



Pueblo Chemical Agent-Destruction Pilot Plant

Monthly Status Briefing

April 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: **562**
 - Pueblo: 557 (172 local hires)
 - Other locations: 5
- Construction Workers: **571**
 - Bechtel direct-hire craft workers: 408
 - Subcontractor personnel: 163



Pueblo Chemical Agent
Destruction Plant Project



Employment Opportunities

Hotline

(719)549-4003

Website

<http://pueblo.bechtel.com>



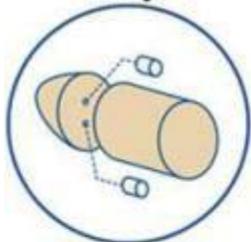
As of March 31, 2012,
PCAPP Project staff accomplished:

- 395 Safe Work Days
- 2,691,387 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.

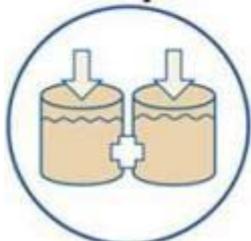
Step 2



REMOVAL OF MUSTARD AGENT

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

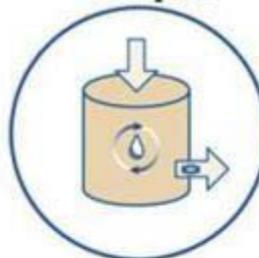
Step 3



NEUTRALIZATION OF MUSTARD AGENT

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

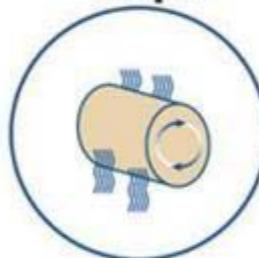
Step 4



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

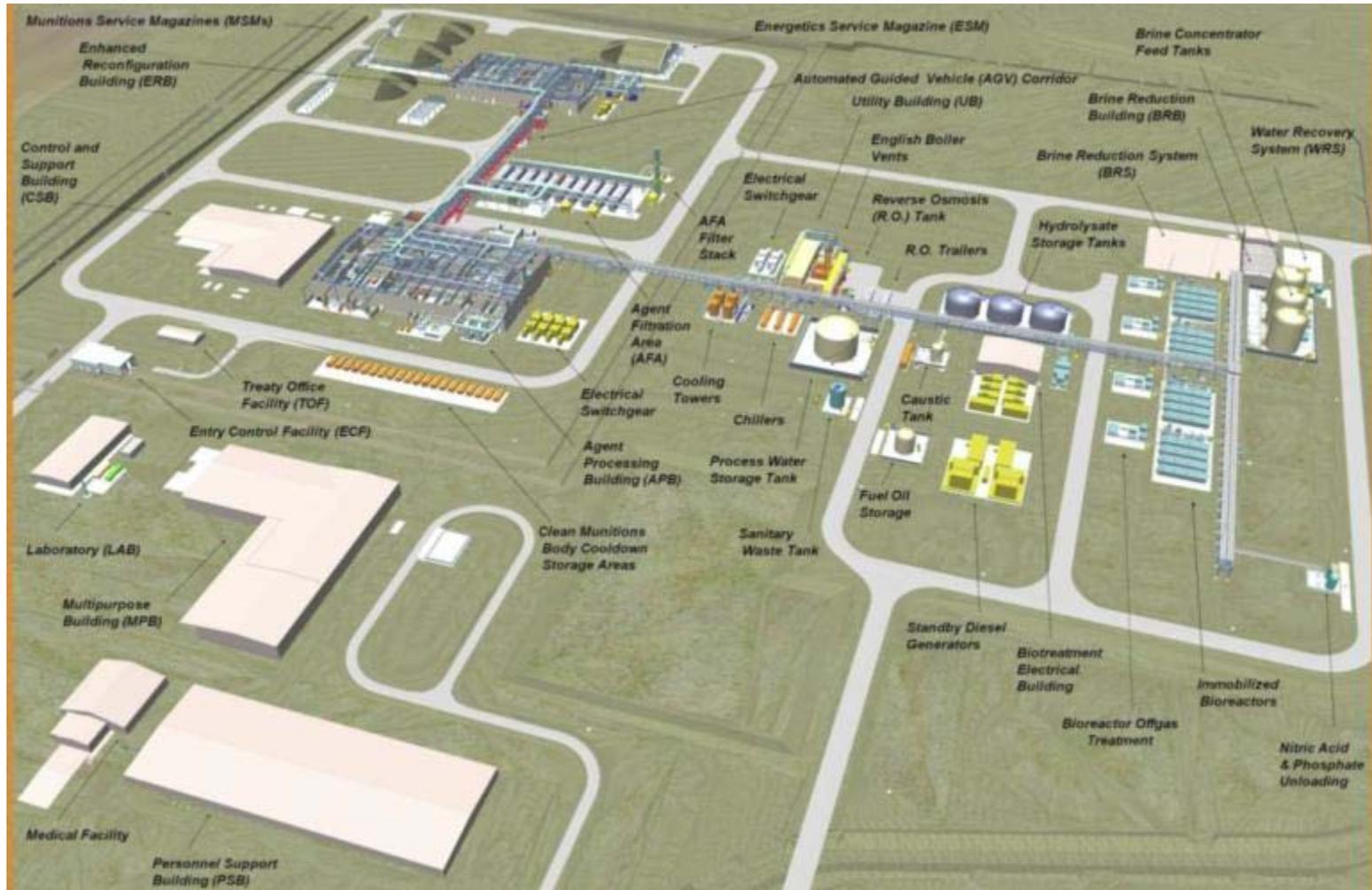


DISPOSAL OF METAL PARTS

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 (not shown) |
| 4 | Biotreatment Area | 8 | Munitions Service Magazine corridor |



Priority Chemical Agents
Destruction Plant Plant



Construction Status – In Progress

- **Enhanced Reconfiguration Building**— Installation of Load Center 12 has been completed and is in process of being turned over to Systemization. Remaining critical systems for energetics is the Projectile Mortar Disassembly discharge system equipment setting (95%) and 26 minicams (including three monitoring houses).
- **Agent Processing Building**— electrical conduit, cable and wire pulling (65%), piping (58%) and mechanical equipment setting at 98% complete.
- **Multi-Purpose Building** – Final facility turnover for Beneficial Occupancy* has been accepted by systemization for care, custody and control.
- **Balance of Facilities**— Final piping system pressure testing activities are underway for Yard areas and Utility Building.
- **Immobilized Cell Bioreactors**— Final piping pressure testing is 80% complete. Poly Urea specialty coating application is scheduled to start in April.
- **Brine Reduction System**—Installation of vendor-supplied piping, supports and instrumentation at 70% complete.
- **Medical Facility**—Decontamination room mechanical and electrical work, 60% complete.
- **Filter Press Building**— electrical and piping commodities at 85% complete.

