



Pueblo Chemical Agent-Destruction Pilot Plant

Monthly Status Briefing

September 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 Executive Officer, 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: **638**
 - Pueblo: 634 (148 local hires)
 - Other locations: 4

- Construction Workers: **366**
 - Bechtel direct-hire craft workers: 302
 - Subcontractor personnel: 64

Employment Opportunities

Hotline

(719)549-4003

Website

<http://pueblo.bechtel.com>



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

- 127 Safe Work Days
- 718,055 Safe Work Hours



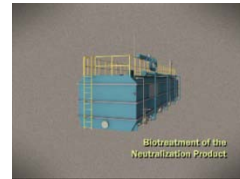
Step 1



Removal of Energetics

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

Step 4



Biotreatment

Microbes treat the hydrolysate, breaking it down into brine. The brine is separated with water being recycled back to the plant and salt cakes shipped for disposal at a permitted facility.

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 5



Thermal Treatment and Disposal of Metal Parts

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

Step 3

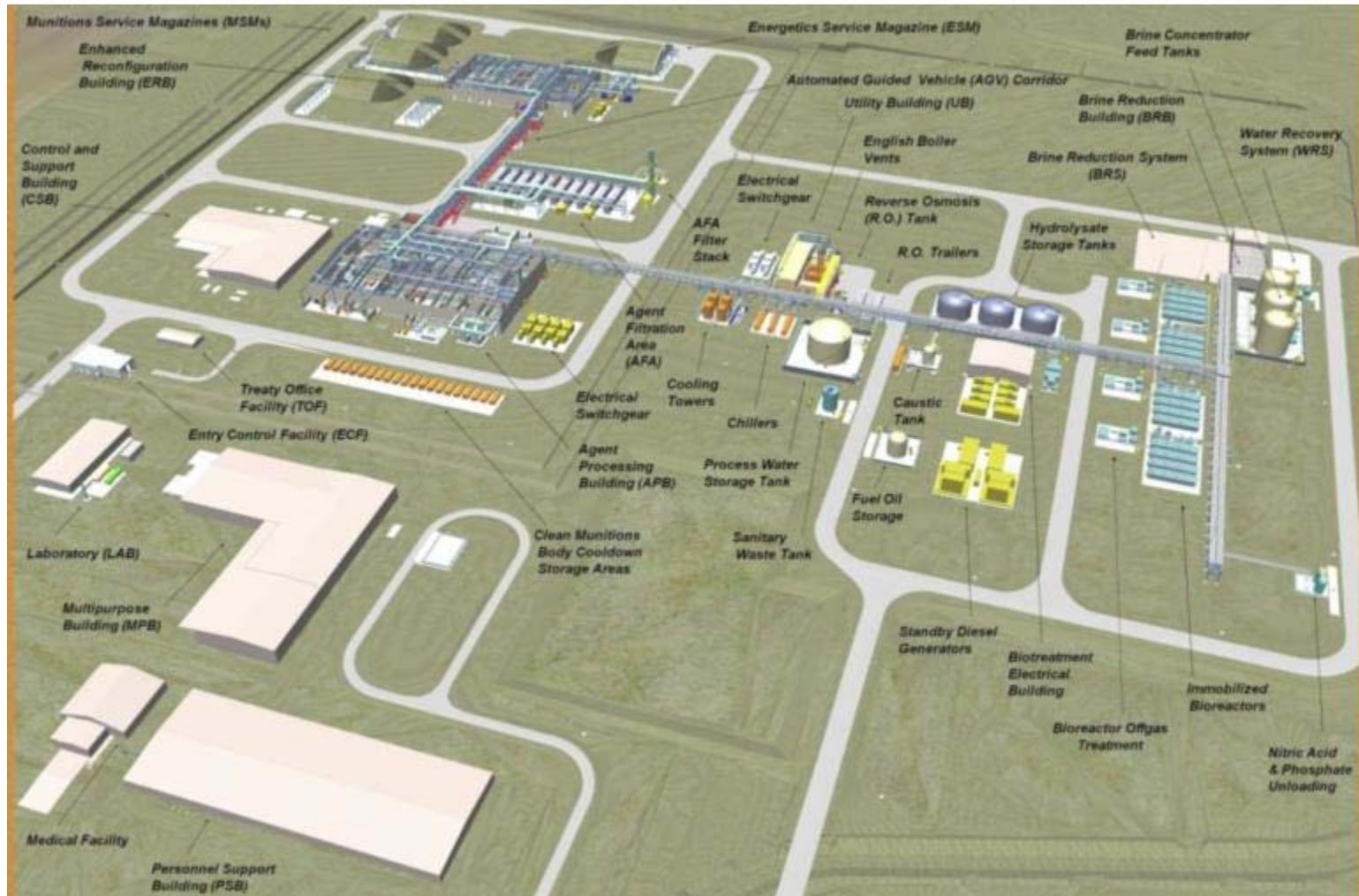


Neutralization of Mustard Agent

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

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**—Continuing electrical punch list items; completed energetics work; began coatings placement in the Munitions Service Magazine area.
- **Agent Processing Building**—Continuing electrical installations, piping and instrumentation installations.
- **Laboratory**—HVAC and electrical installations.
- **Balance of Facilities**—Continue final grade, sidewalks in the yard area
- **Biotreatment Area**—Continuing coatings preparations for the Immobilized Cell Bioreactor pads; Continue punch list items
- **Brine Reduction System**—Completed electrical installations, including installations for Biotreatment Electrical Building; working punch list items.
- **Entry Control Facility**—Continuing Electrical installations.



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:

- Instrument Air—IA Compressor "A," Dryer "A," Main Air Receiver and Yard Distribution Piping
- Hot Process Water—Agent Processing Building (APB) 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—A & B Compressor/Purifier Packages, Receiver and Chiller*, Bottle Filling Station
- Enhanced Reconfiguration Building (ERB) Supply Air Handling Units/Control Room and Support Areas Ventilation System
