



Ammunition Demilitarization Research Development Technology and Engineering Program Update

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Agenda



- Program Purpose/Goals
- Program Refinement
 - Project Selection
 - Project Planning and Execution
 - Transition
- Focus Areas
- Consideration
- Opportunities
- Summary



Bottom Line Up Front (BLUF)

- PM Demil manages a 6.6 funded RDT&E Technology Program which supports the execution of Conventional Ammunition Demil (CAD) and Missile Demil
- Demil Enterprise is committed to reducing the Demil Stockpile
- Demil Enterprise is targeting analytically supported investments to expand and improve demil capabilities
- Collaborating with Demil Strategic Execution Planning (DSEP) team to focus efforts on the Top 400 stockpile items

RDTE investments will support Enterprise Strategic Planning initiatives

Demil Technology Program Purpose



- Under DoD 5160.68, Program Executive Officer, Ammunition, as the Single Item Manager, delegated PM-Demil to “Demilitarize and dispose of all conventional ammunition, including non-SMCA-managed items, for which capability, technology, and facilities exist to complete demilitarization and disposal.”
- In support of the delegated responsibility, the Demil enterprise shall “**Plan, program, budget and fund a joint-Service research and development program for developing the capacity where capability, technology and facilities do not exist**”.

RDTE Program to support demil and disposal of conventional ammo and missiles

Demil Technology Program Goals



ADAM Projectile Download Capability



MLRS Grenade Demil Capability

- Develop, plan and execute technology projects in support of CAD and Missile Demil execution
- Transition mature technology projects to production capabilities supporting Enterprise execution goals
- Continuously improve the efficiency and effectiveness of capabilities in the Demil Enterprise

Develop and improve production capabilities and capacity for CAD and Missile Demil

Program Refinement

Solution Analysis and Project Selection



- DSEP Requirement verified
 - Utilize Stockpile Analysis (Top 400 items)
 - Complete Analysis of Alternatives
 - Organic vs. Commercial Industrial Base
 - New vs. Improvements to existing hardware or processes
 - Development of omnivorous capabilities are encouraged
 - “Make/Buy” Decision
- Individual technologies are required to be adequately mature (prior to capability integration)
 - Projects are required to have production merit – no applied research or “science projects”
 - Technology Readiness Level (TRL) – 6 and above
 - Manufacturing Readiness Level (MRL) – 4 and above



No “Science Projects”

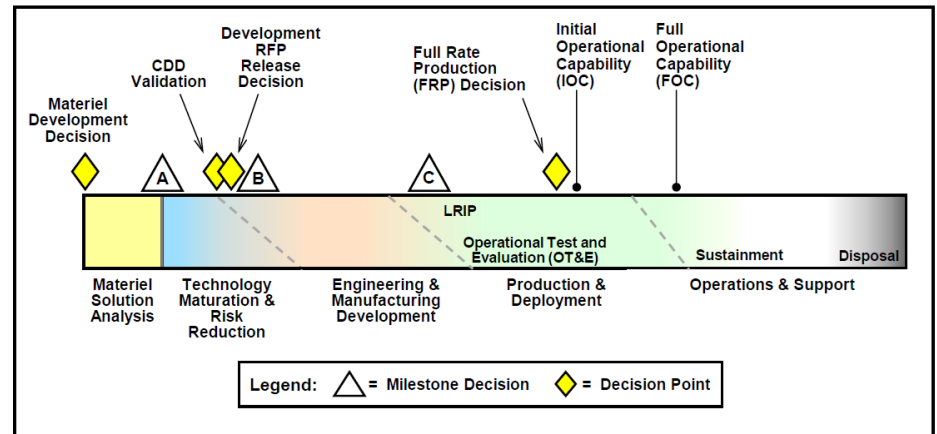
Projects must be requirement driven and adequately mature

Program Refinement

Project Planning and Execution



- Stakeholder requirements defined up front and subsequent project plan developed
 - Demil Project Baseline Agreement
- Project Plans must be comprehensive – cradle to grave
 - 3 – 5 year Transition target
 - Acquisition Strategy
 - Affordability
 - Integrated Master Schedule
 - Systems Engineering
 - Life Cycle Logistics
 - Transition
 - Operations and Sustainment
- Systems Engineering Processes to consider
 - Requirements Management
 - Risk Management
 - Configuration Management
- Systems Engineering Activities to consider
 - Preliminary and Critical Design Reviews
 - Test Readiness Reviews
 - Integrated Test and Evaluation
 - System Verification Review
 - Demonstration Validation (Initial Operational Testing)
 - Operational Demonstration (Operational Test & Evaluation)



