



Pueblo Chemical Agent-Destruction Pilot Plant

Monthly Status Briefing

July 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: **571**
 - Pueblo: 561 (166 local hires)
 - Other locations: 10
- Construction Workers: **557**
 - Bechtel direct-hire craft workers: 437
 - Subcontractor personnel: 120



Employment Opportunities

Hotline

(719)549-4003

Website

<http://pueblo.bechtel.com>



As of June 30, 2011,
PCAPP Project staff accomplished:

- 112 Safe Work Days
- 607,325 Safe Work Hours



Subcontract Awards

Inception to date, as of June 30

\$438.8 Million

\$84.7 Million to Pueblo County Businesses (19%)

\$148.4 Million to Colorado Businesses (Outside Pueblo County, 34%)

\$205.7 Million to Businesses Outside Colorado (47%)

□

Pueblo County
Colorado
Outside Colorado



Acquisition Awards Status

Upcoming Opportunities for Requests for Proposals (RFPs):

- The PCAPP Project is approximately 98% complete with procurements for the construction phase
- RFPs will be limited until the project is in the systemization phase

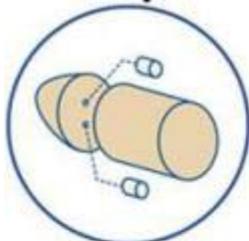
Remaining RFPs for Construction:

- Misc. construction and architectural materials
- Misc. Piping & Valves
- Lab Annex Facility
- Misc. Bulks & Consumables
- Ambulance