- Steam Supply—Fuel Oil Piping, Natural Gas Piping, Amine Feed Skid, Boilers A & B*" and Outside Rack Steam
- Steam and Condensate—APB/Biotreatment Area (BTA)/Brine Reduction System (BRS) Distribution
- Bulk Chemical Storage and Distribution—DAP, UREA and 25% caustic
- Water Recovery—Tanks "A", "B", and "C"



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

Systemization (cont.)

- Projectile Handling and Projectile Disassembly—Projectile Mortar Disassembly systems and Related Equipment—Lines 1, 2, and 3
- ERB 480V Substation
- Brine Reduction Belt Feed System
- Water Recovery— Brine concentrator Feed Tanks Off-Gas Treatment
- Chilled Water—Chillers*, Distribution to various HVAC units, recirculation units, autoclave and Off-Gas Treatment scrubber
- Decon Solution Storage and Distribution—APB
- Immobilized Cell Bioreactor (ICB) Feed, Biotreatment, ICB Blower and Off Gas Treatment*—Modules 1/2/3/4
- Plant Air—BTA, APB* and ERB* Distribution
- Process Cooling Water—BRS Distribution
- Potable Water—ERB*, APB and BRS*
- ERB Electrical Room Ventilation System*
- Munitions/Parts Monitoring-ERB*
- Process Cooling Water—PCW Pumps, Tanks, Chemical Feed Skids, Cooling Towers, BRS Distribution*
- Main Sanitary Waste—Lift Stations, Waste Tank and Pumps
- Non-Essential Power Panel-Entry Control Facility (ECF)
- Critical Power Panels—ERB
- Essential Power Panel—ECF



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*Newly added



Agent Processing Building



A worker installs lightning protection on the supply air duct of the Agent Processing Building.

Biotreatment Area



Distillate carbon filters (foreground) will remove organic compounds from the distillate stream before it is returned to the plant for use as plant water.

Control and Support Building



Inside the maintenance shop of the Control and Support Building, boxes of equipment are ready to be unwrapped and installed.

Rep. Scott Tipton at PCAPP



Plant Manager Jerry Tiller (right) gives Rep. Tipton (center) and Lee Colburn, senior military advisor to Rep. Doug Lamborn (left), a tour of the PCAPP facility. Bechtel Pueblo Team Project Manager Doug Omichinski is shown in back (third from left.)



Contact Information



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U.S. Army Element, Assembled
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