*"Beneficial Occupancy" is that stage of construction of a facility, before final completion, when it can be occupied for its intended purpose.

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.)

- APB Uninterruptible Power Supply
- Instrument Air—IA Compressors, Dryers, Main Air Receiver and Yard Distribution Piping
- Biotreatment Electrical Building Utilities Redundant Facility Control System (FCS) Controller
- ERB Redundant FCS Controller
- Plant Air Compressors, Dryers, Main Air Receiver and Yard Distribution Piping
- Utility Building Redundant FCS Controller
- APB Redundant FCS Controller
- Control and Support Building (CSB) Control Room Equipment and CSB Redundant FCS Controller
- AFA Redundant FCS Controller
- Potable water – BTA distribution
- Four APB critical power panels
- Instrument Air ERB distribution
- Control and Support Building (CSB)
- Maintenance Building (maintenance area of CSB)
- HVAC hot water- ERB distribution
- HVAC chilled water – ERB distribution
- Multipurpose Building (MPB)*
- Laundry Area (Located in the MPB)*
- Two ERB critical power panels*



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

*Newly added

Enhanced Reconfiguration Building



Munitions Monitoring Enclosures (MME's) monitor reconfigured munitions for agent contamination before exiting the Explosion Containment Rooms.

Agent Processing Building



This is the paint residual removal system, located at the end of the Munitions Treatment Unit. The system will remove loose paint from the munition bodies while they are still hot. The vacuum then drops the paint into a drum.

Biotreatment Area (BTA)



Much progress has been made on the BTA, where the byproduct of neutralized mustard agent will be further broken down. Here, Brine Concentrator Feed tanks are shown in the background (right), with the Brine Reduction System on the left. The tall spikes are lightning protection which surround the BTA.

Black Hills Energy Tour



Chris Burke, vice-president of operations for Black Hills Energy, gets a tour of the PCAPP plant by Bruce Huenefeld, PCAPP site project manager. Officials from the local utility company visited the site on March 22 to learn more about the project.

Contact Information



Pueblo Chemical Stockpile Outreach Office

104 West B Street
719-546-0400

Tom Schultz

PCAPP

Public Affairs Specialist

Bob Kennemer

Community Outreach
Manager

Sandy Romero

Bechtel Communications
Manager

U.S. Army Pueblo Chemical Depot

45825 Highway 96 East
719-549-4135

Chuck Sprague

Public Affairs Officer

Ken Roque

Deputy Public Affairs Officer

