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Program Executive Office
Assembled Chemical Weapons Alternatives

# Pueblo Chemical Agent-Destruction Pilot Plant Explosive Destruction System: Resumption of Chemical Weapons Destruction 4 June 2015

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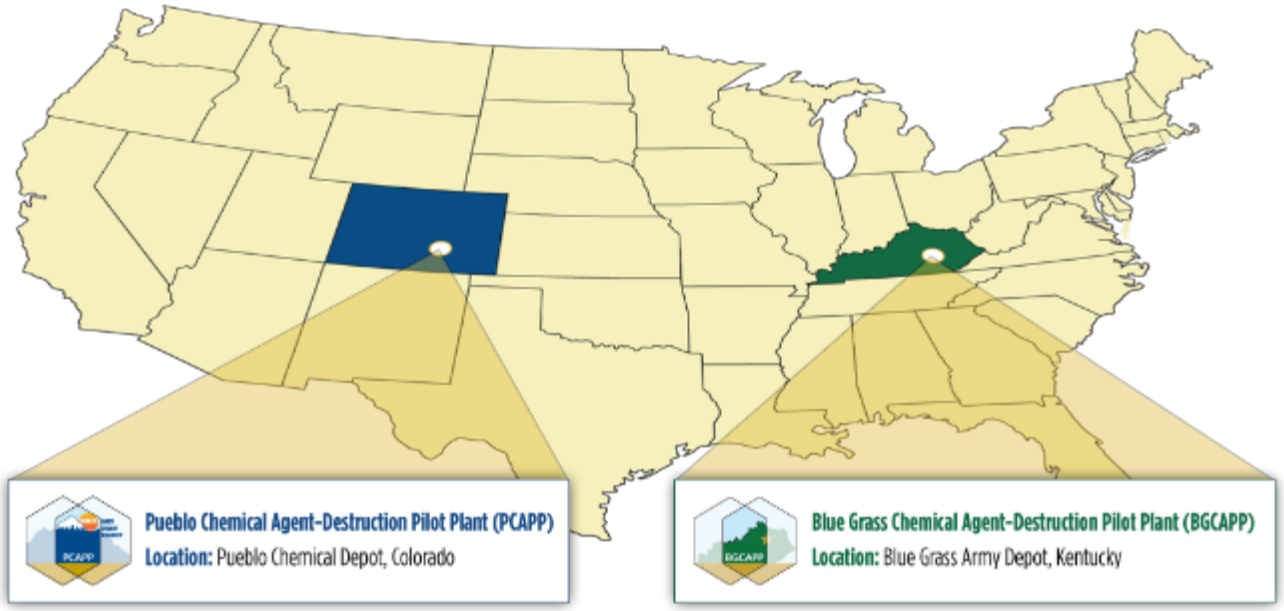
# Agenda



- Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) Explosive Destruction System (EDS) Overview
- Development and Progress of the Mission
- Operational Status



# Pueblo Chemical Agent-Destruction Pilot Plant Explosive Destruction System– Resumption of Chemical Weapons Destruction

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- Mission: To destroy stored overpacked mustard munitions and Department of Transportation (DOT) cylinders as well as rejects, leakers and contaminated bursters from operations in a safe and efficient manner - protective of human health (workers and residents) and the environment

*PCAPP EDS inside Environmental Enclosure*

# Technology Selection



- Initial quantity of chemical munitions processed through an Explosive Destruction Technology (EDT) estimated at approximately 1,000 overpacks, 12,000 rejects and 425,000 energetic components
- Demonstration of Linear Projectile Mortar Disassembly at Anniston resulted in revision downward to the current 560 overpacks plus approximately 800 rejects and leakers
- The approximate 425,000 energetic components could be processed through an on-site EDT or an off-site facility
- The Explosive Destruction System became the most effective alternative EDT for the Pueblo Chemical Agent-Destruction Pilot Plant

