

Monthly Status Briefing

April 2014



Pueblo Chemical Agent-Destruction Pilot Plant



Program Executive Office
Assembled Chemical Weapons Alternatives



PCAPP

Pueblo Chemical Agent-Destruction Pilot Plant

www.peoacwa.army.mil



A PARTNERSHIP FOR SAFE CHEMICAL WEAPONS DESTRUCTION

Project Background



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.



Pueblo Chemical Agent-
Destruction Pilot Plant

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 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.



Staffing



- Bechtel Pueblo Team non-manual: **908**
 - Pueblo County local hires: 211
 - Colorado hires (outside Pueblo County): 56
 - From other locations: 641

- Construction Workers: **94**
 - Bechtel direct-hire craft workers: 60
 - Subcontractor personnel: 34

Employment Opportunities



Hotline

(719)549-4003

Website

<http://pueblo.bechtel.com>

As of March 31,
2014, PCAPP staff
accomplished:

704

Safe Work Days*

3,870,185

Safe Work Hours



* Last Lost Time occurred on April 26, 2012

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 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

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 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.

Neutralization followed by biotreatment will be used to destroy the Colorado chemical weapons stockpile.

Explosive Destruction System

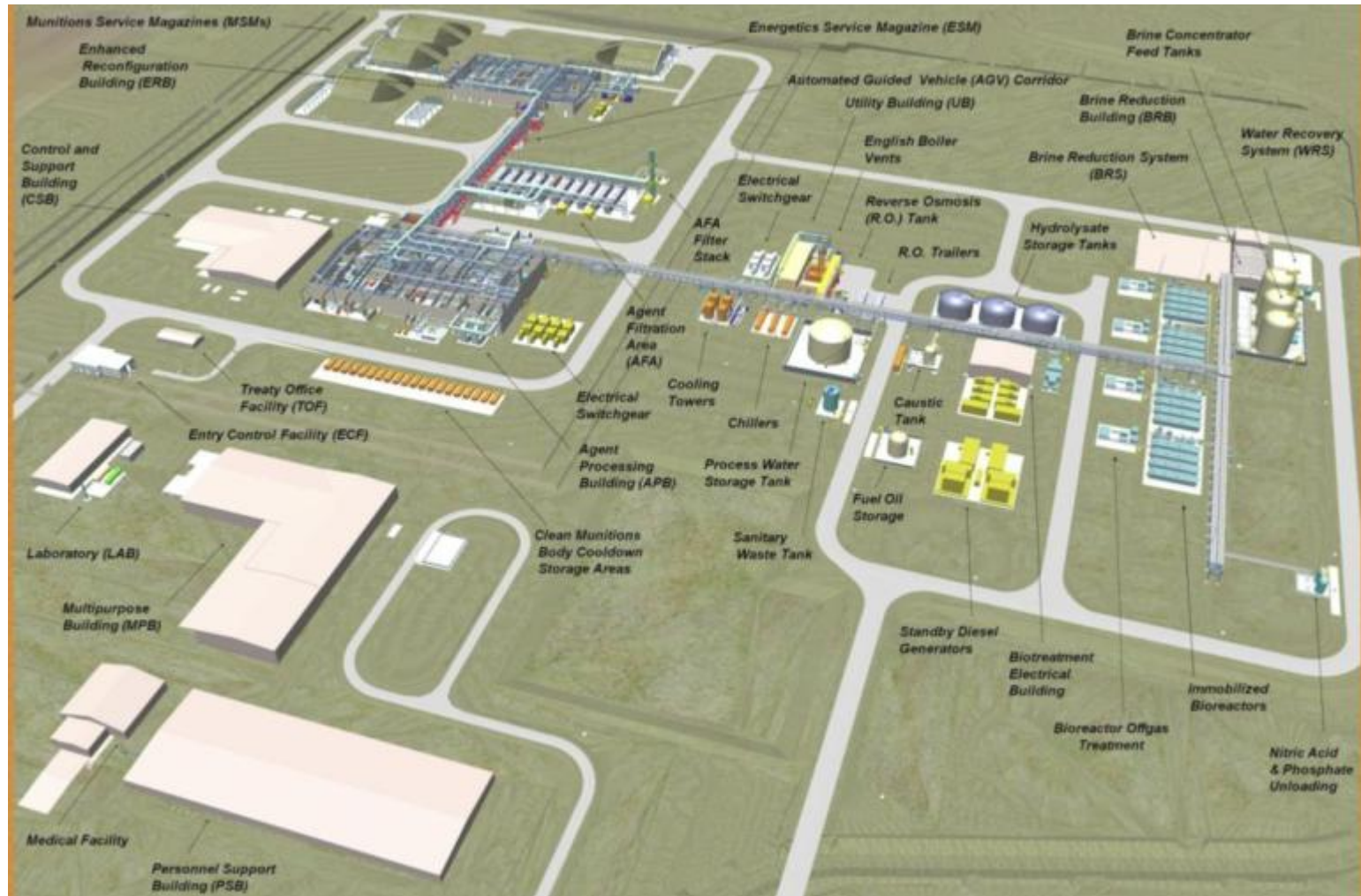


- The Army's Explosive Destruction System (EDS) will augment the Pueblo pilot plant's automated destruction technology
- EDS will be used to destroy problematic munitions that are unsuited for automated processing

