



Pueblo Chemical Agent-Destruction Pilot Plant

Monthly Status Briefing

December 2011



PCAPP

Pueblo Chemical Agent-Destruction Pilot Plant

A PARTNERSHIP FOR SAFE CHEMICAL WEAPONS DESTRUCTION

Project Background

- The Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) will safely destroy 2,611 tons of mustard agent in mortar rounds and artillery projectiles stored at the U.S. Army Pueblo Chemical Depot (PCD).
- Neutralization followed by biotreatment is the technology selected by the Department of Defense to destroy the Pueblo chemical weapons stockpile.
- The Program Manager, Assembled Chemical Weapons Alternatives (ACWA), headquartered at Aberdeen Proving Ground, Maryland, is responsible for managing all aspects of the safe and environmentally sound destruction of the chemical weapons stockpiles in Colorado and Kentucky.
- The Bechtel Pueblo Team (BPT) is a partnership of Bechtel National, Inc., URS, Parsons, and Battelle Memorial Institute. The BPT functions as the systems contractor selected to design, build, systemize, pilot test, operate, and close the PCAPP.



Bechtel Pueblo Team

Systems Contractor

- Project management
- Business services
- Safety and quality



- Design/engineering
- Procurement/subcontracting
- Construction

Teaming Subcontractors



- Systemization
- Pilot testing
- Operations
- Closure



- Process design
- Process equipment fabrication
- Support to systemization and operations



- Environmental permitting and compliance
- Laboratory management
- Pilot testing

Staffing

- Bechtel Pueblo Team non-manual: **584**
 - Pueblo: 577 (166 local hires)
 - Other locations: 7
- Construction Workers: **706**
 - Bechtel direct-hire craft workers: 540
 - Subcontractor personnel: 166



Employment Opportunities

Hotline

(719)549-4003

Website

<http://pueblo.bechtel.com>



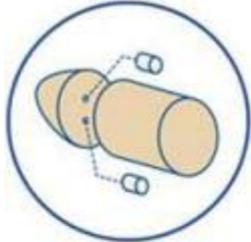
As of November 2011,
PCAPP Project staff accomplished:

- 273 Safe Work Days
- 1,741,454 Safe Work Hours



Destruction Technology

Step 1



REMOVAL OF ENERGETICS

Robotic equipment removes energetics (explosives) from the weapon. The energetics will be disposed of at a permitted facility off site.

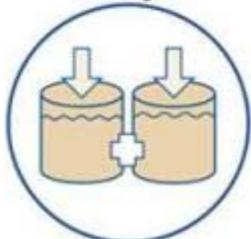
Step 2



REMOVAL OF MUSTARD AGENT

The inside of the weapon is remotely accessed, and mustard agent is washed out with high-pressure water.

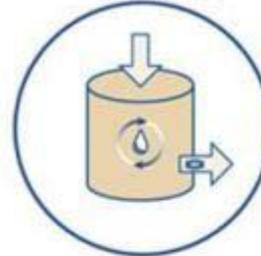
Step 3



NEUTRALIZATION OF MUSTARD AGENT

The mustard agent is neutralized with caustic solution and hot water. The byproduct is called hydrolysate.

Step 4



BIOTREATMENT

The hydrolysate is treated with microbes that break down the solution into water and biosludge. Water is recycled in the plant, and biosludge is shipped for disposal at a permitted facility.