# Explosive Destruction System: How it Works

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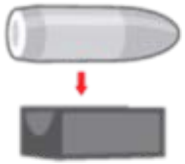
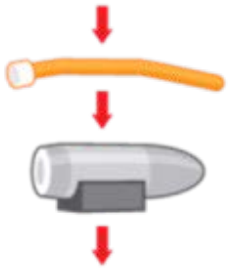


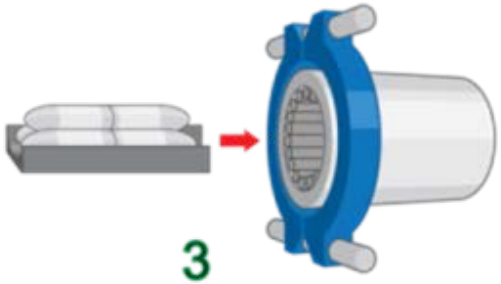
1

Operators place the item in the munition holder.



2

Linear-shaped charges are attached along the munition body and the item is placed in the munition holder (up to 6 pack).



3

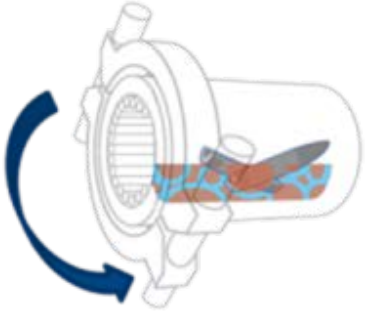
Operators slide the munition holder into the vessel.

4

The vessel is closed and sealed.

5

Operators remotely detonate the linear shaped charges to access the munition body and destroy explosives.



6

Once neutralization chemicals are added, the vessel is heated with steam and rotated to mix the contents. A liquid sample is collected to verify treatment goal (less than 1,000 ppm) has been met prior to draining.

7

Next water rinse is added, steam heated, rotated, and drained. An air sample is collected to verify treatment goal has been met prior to opening door and removing scrap metal.

# Increased Phase Two Retrofit Processing Capacity



- Increased net explosive weight rating demonstrated for Explosive Destruction System unit used for processing munitions at the Pueblo Chemical Agent-Destruction Pilot Plant allowed for multiple items to be processed in the same operation
- Larger pump and hose for quick transfer of liquids
- New three-piece clamp and closure system
- Automated closing system
- Faster opening and closing time
- Steam heating system for the hot water decontamination reduced operations to one day

# Pueblo Chemical Agent-Destruction Pilot Plant Explosive Destruction System Progress

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*Operators ready six 105mm projectiles for destruction*

