

Pueblo Chemical Agent-Destruction Pilot Plant

# Monthly Status Briefing

*August 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: **578**
  - Pueblo: 570 (168 local hires)
  - Other locations: 8
- Construction Workers: **585**
  - Bechtel direct-hire craft workers: 446
  - Subcontractor personnel: 139



# Employment Opportunities

## Hotline

(719)549-4003

## Website

<http://pueblo.bechtel.com>



As of July 31, 2011,  
PCAPP Project staff accomplished:

- 151 Safe Work Days
- 875,372 Safe Work Hours



# Subcontract Awards

## Inception to date, as of July 31

**\$446 Million**

**\$85.5 Million to Pueblo County Businesses (19%)**

**\$149.1 Million to Colorado Businesses (Outside Pueblo County, 34%)**

**\$211.4 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

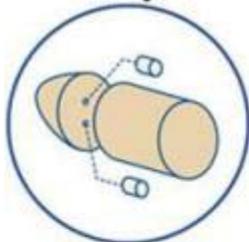
## Remaining RFPs for Construction:

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

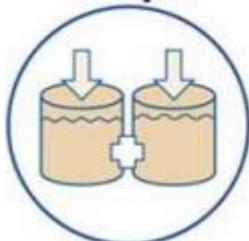
## Step 2



### REMOVAL OF MUSTARD AGENT

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

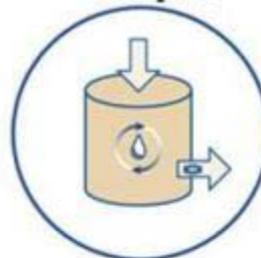
## Step 3



### NEUTRALIZATION OF MUSTARD AGENT

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

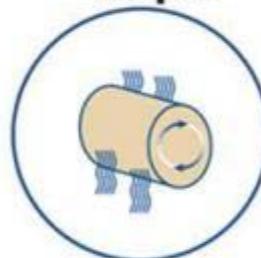
## Step 4



### 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

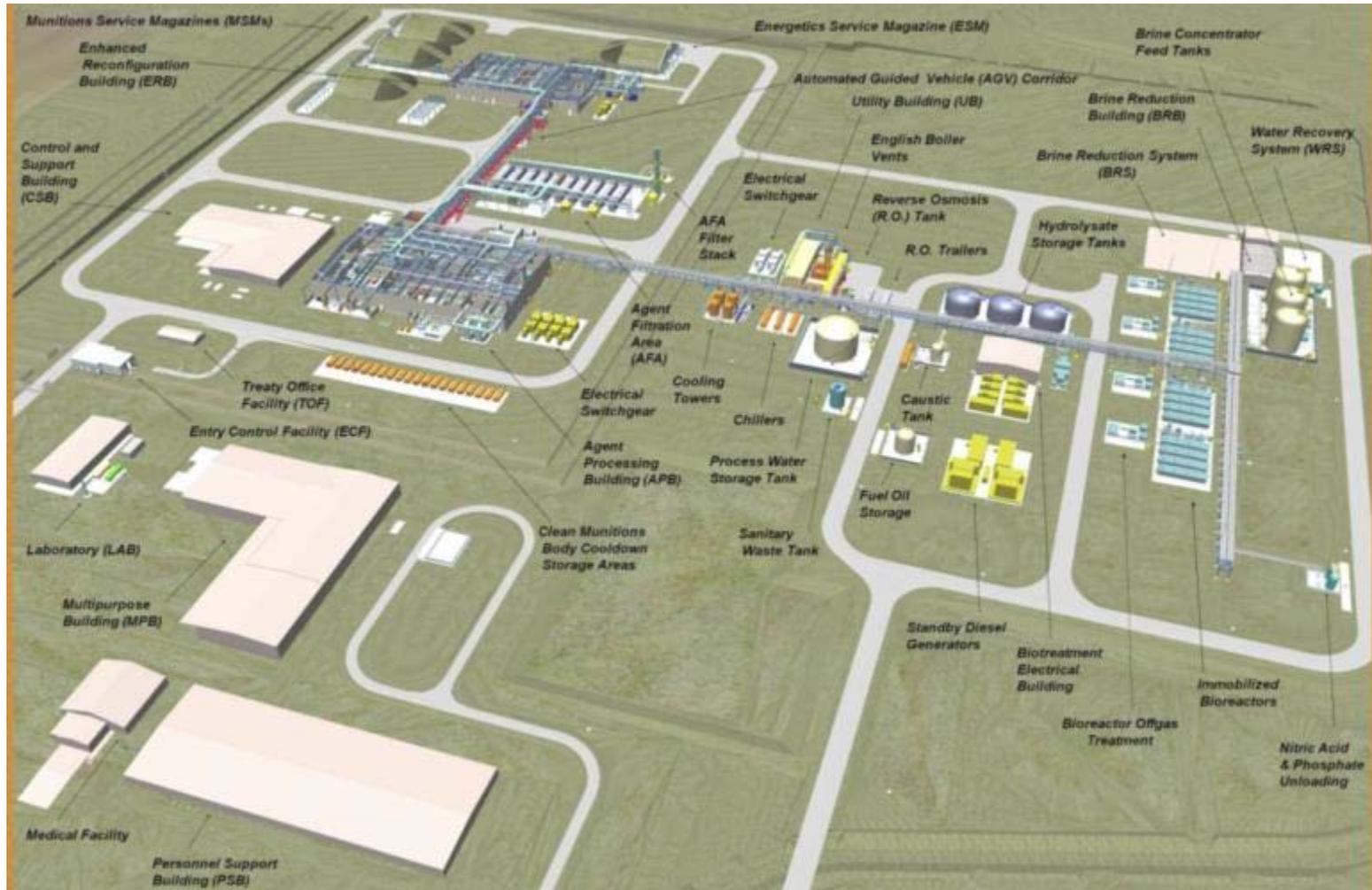


### DISPOSAL OF METAL PARTS

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

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

# Construction Status – In Progress

- **Enhanced Reconfiguration Building**— electrical tray/conduits & equipment set, installation of robotics and conveyors in the explosion and vapor containment rooms
- **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, turnover punchlist
