

Monthly Status Briefing

February 2015



Blue Grass Chemical Agent-Destruction Pilot Plant



Program Executive Office
Assembled Chemical Weapons Alternatives



BGCAPP
Blue Grass Chemical
Agent-Destruction Pilot Plant

www.peoacwa.army.mil



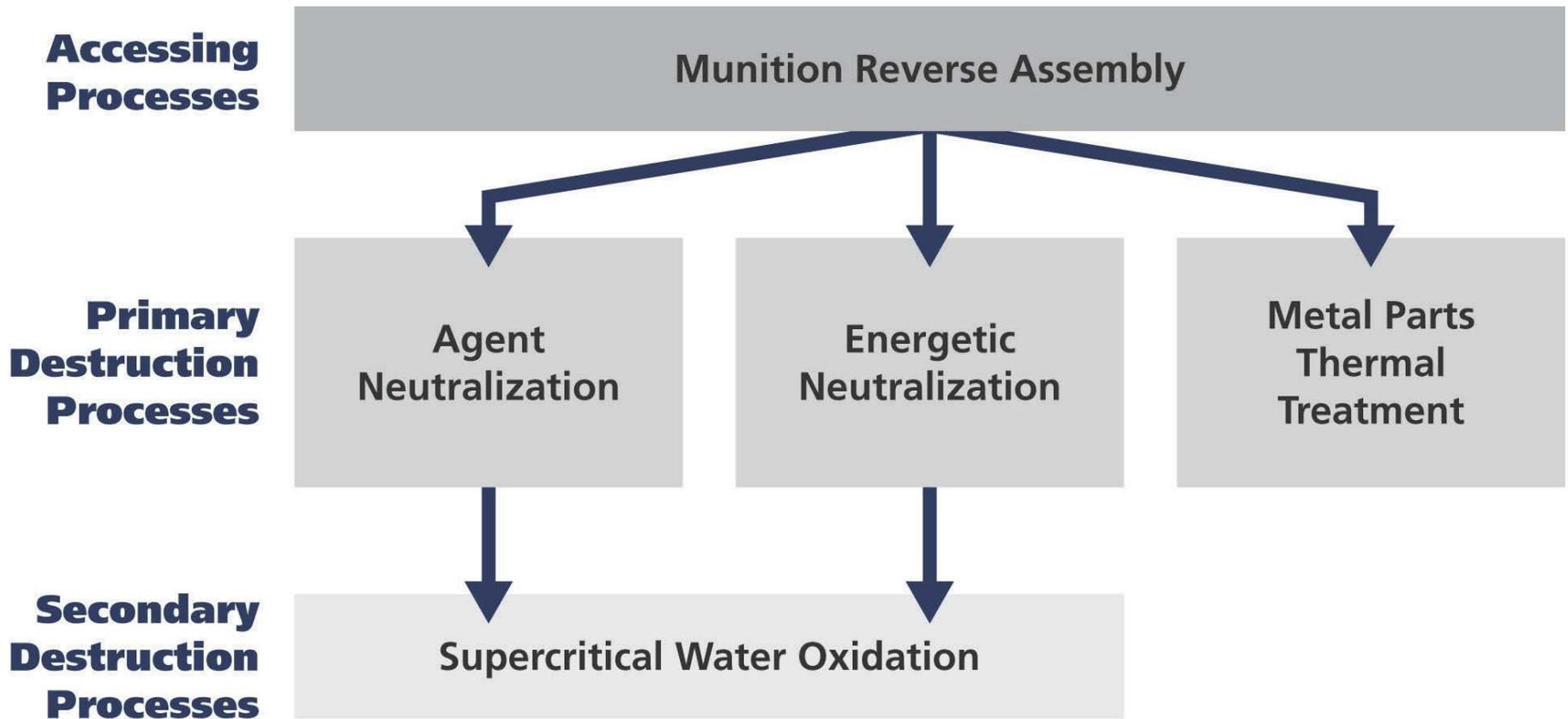
A PARTNERSHIP FOR SAFE CHEMICAL WEAPONS DESTRUCTION

Project Background

- The Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) will safely destroy 523 tons of chemical agent in rockets and artillery projectiles stored at the Blue Grass Army Depot in Richmond, Ky.
- The main plant technology selected by the Department of Defense to destroy the Blue Grass VX and GB (Sarin) nerve agent weapons stockpile is neutralization followed by supercritical water oxidation (SCWO).
- The technology selected by the Department of Defense to destroy the Blue Grass mustard (H) agent weapons stockpile is Explosive Destruction Technology, specifically the Static Detonation Chamber or SDC.
- The Program Executive Office, Assembled Chemical Weapons Alternatives (PEO ACWA) Program, headquartered at Aberdeen Proving Ground, Md., is responsible for managing all aspects of the safe and environmentally sound destruction of the chemical weapons stockpiles in both Kentucky and Colorado.