# Pueblo Chemical Agent-Destruction Pilot Plant Explosive Destruction System Site Layout

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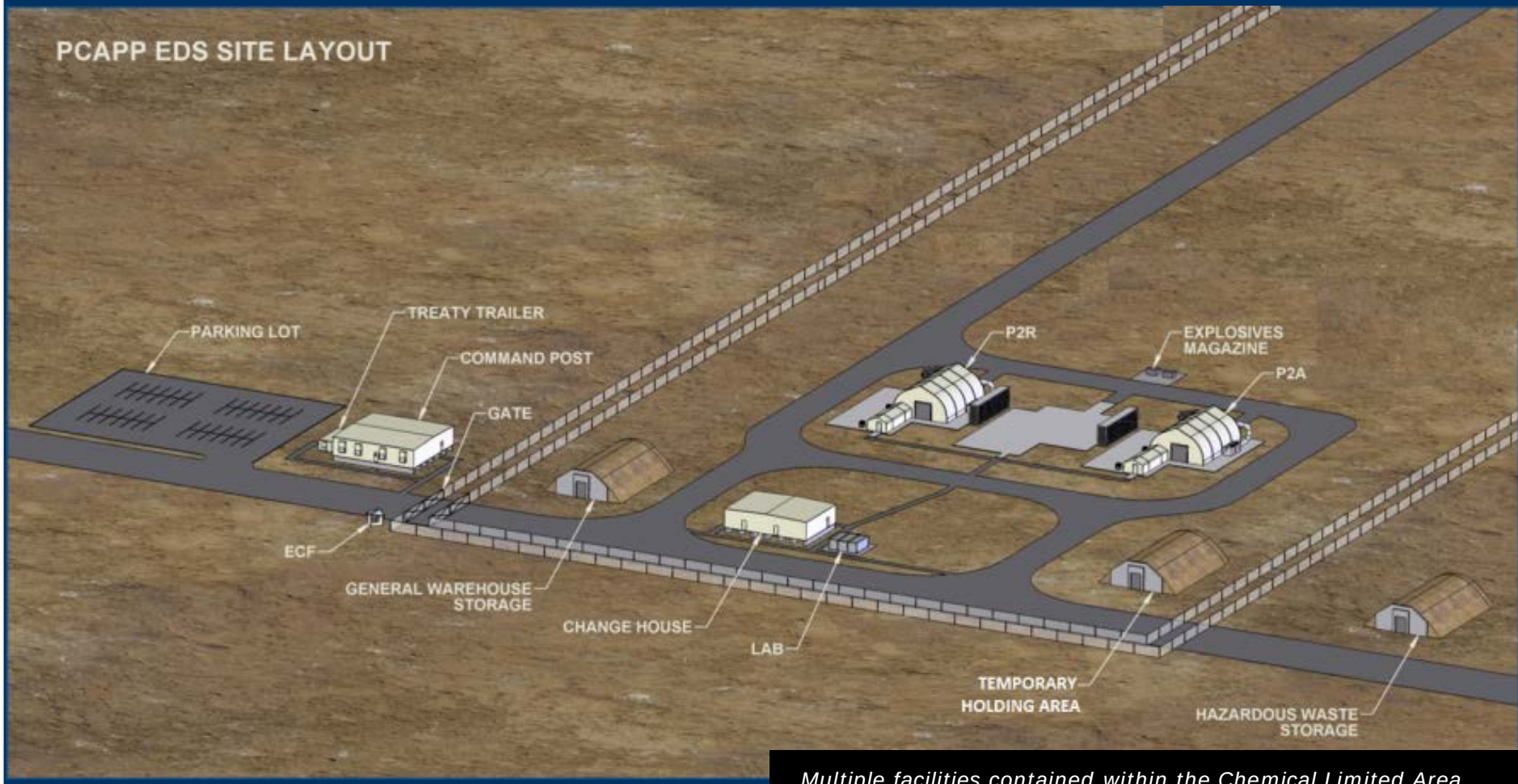