Step 5

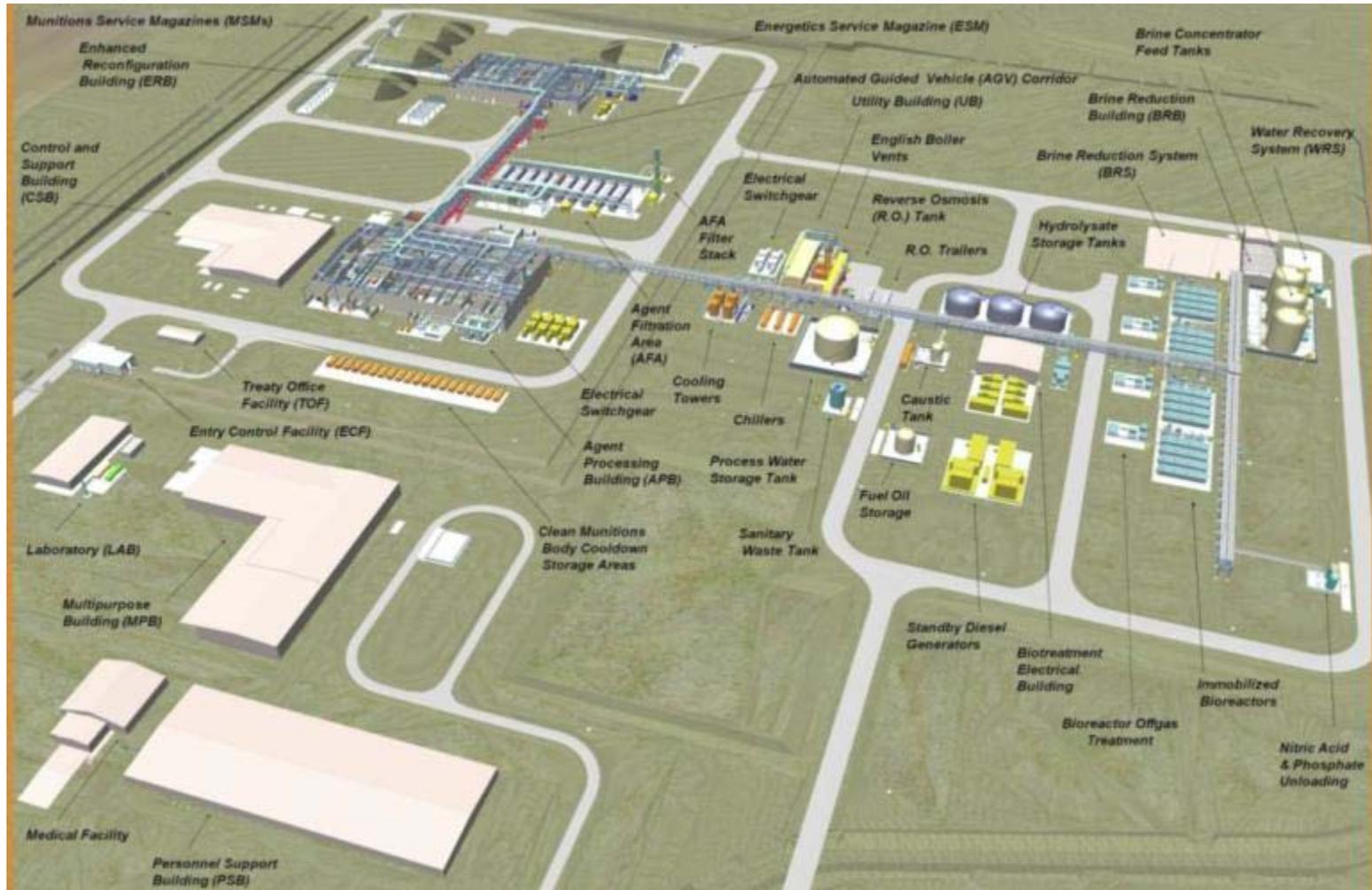


DISPOSAL OF METAL PARTS

Metal parts are heated to 1,000 degrees Fahrenheit for 15 minutes and can then be recycled.

Neutralization followed by biotreatment will be used to destroy the Colorado chemical weapons stockpile.

Pueblo Chemical Agent-Destruction Pilot Plant—Site Plan



PCAPP Site Overview



Northwestern Corner - Observation Point

- | | | | |
|----------|--|----------|--|
| 1 | Enhanced Reconfiguration Building | 5 | Agent Filtration Area |
| 2 | Automated Guided Vehicle Corridor | 6 | Munitions Service Magazine |
| 3 | Agent Processing Building | 7 | Control and Support Building |
| 4 | Biotreatment Area | 8 | Munitions Service Magazine corridor |

Construction Status – In Progress

- **Enhanced Reconfiguration Building**— electrical conduit, cable & wire pulling, equipment setting at 85% complete. Electrical terminations are scheduled to be complete in December to support system and facility turnover milestones.
- **Agent Processing Building**— electrical conduit, cable and wire pulling, process piping, electrical and mechanical equipment setting at 85% complete.
- **Balance of Facilities**—cable raceway, underground duct banks, pipe rack piping and supports, various mechanical equipment setting at 93% complete.
- **Control and Support Building**— Facility turnover to systemization and beneficial occupancy commissioning activities are scheduled to complete end of December.
- **Medical Facility**— Facility turnover to systemization is complete. Final commissioning for beneficial occupancy is scheduled for end of December.
- **Brine Reduction System**—platform steel, tank/vessels placement and insulation is complete. Installing vendor-supplied piping and instrumentation.
- **Immobilized Cell Bioreactors**—electrical and piping bulk installation at 86% complete. Initial start on poly urea specialty coatings.
- **Filter Press Building**— building exterior at 50% complete; installing mechanical, electrical and piping commodities.



As the project transitions from construction to systemization, the following systems have been turned over to the start-up group to begin the systemization process:

- Utility Building 480V Substation
- Agent Processing Building (APB) 480V substation
- APB essential motor control center power
- Control and Support Building essential motor control center power
- Agent Filtration Area (AFA) instrument air
- AFA plant air
- Utility Building essential motor control center power
- BTA Essential motor control center
- AFA critical power panels monitoring houses
- Control and Support Building (CSB) Non-Essential power panels
- NETA (International Electrical Testing Association) testing for power calibration
- 13.2 kV Switchgear
- Utility Building Critical power panels
- BTA Critical power panels
- CSB Critical power panels
- APB Critical Power Panels
- BTA 480V Substations



To learn more about Systemization, watch the video at http://www.pmacwa.army.mil/info/video/systemization_yt.html



Systemization (cont.)