- The Bechtel Parsons Blue Grass Team, a joint venture of Bechtel National, Inc., and Parsons Government Services Inc., along with teaming partners URS Corporation, Battelle, General Atomics and GP Strategies Corporation, is the systems contractor selected to design, build, systemize, pilot test, operate and close BGCAPP.

Main Plant Destruction Technology

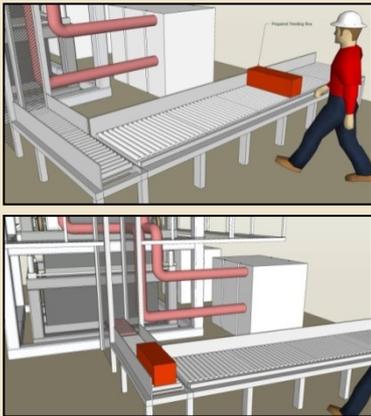
Neutralization followed by supercritical water oxidation will be used to destroy the nerve agent weapons stockpile.



Explosive Destruction Technology Static Detonation Chamber (SDC)

SDC will be used to destroy the mustard agent weapons stockpile.

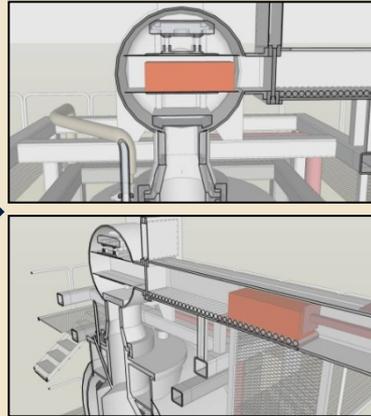
Step 1



Workers place mustard projectiles in feed tray with aid of material-handling equipment

System allows for single handling of projectiles by workers

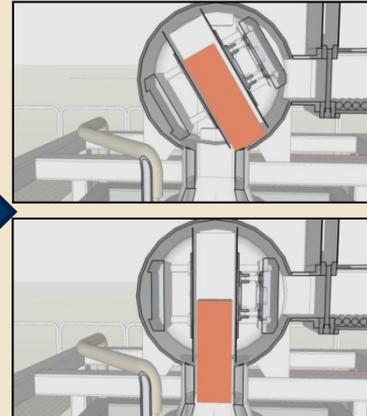
Step 2



Projectiles conveyed to top of vessel

For added safety, it is a fully automatic, double air-lock feeding conveyor system

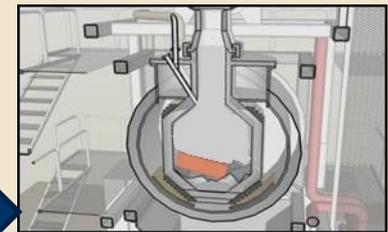
Step 3



Projectiles fed into electrically heated detonation chamber

Chamber temperature maintained above critical temperature of energetics inside the projectiles

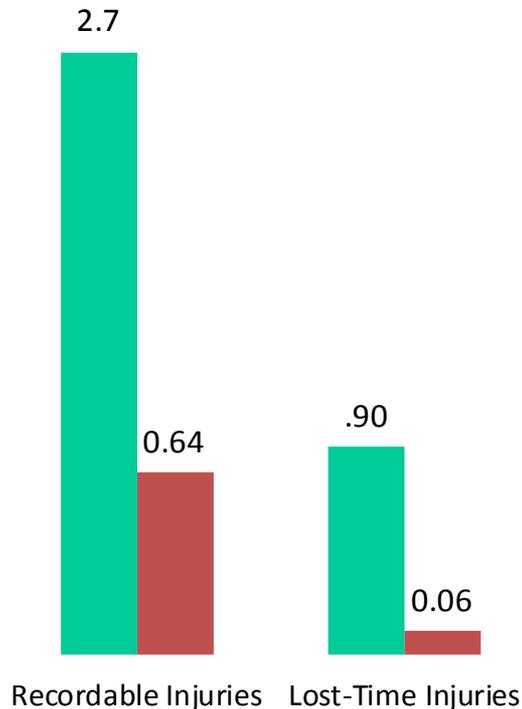
Step 4



High heat detonate/deflagrate projectiles, mustard agent and energetics destroyed by explosion/thermal decomposition

