. Participate in Non- Army explosive safety testing and determine the orientation and configuration of explosives storage configurations. ***FY 2025 Plans:*** Effort will continue to develop new methods and tools for risk assessment to improve explosive safety risk management decisions. FY2025 efforts will develop and implement quantity distance requirements for labs and research facilities, RDT&E explosives ranges and production facilities. Effort will involve Non-Army explosive safety testing to leverage the knowledge of the other DOD Services and foreign partner nations to improve existing tools and develop new tools. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase in funding reflects planned lifecycle of the effort.	0.130	0.235	0.239
Accomplishments/Planned Programs Subtotals	0.972	1.489	1.511

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
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C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) 859 / *Life Cycle Pilot Process*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
859: *Life Cycle Pilot Process*	-	23.585	5.838	5.873	-	5.873	5.875	5.938	6.003	6.063	0.000	59.175
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Life Cycle Pilot Process Project supports the implementation of the Single Manager for Conventional Ammunition (SMCA) Industrial Base Strategic Plan through technology investigations, pilot prototyping, and industrial assessments. Purpose is to develop a knowledge base for modern, cost effective, environmentally safe, and secure Industrial Base processes and practices. This project addresses technology, producibility, cost refinement, and supply chain risks for JPEO Armaments & Ammunition portfolio. Project 859 divides into three thrust areas: Single Point Failures (SPFs); Life Cycle Cost Refinement; and Manufacturing Technology for Industrial Base Transformation. Respectively this project will mitigate supply chain and source of supply concerns; refine overall product and manufacturing costs; and assess and implement modern/ industry-standard manufacturing processes to the Industrial Base.

FY2025 funding supports efforts to improve end item manufacturing costs; bridge technology transition between research and production; assess improved security processes; and evaluate alternative materials and processes to address supply chain risks and resiliency concerns. Specifically, resources will be directed to prove-out improved artillery explosive load operations, prove-out automated artillery propulsion operations, investigate improved waste treatment operations at government-owned contractor-operated facilities. Evaluate alternative Single Point Failure materials for close combat and large caliber munitions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Life Cycle Cost Refinement	1.329	1.414	1.681
Description: This thrust area seeks out new opportunities to reduce overall cost of armaments and ammunition components. Efforts will review and analyze legacy manufacturing processing for opportunities to integrate improved technology that can lead to increased operator safety and materials to lean manufacturing processes to reduce overall unit cost and utilization of greener materials.			
FY 2024 Plans: Assess alternative materials/components and alternative production processes to reduce end item and production costs for transition to the Army's Industrial Base; Efforts aligned with the Army Long Range Precision Fires CFT include but are not limited to improve load, assemble, and pack operations for artillery munition systems; reduction in Industrial Base waste disposal cost by assessing waste stream repurpose processes.			
FY 2025 Plans: Continue on-going assessments for alternative materials/components and alternative production processes to refine end item and production costs for transition to the Army's Industrial Base. Efforts align with the Army Long Range Precision Fires CFT but are			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 859 / *Life Cycle Pilot Process*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
not limited to load, assemble, and pack for ammunition operations, industrial base resiliency for energy and waste streams, and industrial base assessment for printed applications. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase in funding due to increase in program priorities to explore process technologies that improve existing life cycle cost for industrial base production.			
Title: Single Point Failures (SPFs) ***Description:*** This thrust area seeks to mitigate single source and no source of supply to armaments and ammunition manufacturing operations. Thrust area tests or evaluates alternative materials and processes to mitigate SPFs. These efforts are part of the overall strategy to reduce the number of SPFs in the National Technology and Industrial Base (NTIB). Additionally, thrust area efforts will address ammunition manufacturing capability shortfalls. This area leverages RDTE accomplishments and product knowledge to satisfy manufacturing requirements. ***FY 2024 Plans:*** Continue to assess technologies and material alternatives to mitigate single source and no source of supply for in production end items and end item components. Efforts include but not limited to; assessment of alternative production processes for military grade materials; alternative materials assessment for large caliber and grenade SPF mitigation. ***FY 2025 Plans:*** On-going assessment of alternative processes, technologies, and materials to mitigate single source and no source of supply for affected JPEO Armaments and Ammunition end-items and end-item components. Effort will complete titanium dioxide SPF mitigation. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Decrease in funding to align resources to increased effort associated with Life Cycle Cost Refinement within this project.	0.864	1.980	1.868
Title: Manufacturing Technology for Industrial Base Transformation ***Description:*** This thrust area matures ammunition manufacturing technologies, processes to enhance manufacturing, security capabilities of legacy armaments and ammunition manufacturing operations. This thrust area will integrate the framework for digital manufacturing and engineering concepts to pilot and transition processes to affected industrial base for armaments and ammunition production operations. ***FY 2024 Plans:*** Continue supporting the Army's vision for transformational change across the ammunition industrial base to ensure modernized manufacturing methodologies, processes, and equipment. Design and prove-out improved artillery load, assemble and pack	3.392	2.444	2.324

