

Pueblo Chemical Agent-Destruction Pilot Plant

Monthly Status Briefing

June 2012



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: **541**
 - Pueblo: 532 (167 local hires)
 - Other locations: 9
- Construction Workers: **520**
 - Bechtel direct-hire craft workers: 346
 - Subcontractor personnel: 174

Employment Opportunities

Hotline

(719)549-4003

Website

<http://pueblo.bechtel.com>



As of May 31, 2012,
PCAPP Project staff accomplished:

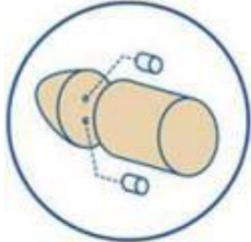
- 35 Safe Work Days
- 211,687 Safe Work Hours*



*A Lost-Time Incident occurred on April 26, 2012

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.

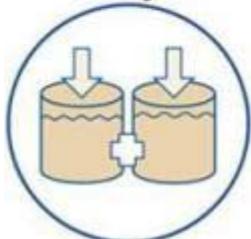
Step 2



REMOVAL OF MUSTARD AGENT

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

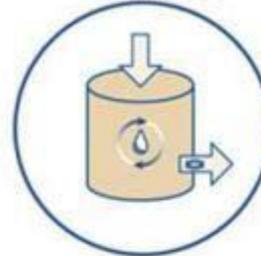
Step 3



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

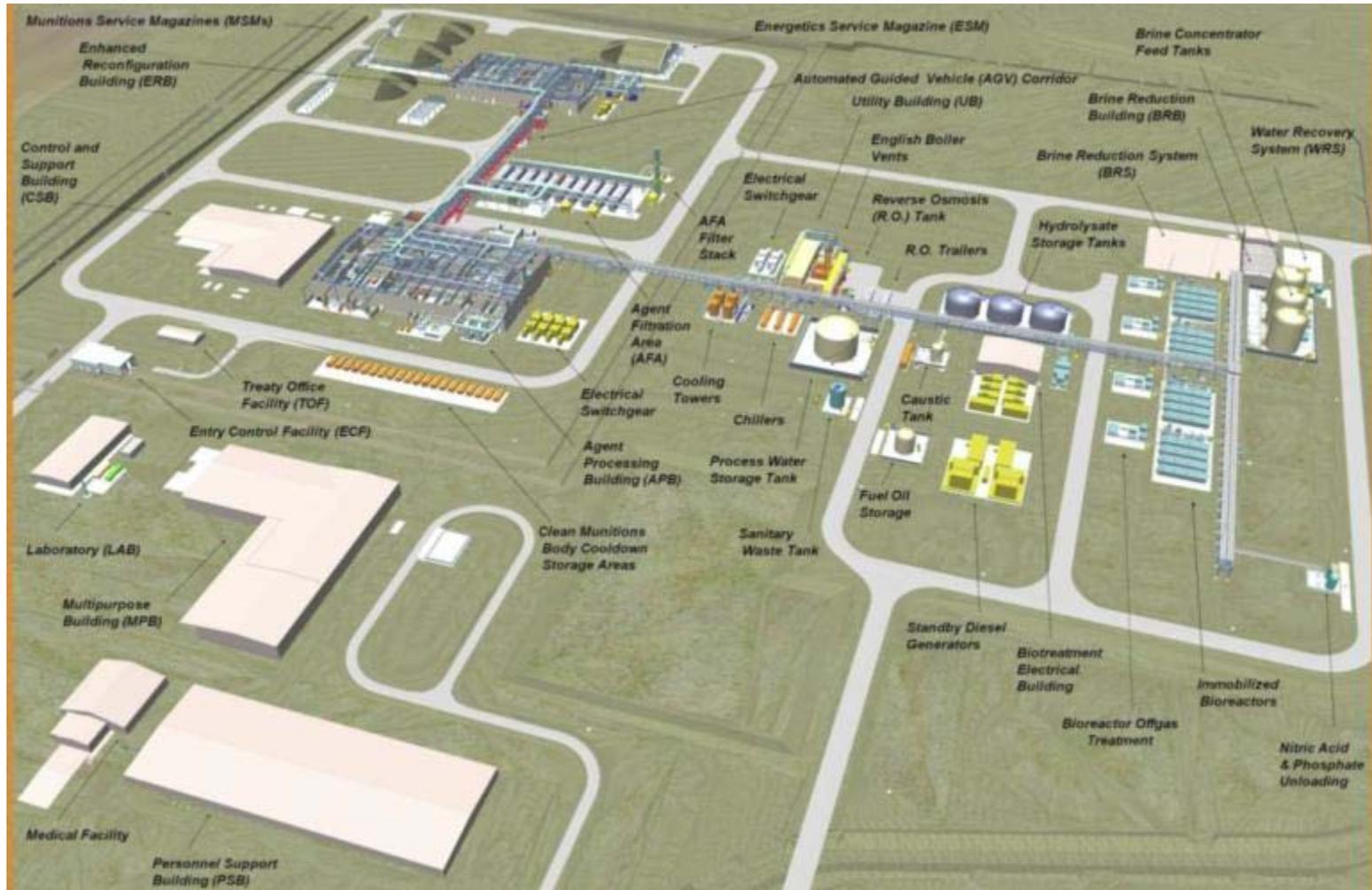


DISPOSAL OF METAL PARTS

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 wiring and pulling power cables; currently installing PA system.
- **Agent Processing Building**—Ventilation system has been completed as well as the installations for the autoclave and skid. Electrical work continues in Electrical Room A and entry support walls. Conduit work continues in the toxic room and Munitions Washout System storage area.
- **Laboratory**—HVAC and final grade; completed sidewalks around lab and connection to the Multipurpose Building.
- **Balance of Facilities**—Final site grading has started and the sanitary sewer system was completed earlier this month.
- **Biotreatment Area**—Completed piping in the Immobilized Cell Bioreactor blowers and off-gas treatment system; Poly Urea specialty coating application is in progress; several sub-systems have been turned over to the systemization group.
- **Brine Reduction System**—Working on punch list items.
- **Entry Control Facility**—Electrical installations continue; fire detection and suppression activities ongoing.
- **Medical Facility**—Working on HVAC, bottle rack foundation and final grading.



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
- Agent Filtration Area (AFA) instrument air
- AFA plant air
- Biotreatment Area (BTA) Essential motor control center
- 13.2 kV Switchgear
- HVAC exhaust filter units 07 thru 16, common ductwork, and stack
- Agent Filtration Area