Generic Acquisition Model

Align mature RDTE projects with Defense Acquisition Management System

Program Refinement Project Transition



- Transition is defined as the point at which a RDTE technology project is complete and the capability is in place
 - Design is stable
 - System meets requirements and demonstrated via operational test
 - Technical Data Package and Operation and Sustainment processes in place
- Transition planning should be addressed as part of the project plan
- Transition activities should be conducted throughout the life of the project
- Capability Transition should be coordinated with the Execution Team across the Enterprise
- Several projects are to be transitioned in the near term
 - McAlester Cryo-Fracture Destruction Facility (MCDF)
 - LEMC AP Rocket Motor Propellant Destruction
 - CBU-87 Demil Capability

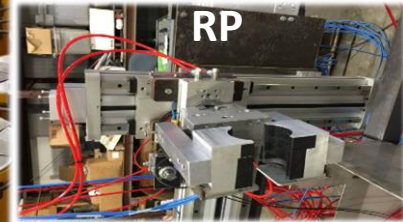
Transition activities need to be initiated earlier in the project life cycle



Demilitarization RDTE Projects



PROJECT	LOCATION	PURPOSE	END ITEM IMPACTED
Ammonium Perchlorate (AP) Motor Thermal Processing	LEMC	Closed Disposal, thermal destruction of AP-Based Rocket Motors	Cluster Munitions & Rocket Motors
Munitions Cryofracture Demilitarization Facility (MCDF)	MCAAP	Download, Cryogenic Freezing of Mines, Size Reduction, Thermal Treatment and waste disposal	Non-Persistent, AP Landmines
Demil by Induction Heating Meltout System (DIHMES)	HWAD	Closed Disposal Capability via Inductive Heating	60mm Mortars
CBU-87 Download and Disposal	HWAD	Provide complete capability to demil CBU-87 munitions and BLU-97 submunitions	Cluster Munitions
Red Phosphorous (RP) Closed Disposal Capability	CAAA	Capability to remove grenade RP fill and process in Phosphoric Acid Recovery Plant (APE 1400)	Red Phosphorous Munitions

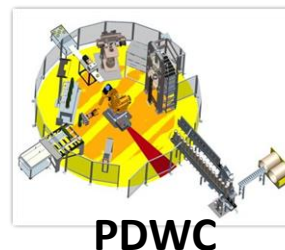




Demil Technology Activity

- Focus: Destructive / Disassembly / R3 / Removal / Waste Stream processes

Prior Year	Now – FY17	On the Horizon
<ul style="list-style-type: none"> ➤ M42/M46/M77 ICM R3 (HWAD) ➤ Flexible Munitions Residue Inspection System (FMRIS) (HWAD) ➤ Projectile Download Work Cell (PDWC) (MCAAP) ➤ High Pressure Water Washout (HPWWO) (HWAD) ➤ Rotary Kiln Incinerator Productivity Improvement (RKPI) (Non Site) ➤ IMX 101 Autoclave Improvements (Non Site) 	<ul style="list-style-type: none"> ➤ Munitions Cryofracture Demilitarization Facility (MCDF) (MCAAP) ➤ Demil by Induction Heating Meltout (HWAD) ➤ CBU-87 Download & OD (HWAD) ➤ Bullpup Closed Disposal (ANMC) ➤ RP Closed Disposal (CAAA) ➤ Static Detonation Chamber Testing (ANMC) ➤ Castalia Assessment (Non Site) 	<ul style="list-style-type: none"> ➤ AP Motor Destruction Facility (LEMC) ➤ MLRS Missile Recycling Center (ANMC) ➤ NAVY 16" Projectile Washout Capability (CAAA) ➤ Rockeye Download/Demil Capability (CAAA) ➤ Reactive Armor Tile Demil (MCAAP) ➤ Engine Starter Cartridge Stands (MCAAP)



Opportunities Process and Efficiency Improvements



- Cluster Munitions Demil
 - DPICM
 - CBU
 - MLRS
- FASCAM Munitions
 - ADAM
 - Gator
 - RAAM
- Partnering Necessary to Implement



Requirements will be developed in cooperation with DSEP Team – Focused on Top 400 stockpile reduction!



Summary

➤ Focus

- More mature projects
- Comprehensive projects
- RDTE ends when transition is successfully completed
- Quick transition

➤ The Enterprise is Committed to reducing the Demil Stockpile

- Adding capability and increasing execution efficiencies are our supporting goals
- Commercial technologies funded in initial production