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 859 / *Life Cycle Pilot Process*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
operations and influence design considerations to production facilities. Investigations of robotic and automated manufacturing technologies, investigate manufacturing methodologies to reduce/transform energetic waste, provide safer manufacturing operations and improve manufacturing efficiencies for armaments and ammunition production operations. ***FY 2025 Plans:*** On-going evaluation of transformational manufacturing technology across the Army's industrial base enterprise. Continue to develop, design and prove-out improved artillery load, assemble and pack operations and influence design considerations to production facilities. Evaluate and asses printed ammunition manufacturing. Effort will continue to evaluate waste and energy technology solutions for the Ammunition Industrial Base as well as complete artillery body flow forming assessment. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Decrease in funding to align resources to increased effort associated with Life Cycle Cost Refinement within this project.			
Accomplishments/Planned Programs Subtotals	5.585	5.838	5.873

	FY 2023	FY 2024
Congressional Add: Program increase - Foamable Celluloid Materials ***FY 2023 Accomplishments:*** Optimize foamable celluloid formulations and processing conditions for specific end-item characteristics, including burn rate and mechanical strength. Optimized material shall support test and evaluation activities	5.000	-
Congressional Add: Program increase - Neutron Radiography ***FY 2023 Accomplishments:*** Continuing non-destructive imaging techniques using high-energy neutron radiography. Enable neutron radiography imaging technology to improve quality, warfighter safety and lethality for artillery.	5.000	-
Congressional Add: Program increase- Additive Manufactiong for High Temperature Alloys ***FY 2023 Accomplishments:*** Modernization of advanced munition systems while enhancing lethality, range, and readiness. Sustain flexible agile manufacturing processes and technologies for Next Generation Armaments. Expand the ability to produce munitions on agile production line(s) that can switch between families of munitions and can be assessed for implementation in ammunition plants.	8.000	-
Congressional Adds Subtotals	18.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** 859 / *Life Cycle Pilot Process*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) F21 / *NATO Ammo Evaluation*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
F21: *NATO Ammo Evaluation*	-	0.738	0.772	0.774	-	0.774	0.775	0.783	0.792	0.800	0.000	5.434
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

North Atlantic Treaty Organization (NATO) Ammunition Evaluation program funding ensures interchangeability of ammunition and weapons among all the NATO countries with all of the associated logistic, strategic and tactical advantages of the alliance. This Project involves development and testing compliance of NATO standardization agreements (STANAGS) and staffing of the North American Regional Test Center (NARTC). In addition, this Project supports small caliber ammunition, 50mm ammunition, 40mm grenade munitions, medium caliber cannon ammunition, and large caliber ammunition enhancements to lethality, effectiveness, survivability, accuracy, and general product improvements. This Project also supports the standardization and interchangeability of legacy and new production United States (US) weapons and ammunition with Allied Nations to maximize battlefield interchangeability/ compatibility under the auspices of international agreements to include NATO working groups, the Joint Ballistics Memorandum of Understanding (JBMOU), and information/ data exchange agreements. Maximizing standardization, interchangeability, and exportability will also potentially increase Foreign Military Sales (FMS) of US indirect fire weapon and munition products to support United States industrial base production and affordable Department of Defense pricing through increased economies of scale. Fiscal Year 2025 funding will support NATO and JBMOU artillery and small arms ammunition interchangeability group meetings, documentation, and test operations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: New Ammo Design Qualification & NATO Mission Support	0.310	0.326	0.327
Description: This activity ensures complete interchangeability of small caliber, automated cannon-caliber, 40mm grenade ammunition, air burst capable 30mm/40mm ammunition, 50mm ammunition, large caliber ammunition and weapons among NATO countries to achieve the associated logistic, strategic and tactical advantages. ***FY 2024 Plans:*** Will continue work to support NATO small arms ammunition, direct fire grenade, and large caliber interchangeability group meetings, documentation and test operations. ***FY 2025 Plans:*** Will continue work to support NATO small arms ammunition, direct fire grenade, and large caliber interchangeability group meetings, documentation and test operations to enable interoperability among our allies. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase in funding in order to meet NATO ammunition standardization objectives.			
Title: Joint Ballistics Program Support	0.428	0.446	0.447