- Plant Air System—Enhanced Reconfiguration Building (ERB) Distribution
- Standby diesel generator 1A and 1B
- ERB 480V Substation
- Two ERB Critical Power Panels
- HVAC Hot Water Distribution to APB
- APB supply air handlers chilled water
- Potable Water—water utility drops
- Potable Water—bulk chemical storage area
- Medical Building



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

Systemization (cont.)

- Instrument Air—IA Compressor "A," Dryer "A," Main Air Receiver and Yard Distribution Piping
- Hot Process Water—Hot Process Water Tank and Heating Coil*
- Agent Collection and Neutralization System—Hydrolysate Collection and Storage—Yard*
- HVAC Hot Water—Pumps and related tanks, Heat Exchangers and Outside Rack Piping *
- Breathing Air—Bottle Filling Station*
- ERB Supply Air Handling Units/Control Room and Support Areas Ventilation System*
- Steam Supply—Fuel Oil Piping, Natural Gas Piping, Amine Feed Skid, Boiler "A" and Outside Rack Steam *
- Steam Supply—Boiler "B"*
- Steam and Condensate—APB/BTA Distribution*
- Bulk Chemical Storage and Distribution—UREA*
- Bulk Chemical Storage and Distribution—DAP*
- Bulk Chemical Storage and Distribution—25% Caustic*
- Projectile Handling and Projectile Disassembly—PMDs and Related Equipment—Lines 1, 2, and 3.*
- Water Recovery—Tanks "A", "B", and "C"*
- Bioreactor Off-Gas Treatment—Module 1 thru 4*



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

*Newly added

Agent Processing Building



A lift assist in the Agent Processing Building will lift munitions to and from conveyors and pallets.

Enhanced Reconfiguration Building



A feed conveyor in the Vapor Containment Room (VCR) will move munitions from the Receiving and Traveling Area into the VCR for monitoring and reconfiguration.

Biotreatment Area



Progress continues on the Brine Reduction System where workers are installing vendor-supplied piping, supports and instrumentation.

Pachyderm Tour



On May 31, PCAPP Plant Support Manager Dan Hall (right) gave a tour to Pachyderm Club members (from left) Clarice Ratzlaff, field representative for U.S. Rep. Scott Tipton; Debbie Rose, candidate for Pueblo County Commissioner; and Brian McCain, field representative for Rep. Tipton.



A newly-painted ambulance recently arrived at the PCAPP Medical Facility.



Contact Information



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U.S. Army Element, Assembled
Chemical Weapons Alternatives