*Multiple facilities contained within the Chemical Limited Area*

# Explosive Destruction System: A Proven History of Success

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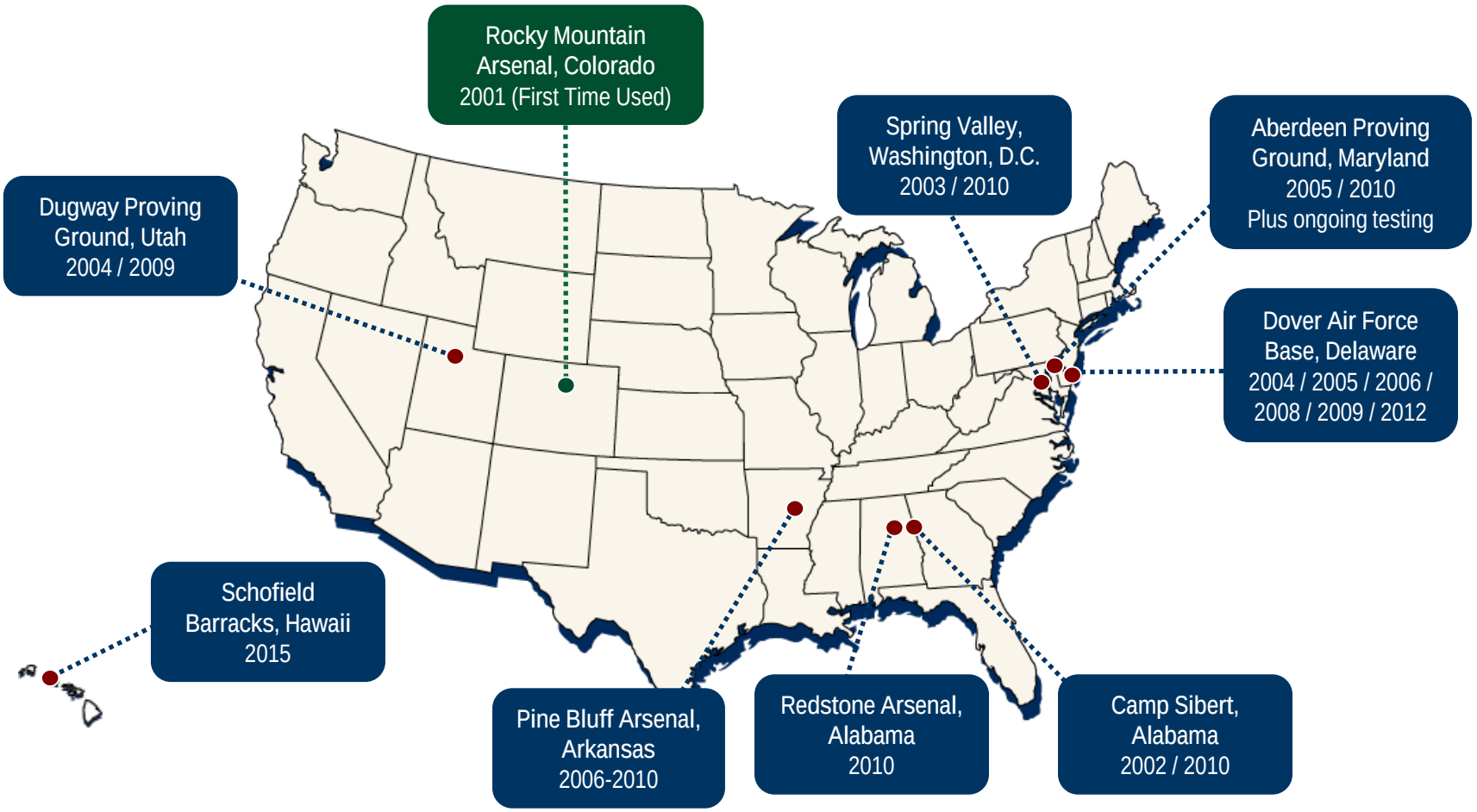
- Nearly 2,000 chemical items destroyed at locations around the Nation



# Public and Regulatory Agency Acceptance

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- Public – Explosive Destruction System (EDS) capacity appropriate for the expected quantity of overpacks, leakers, rejects, and contaminated energetics
- Regulatory Agency – EDS capable of starting operations ahead of the main plant


*Start of Agent Operations Outreach Event*

# PCAPP EDS Operational Status

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- Planning System Availability – 60%
- Actual System Availability – through 15 May 2015 – 71% (29/41)
- Availability detractors
  - Wind direction Limiting Condition of Operation, or LCO: Minus 1 day
  - Nut runner assembly: Minus 4 days
  - Bleach decontamination of scrap: Minus 3 days
  - Re-treatment: Minus 3 days
  - Pinched detonation wires: Minus 1 day
- Accomplishments
  - 10 of mustard agent-filled DOT cylinders (HD and HT) destroyed
  - 105 of 105mm projectiles HD destroyed
  - Demonstrated destruction of both HD and HT
  - Demonstrated destruction of first 6-pack of 105mm HD projectiles
  - No reportable injuries
  - Construction Safety Statistics – 300 total days and 34,780 total work hours
  - Proven environmental compliance throughout

# Partners in Success

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**JPM-E (P)**–Joint Project Manager Elimination (Provisional)
**CMA / RCMD**–Chemical Materials Activity/Recovered Chemical Materiel Directorate
**PCD**–Pueblo Chemical Depot
**ECBC**–Edgewood Chemical Biological Center
**TVA**–Tennessee Valley Authority

# Questions?

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