Destruction Technology

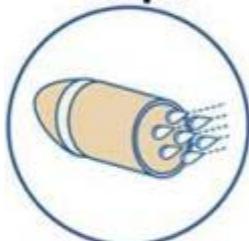
Step 1



REMOVAL OF ENERGETICS

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

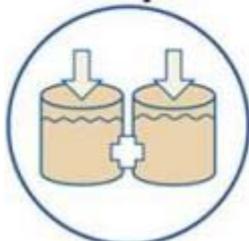
Step 2



REMOVAL OF MUSTARD AGENT

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

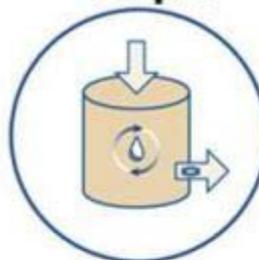
Step 3



NEUTRALIZATION OF MUSTARD AGENT

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

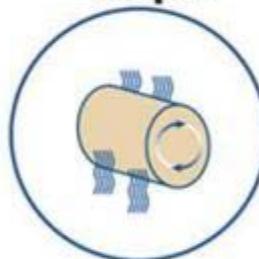
Step 4



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

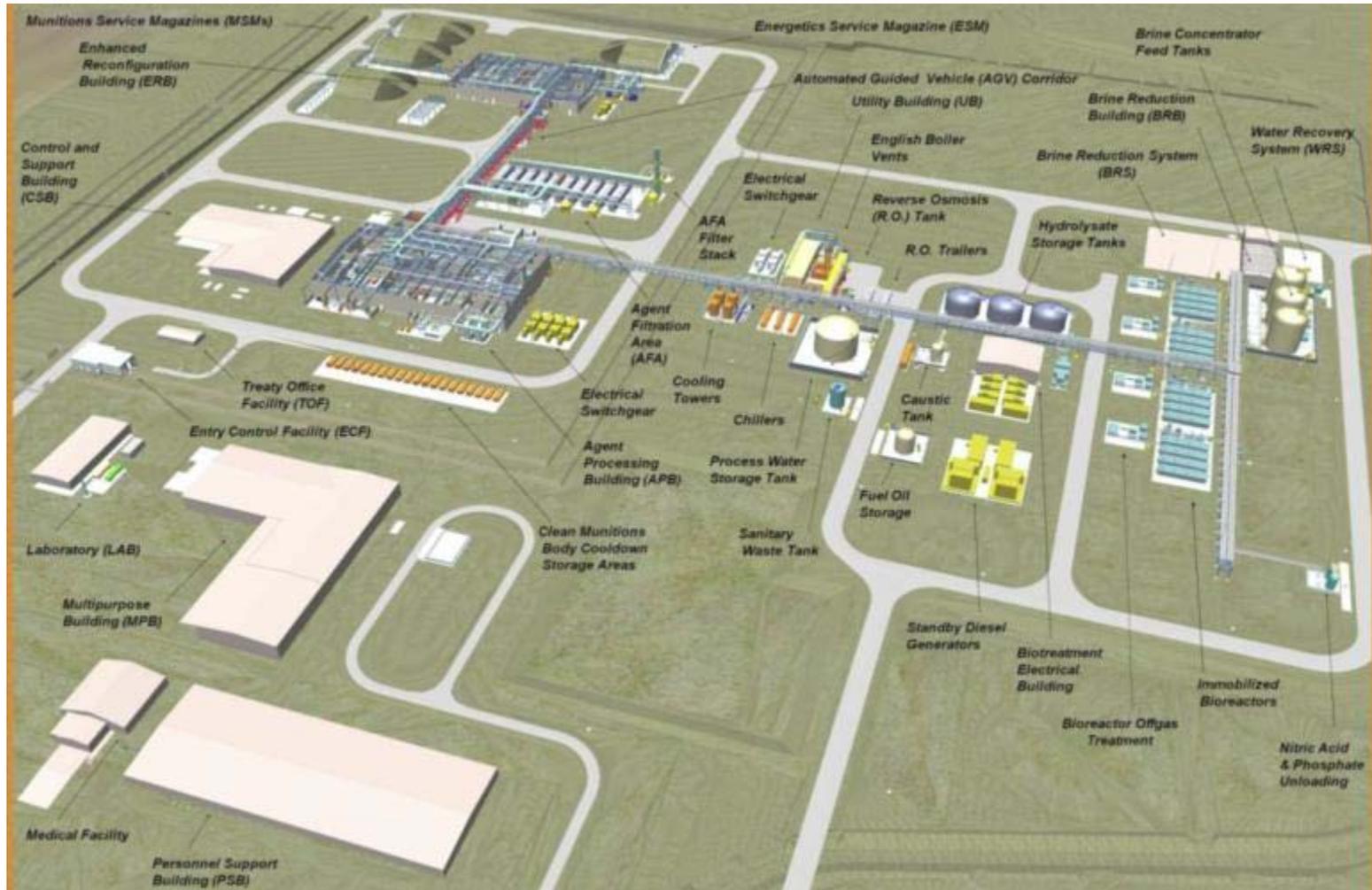


DISPOSAL OF METAL PARTS

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 tray/conduits & equipment set, process piping, mechanical equipment, installation of robotics and conveyors in the explosion containment room
- **Agent Processing Building**—cable tray and wire pulling, process piping, electrical and mechanical equipment
- **Balance of Facilities**—cable tray, underground duct banks, pipe rack piping and supports, various mechanical equipment set, misc. concrete equipment foundations, site grading
- **Control and Support Building**—electrical systems/equipment
- **Biotreatment Electrical Building**—terminations for Facility Control System and uninterrupted Power Supply system
- **Brine Reduction System**—structural steel, tank/vessels setting, piping, electrical
- **Filter Press Building**—foundation excavation, formwork and rebar
- **Immobilized Cell Bioreactors**—setting Immobilized Cell Bioreactors, equipment skids and insulation placement
- **Subcontractors**—HVAC, fire protection, insulators/heat trace, coatings, architectural



Systemization

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
- Site Water—Underground Loop and Above Ground Feeds
- Natural Gas—Underground Header and Above Ground Feeds
- Fire Protection—Underground Loop and Hydrants
- APB Non-Essential motor control center power
- 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 non-essential control center power
- Utility Building essential motor control center power
- Biotreatment Area (BTA) Non-Essential motor control center
- BTA Essential motor control center
- Agent Filtration Area critical power panels monitoring houses



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



Systemization (cont.)



- 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
- Biotreatment Area Critical power panels
- CSB Critical power panels
- Agent Processing Building Critical power panels
- HVAC exhaust filter units 07 thru 16, common ductwork, and stack

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



Brine Reduction System



Construction work continues on the Brine Reduction System (BRS), located in the Biotreatment area. This photo shows vessels and platform steel that make up the BRS.

Agent Processing Building



In the Munitions Washout System located in the Agent Processing Building, a wash water collection tank will collect the water used during the rinsing process.

Enhanced Reconfiguration Building



Workers install rebar for the clean dunnage staging area foundation, which is located west of the Enhanced Reconfiguration Building.



During their June 28 meeting at the PCAPP site, the monitoring committee of the National Research Council participated in a tour of plant construction.



Contact Information



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