- EDS uses explosive “cutting” charges to access the chemical agent inside a munition; neutralization chemicals are then added to destroy the chemical agent



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 |

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:

- Agent Collection and Neutralization System—Hydrolysate Collection and Storage—Yard
- Breathing Air—A & B Compressor/Purifier Packages, Receiver and Chiller, Bottle Filling Station, Supply and Change Stations
- Enhanced Reconfiguration Building (ERB) HVAC: Supply Air Handling Units/Control Room and Support Areas Ventilation System; ERB Cascade Ventilation System; Electrical Room Ventilation System
- Steam Supply—Fuel Oil Piping, Natural Gas Piping, Amine Feed Skid, Boilers A & B and Outside Rack Steam; Agent Processing Building (APB)/Biotreatment Area (BTA)/Brine Reduction System (BRS) Distribution
- Bulk Chemical Storage and Distribution—DAP, UREA and 25% caustic
- Projectile Handling and Projectile Disassembly—Projectile Mortar Disassembly systems and Related Equipment—Lines 1, 2, and 3; Munitions/Parts Monitoring
- Chilled Water—Chillers, Distribution to various HVAC units, recirculation units, autoclave and Off-Gas Treatment scrubber
- Immobilized Cell Bioreactor (ICB) Feed, Biotreatment, ICB Blower and Off Gas Treatment—Modules 1/2/3/4, Biotreatment Electrical Building
- Process Cooling Water—pumps, tanks, chemical feed skids, cooling towers, BRS Distribution
- Brine Reduction System (BRS)—Brine Concentrator Feed (BCF) Tanks “A”, “B”, and “C” and BCF Tanks Off-Gas Treatment; Brine Reduction Belt Feed System, BRS Filter Press Building, all BRS Electrical Systems



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

Systemization (cont.)