Off-gases treated by air pollution control system

Safety



- Safety remains a core value of the project workforce
- Occupational Safety and Health Administration Voluntary Protection Program Star Status site
- Lost-time injury rate is **93 percent lower** and recordable injury rate is **79 percent lower** than industry average
- As of January 31, 2015, the project has completed 2,741,947 hours and 276 days without a lost-time accident

■ Construction Industry
■ Bechtel Parsons
(12-month rolling rate)
Accidents per 200,000 job hours



Current Project Staffing

- **Total project employment—1,575**
- **Richmond, Ky.—1,562**
 - Nonmanual—834
 - Craft—728
 - Local hires—56 percent
- **Other locations—13**
 - Pasadena, Calif.
 - San Francisco, Calif.



A worker prepares an area for a concrete pour outside of the north entrance to the Munitions Demilitarization Building.

Economic Impact

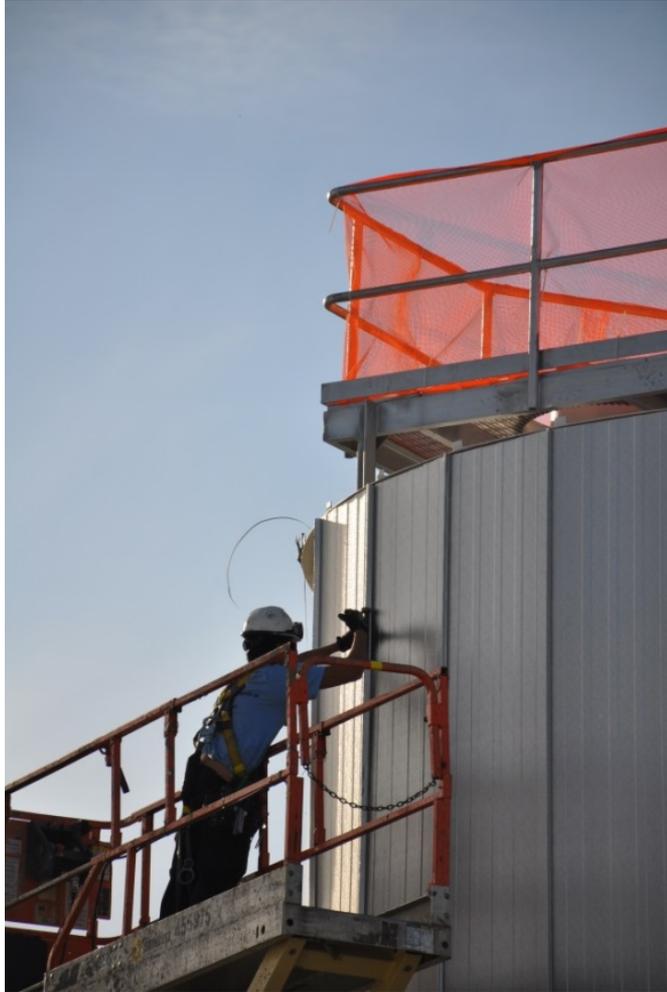
- **Acquisitions to date**
 - \$136.6 million spent with Kentucky companies
 - \$77.5 million spent in Madison and surrounding counties
- **Payroll to date**
(includes nonmanual and craft)
 - \$685 million of local payroll paid

Main Plant Work in Progress



- 1 Hydrolysate Storage Area
- 2 Control and Support Building
- 3 Munitions Demilitarization Building (MDB) Filter Banks
- 4 MDB
- 5 Utility Building
- 6 Supercritical Water Oxidation Building (not visible in photo)
- 7 Laboratory Building (not visible in photo)
- 8 Container Handling Building

SCWO Building Storage Tanks



A worker installs cladding on one of the Supercritical Water Oxidation (SCWO) building tanks. Following neutralization, hydrolysate is transferred to the SCWO Process Building which houses the reactors where agent and energetic hydrolysates will be subjected to very high temperatures and pressures to destroy their organic content.