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F21 / *NATO Ammo Evaluation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Description: The activity supports the maturation, validation, and risk reduction of battlefield interoperability/interchangeability/ compatibility of technical data and associated enabling technologies between domestic US and NATO/Allied Nations indirect fires weapons and munitions. ***FY 2024 Plans:*** FY 2024 funding will continue to support NATO and JBMOU artillery documentation, interoperability testing and interchangeability group meetings. ***FY 2025 Plans:*** FY 2025 funding will continue to Support NATO and JBMOU artillery documentation, interoperability testing and interchangeability group meetings. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase in funding in order to meet Joint Ballistic Program objectives.			
Accomplishments/Planned Programs Subtotals	0.738	0.772	0.774

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	Project (Number/Name) F24 / *Conventional Munitions Demil*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
F24: *Conventional Munitions Demil*	-	13.972	23.854	23.604	-	23.604	21.783	17.834	18.029	18.209	0.000	137.285
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Conventional Munitions Demilitarization Technology Project supports the Single Manager for Conventional Ammunition (SMCA) responsibility per Department of Defense Instruction (DoDI) 5160.68 to plan, program, budget and fund a Joint Service research and development program that develops capability and capacity as well as technology and facilities to support the SMCA mission to demilitarize and dispose of conventional ammunition stored in the SMCA Resource, Recovery and Disposition Account (B5A). Project goals include SMCA efforts to increase efficiencies and effectiveness to reduce the demil stockpile; reduce processing costs including packaging, handling and crating; and increase capacity through improved demil capabilities and processes. Project F24 includes several activities: (1) to establish requirements and develop processes to focus investments, assess capabilities, analyze alternatives, and recommend and implement RDT&E projects; (2) to improve products and processes that support existing capabilities; (3) to develop or improve demil methods and processes related to advance the primary demilitarization core thrust areas of destruction, disassembly, removal, resource recovery and recycling, and waste stream treatment; (4) to ensure safe and environmentally acceptable demil operations; (5) to transition RDT&E products to United States Army depots or plants as well as commercial facilities performing demil; and (6) to mitigate risk and close-out Project activities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Advanced Destruction	4.068	4.266	4.319
Description: This effort focuses on developing capabilities and capacities for the destruction of obsolete and or unsafe munitions. ***FY 2024 Plans:*** Transition the Honest John Warhead demil capability to a CONUS Depot. Complete hardware improvements to reduce hazardous air pollutants generated in the demil capability for the 155mm projectile Family of Scatterable Mines (FASCAM) at the Munitions Cryofracture Disposal Facility (MCDF) and initiate final compliance testing. ***FY 2025 Plans:*** Transition the Honest John Warhead demil capability to a CONUS Depot including hardware, training package, standard operating procedure, and technical osculation. Complete hardware improvements to reduce hazardous air pollutants generated in the demil capability for the 155mm projectile Family of Scatterable Mines (FASCAM) at the Munitions Cryofracture Disposal Facility (MCDF) and initiate final compliance testing. Deliverables include improved thermal treatment components and technical documentation. ***FY 2024 to FY 2025 Increase/Decrease Statement:***			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Increase to program due to efforts in hardware improvements to reduce hazardous air pollutants generated in the demil capability for the 155mm projectile Family of Scatterable Mines (FASCAM) at the Munitions Cryofracture Disposal Facility (MCDF).			
Title: Resource Recovery and Recycling (R3) ***Description:*** This effort focuses on enhancing existing methods of munitions R3, which will maximize sale of residual materials. Proceeds of R3 sales are reinvested in the Army Demilitarization mission to reduce the B5A stockpile. ***FY 2024 Plans:*** Complete Operational Demonstration of the Automated Scrap Inspection (ASI) capability at Tooele Army Depot (TEAD). Conduct operation demonstration of the size reduction of rocket motor grains capability. Initiate Hardware Design of a Plastic Shotgun Cartridge Demil Capability. ***FY 2025 Plans:*** Complete Operational Demonstration of the Automated Scrap Inspection (ASI) capability at Tooele Army Depot (TEAD). Deliverables include hardware and documentation Conduct operational demonstration of the size reduction of rocket motor grains capability. Deliverables include hardware, standard operating procedure (SOP), and test report. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase supports deliverable documentation for the Automated Scrap Inspection (ASI) capability at Tooele Army Depot (TEAD) and size reduction of rocket motor grains capability.	3.137	3.993	4.042
Title: Advanced Removal ***Description:*** This effort focuses on technology to remove propellant and energetics from munitions to allow closed disposal thermal treatment. ***FY 2024 Plans:*** Transition the D505 capability at McAlester Army Ammunition Plant. Transition a capability to demil 2.75" Rocket Motors. ***FY 2025 Plans:*** Planned activities include advancing the Artillery Projectile Smoke Canister Demil process. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase in funding and program expansion is a direct outcome of intensified efforts to establish the capability for Demilitarizing Artillery Projectile Smoke Canisters.	0.929	1.658	1.684
Title: Advanced Waste Stream Treatment	0.586	1.880	1.910