- **Biotreatment Electrical Building**—terminations for Facility Control System and uninterrupted Power Supply system, concrete foundation for HVAC equipment
- **Brine Reduction System**—structural steel, tank/vessels setting, piping, electrical
- **Filter Press Building**—formwork, rebar and concrete
- **Immobilized Cell Bioreactors**—setting equipment skids, electrical/piping supports and insulation placement
- **Subcontractors**—HVAC, fire protection, insulators/heat trace, coatings, architectural



**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](http://www.pmacwa.army.mil/info/video/systemization_yt.html)



Purple Chemical Agent  
Destruction Plant Plant



# 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
  - **BTA Critical power panels\***
  - CSB Critical power panels
  - **APB Critical power panels\***
  - HVAC exhaust filter units 07 thru 16, common ductwork, and stack
  - **BTA 480V Substations\***
- \*Newly added

To learn more about Systemization, watch the video at  
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# Enhanced Reconfiguration Building



**A conveyor system in the explosion containment room of the Enhanced Reconfiguration Building will safely transfer energetics (fuzes and bursters) once they have been removed from the munitions.**

# Utility Area



**English Boiler vents are shown behind the utility building near the Biotreatment Area. Electrical switchgear can be seen in the front.**

# Biotreatment Area



**All 16 Immobilized Cell Bioreactors are in place, awaiting final configuration.**





**Bechtel Project Manager Doug Omichinski (right) leads a PCAPP tour for Pueblo City Council and the Pueblo city attorney, clerk and manager on Aug. 1.**



# 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



U.S. Army Element, Assembled  
Chemical Weapons Alternatives