- HVAC exhaust filter units 07 thru 16, common ductwork, and stack
- Agent Filtration Area (facility)
- Plant Air System—Enhanced Reconfiguration Building (ERB) Distribution
- Site Water: Existing potable water pumps and tie-ins
- Existing Potable water pumps and tie-ins
- 2 ERB Essential Motor Control Center's (MCC)
- 1 BTA Essential MCC's
- Standby diesel generator 1A
- Standby diesel generator 1B
- ERB 480V Substation
- 2 ERB Critical Power Panels
- CSB Facility Protection Controller
- AFA Facility Protection Controller
- HVAC Hot Water Distribution to APB
- **2 ERB Critical Power Panels***
- **BEB facility protection controller***
- **ERB facility protection controller***
- **APB facility protection controller***
- **APB supply air handlers chilled water**
- **Permanent plant power underground fire water valves**
- **Process water storage tank and pumps, outside rack piping***



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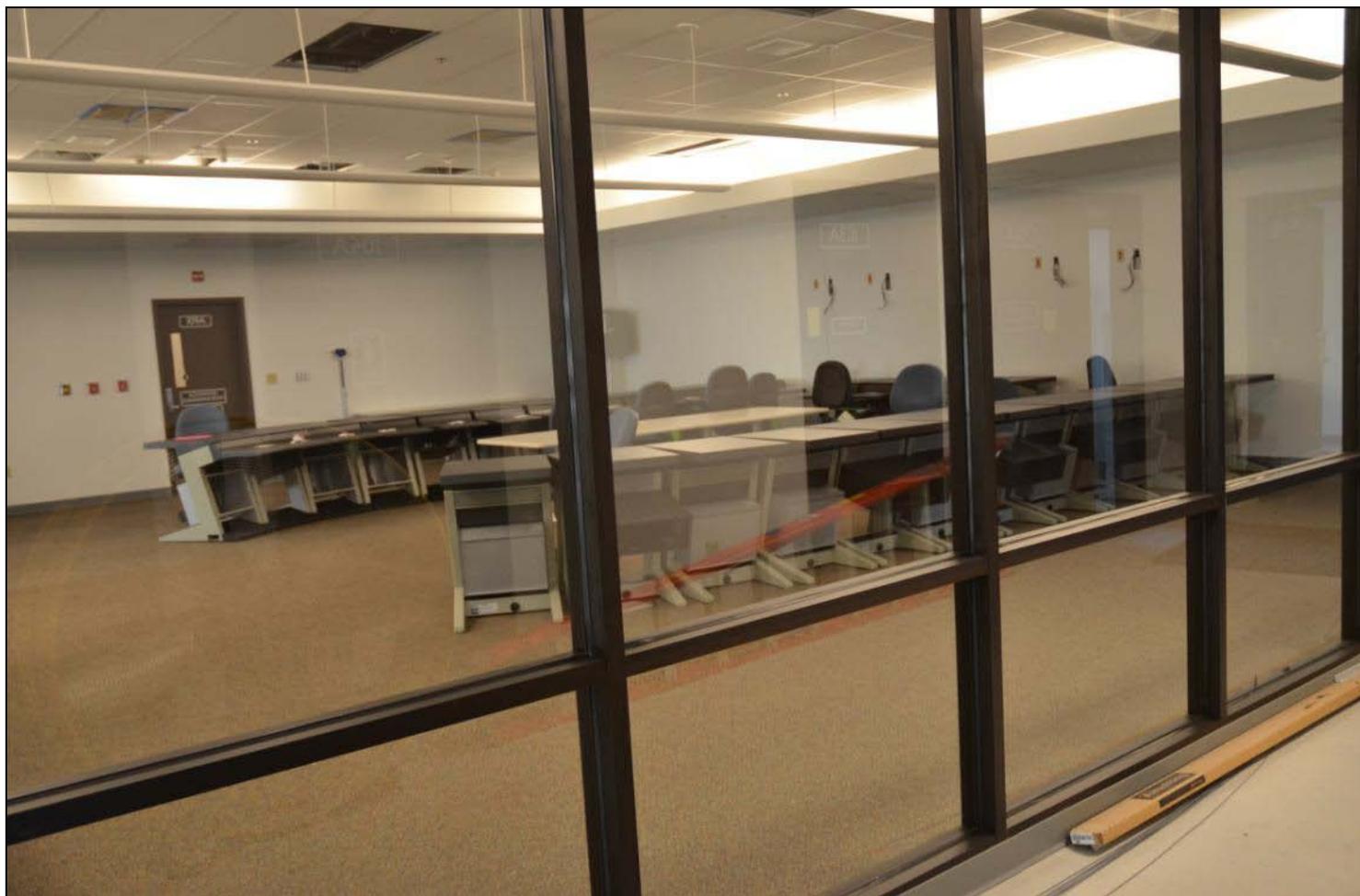
*Newly added

Agent Processing Building



Air Receivers (two big tanks in background) will supply life support air, while the pumps remain covered to avoid dust from collecting.

Control and Support Building



Inside the control room, work-station desks are in place, awaiting computers. Crews will monitor agent-destruction activity in this room.



Biotreatment Area



On a foggy day, the Filter Press Building is being positioned in the Biotreatment Area.

Medical Facility



On the roof of the Medical Facility, workers install lightning protection. In the foreground, a sub-grade grounding system is being installed.

Contact Information



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