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Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F24 / *Conventional Munitions Demil*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Description: This effort focuses on handling waste streams from munitions items to continue environmentally compliant closed disposal treatment. ***FY 2024 Plans:*** Planned initiatives include sub-scale testing of munitions containing Per- and poly-Fluoro Akyl Substances (PFAS/PFOS). These substances are persistent contaminants with toxic properties. PFAS polymers are commonly used in plastic bonded explosives (PBX), flares, O-rings, lubricants, and other components that need to withstand high heat. This project addresses potential pollutants from emittance during demil operations. Complete Final report on Air Emissions Sampling of Open Detonations and Provide Updated Emissions factors. ***FY 2025 Plans:*** Planned activities include conducting close disposal strategic planning for demil depots. Deliverable is draft plan to emplace close disposal capabilities at Demil depots to replace open burning and open detonation processes. Implementation of plan is contingent upon funding to setup multiple demil facilities. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase in additional funds and expansion of the program are a result of heightened efforts in developing strategic planning documents for implementing alternative technologies aimed at executing the environmentally compliant close disposal of munitions			
Title: Advanced Munitions Disassembly ***Description:*** This effort focuses on developing innovative and efficient processes to disassemble munitions. ***FY 2024 Plans:*** Complete operational demonstration of the Flechette demil and disposal capability. Complete hardware installation of the L525 Smoke and Illumination Signal Demil capability. The F24 Project will initiate design and fabrication of Anti Personnel Landmine download lines for GATOR Cluster Bomb Units (CBU) and 155mm Area Denial Artillery Munitions (ADAM) projectiles. ***FY 2025 Plans:*** Complete design and installation of the Flechette demil and disposal capability. Conduct operational demonstration of the L525 Smoke and Illumination Signal Demil capability. The F24 Project will complete installation and conduct operational testing of Anti-Personnel Landmine download lines for GATOR Cluster Bomb Units (CBU) and 155mm Area Denial Artillery Munitions (ADAM) projectiles. Deliverables include capability hardware, technical documentation, and SOPs. ***FY 2024 to FY 2025 Increase/Decrease Statement:***	5.252	12.057	11.649

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605805A / *Munitions Standardization, Effectiveness and Safety*	**Project (Number/Name)** F24 / *Conventional Munitions Demil*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Decrease in funding is due to the lower costs of anticipated closing activities for the 155mm Area Denial Artillery Munitions (ADAM) projectiles capability development.			
Accomplishments/Planned Programs Subtotals	13.972	23.854	23.604

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A