Munitions Demilitarization Building (MDB)



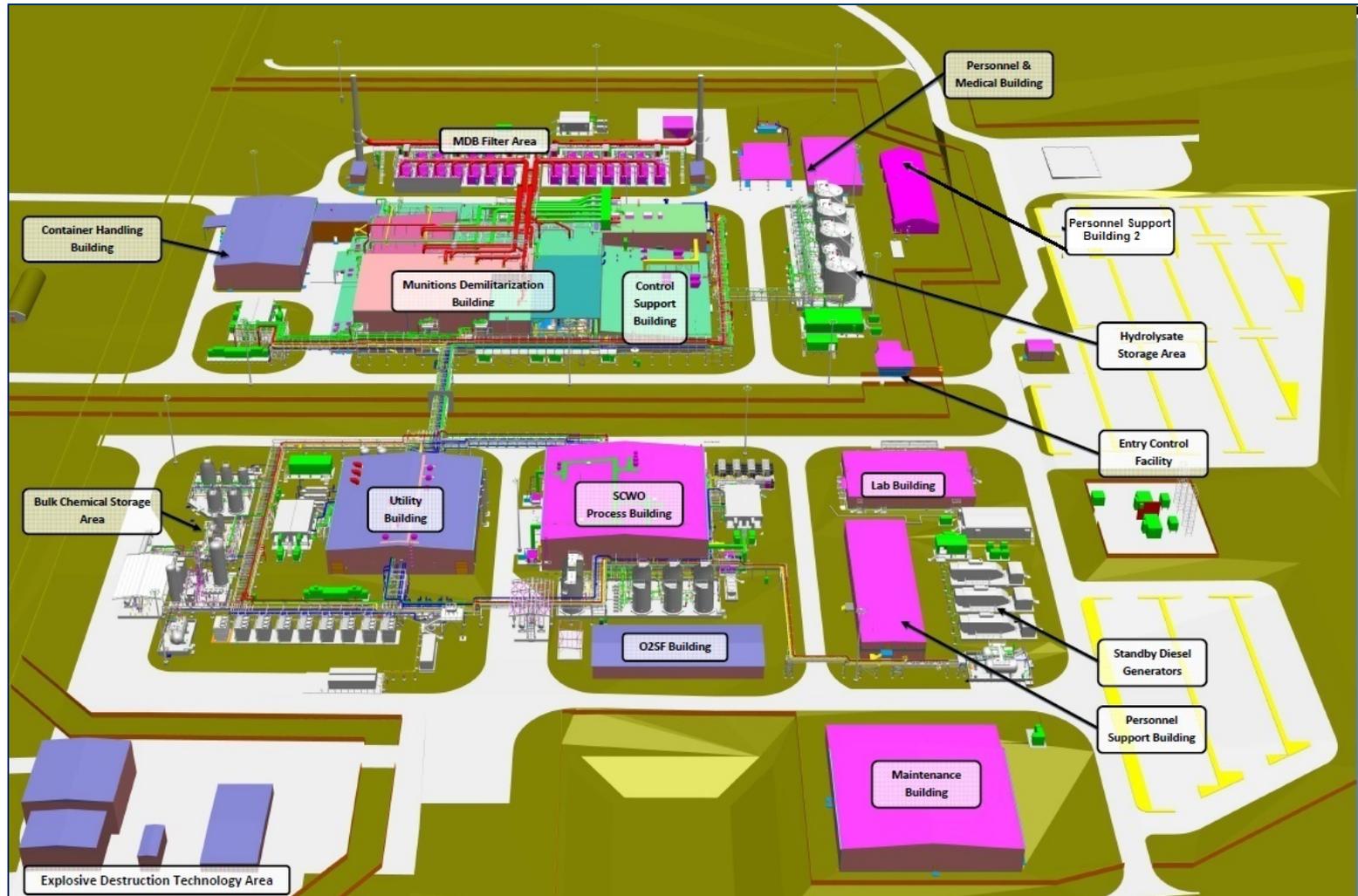
A weld is performed on a plenum box inside the MDB. The plenum is a steel chamber that will serve as a connection between blast valves and HVAC ductwork.

Medical Facility



Work is underway on the BGCAPP Medical Facility. At left, a propane tank is lowered into place while (above) a worker removes a form from a concrete pillar that will support a portion of the facility.

Blue Grass Chemical Agent-Destruction Pilot Plant



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