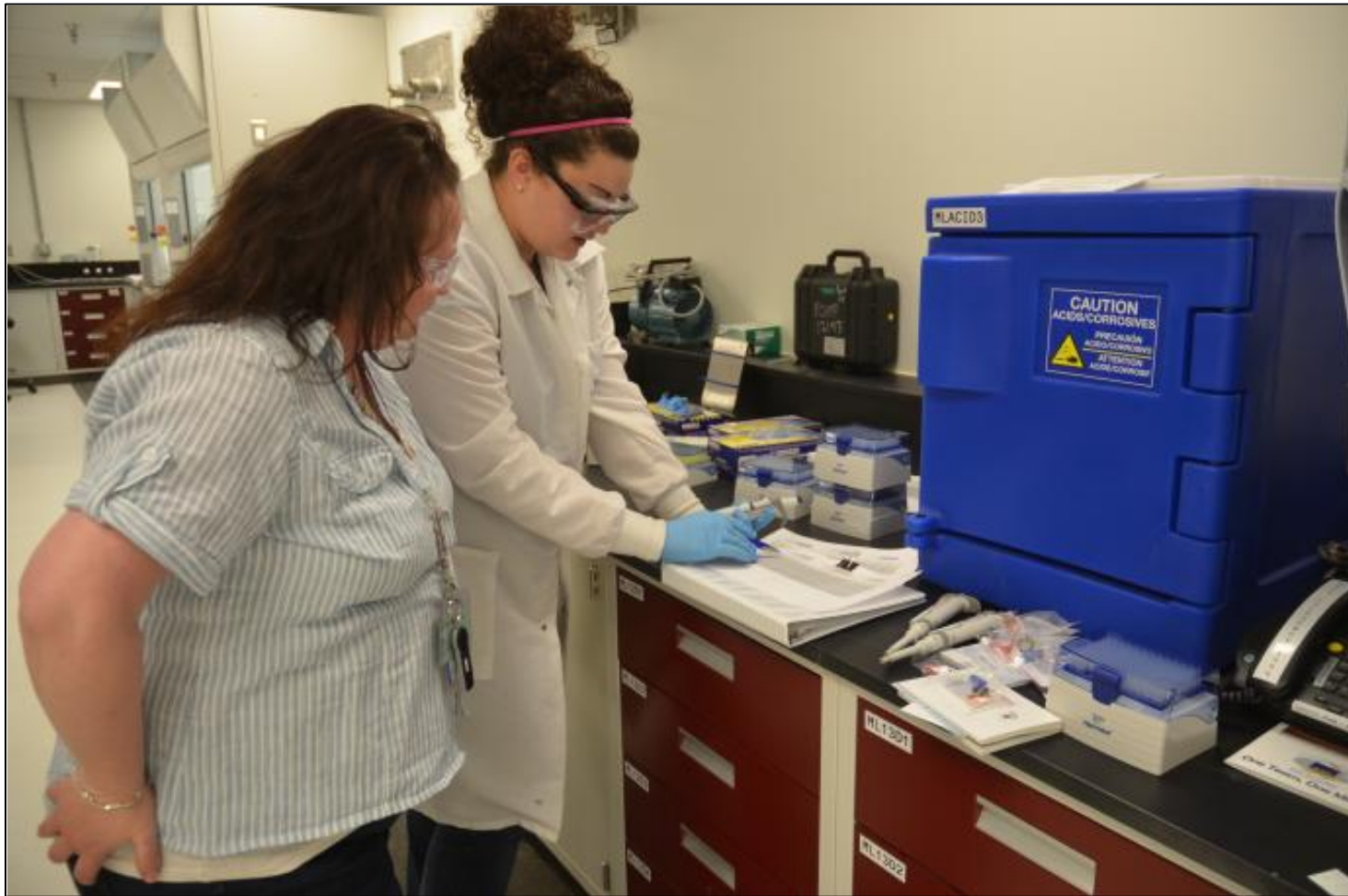
- APB—Munitions Washout System (MWS) Instrument Air Distribution; Process Water Distribution; Hydraulic Power Line 1 & 2; Hot Process Water Tank and Heating Coil; MWS High Pressure Water Supply and Distribution; MWS Drain, Wash and Collection Line 1 & 2; Off-Gas Treatment System; MWS Agent Wash Water Transfer; APB Fire Protection Systems
- APB Decon Storage (SDS) Holding Tanks and Feed Pumps; SDS "A" Sumps; SDS "B" pumps; SDS "C" Pumps
- Munitions Treatment Units #1 and #2; Mmunition Body Storage Building—Gravity Conveyors
- APB HVAC: Supply Air Handling Units, Battery Room Ventilation System; Cascade Ventilation System, Operator Work Station Ventilation System, Recirculation Units, Unit Heaters and Ventilators; Electrical Room Ventilation System; Entry Support Area Ventilation System; Electrical Room Ventilation System; Entry Support Area Ventilation System
- Agent Monitoring: Agent Filtration Area; Laboratory, APB, Automated Guided Vehicle (AGV) corridor, ERB
- Facilities: Control Support Building; Medical Building; Laboratory; Utility Building, APB, ERB, AGV corridor, Entry Control Facility, Brine Reduction Filter Building (BRB), Biotreatment Electrical Building
- APB Agent Collection and Neutralization System— Agent Collection; Agent Neutralization; Hydrolysate Collection and Sampling Systems
- Site Security Diesel Generator
- Secondary Waste Treatment: Secondary Decontamination Unit System & Autoclave
- Residue Handling System
- Site Security Essential Power
- Site Grounding System
- Closed Circuit TV (CCTV): APB, ERB, Yard, BTA
- AGVs with maintenance charge



Training Facility



Toxic Area Training has begun at the Training Facility. Games and puzzles are used to familiarize students with the dexterity, vision, ergonomic and communication limitations associated with working in Demilitarization Protective Ensemble suits.



Workers in the Laboratory adjust the volume on an autopipette, an important tool used to accurately prepare solutions of known concentration.

Biotreatment Area



PCAPP electrician Rob Armijo preps a cable tray for installation of the heat trace system pipes that feed the Immobilized Cell Bioreactors. The heat trace system will protect the pipes, which hold liquids, from freezing in the winter.

Weisbrod Museum Family Fun Day



PCAPP Education Outreach Specialist Carla Hendrickson assists PCAPP Engineer Jon Bush as he gets ready to demonstrate sound using plastic tubing. The presentation was a part of STEM (Science, Technology, Engineering, Mathematics) Day at the museum sponsored by the Bechtel Pueblo Team.

Contact Information



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