

# Monthly Status Briefing

*October 2013*



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](http://www.peoacwa.army.mil)



**A PARTNERSHIP FOR SAFE CHEMICAL WEAPONS DESTRUCTION**

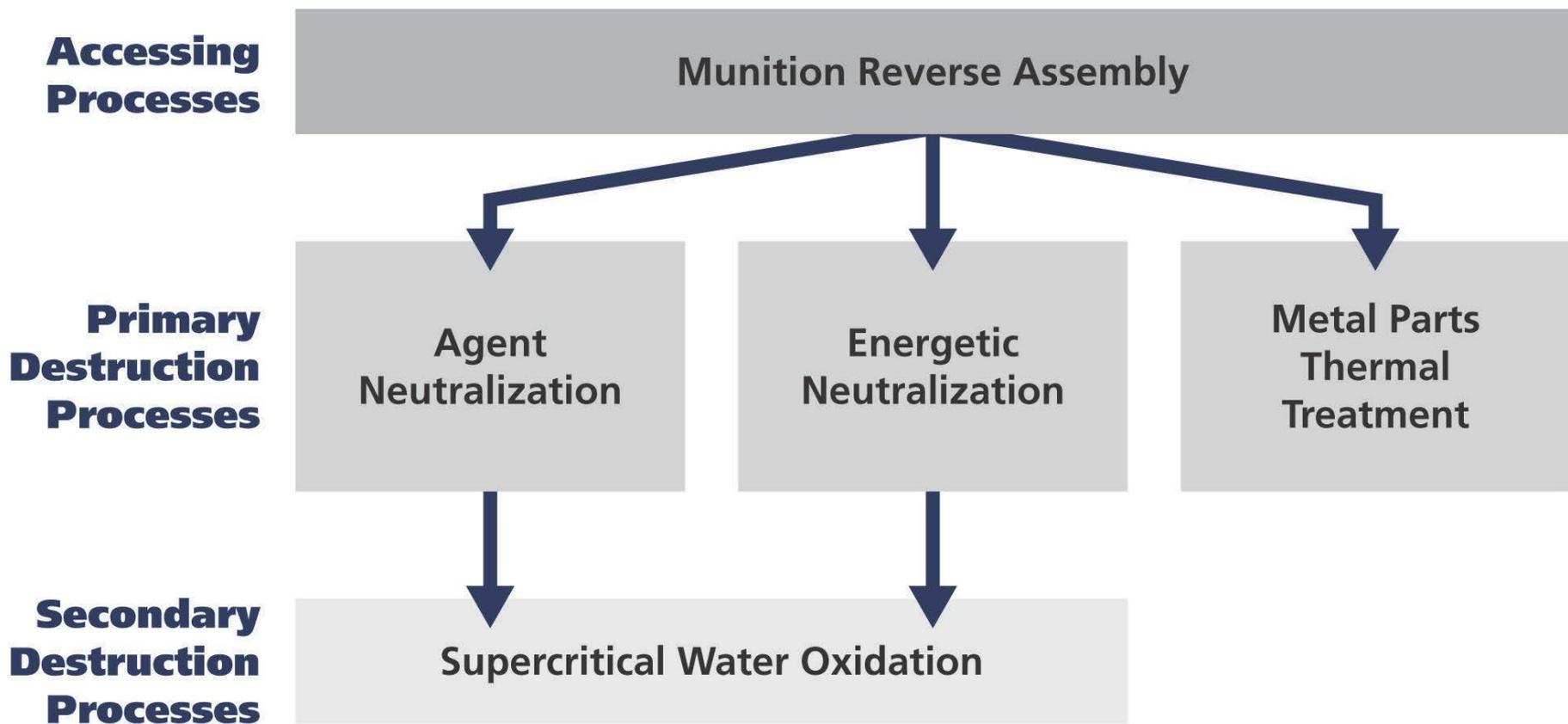
# Project Background

- 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 technology selected by the Department of Defense to destroy the Blue Grass chemical weapons stockpile is neutralization followed by supercritical water oxidation (SCWO).
- 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.

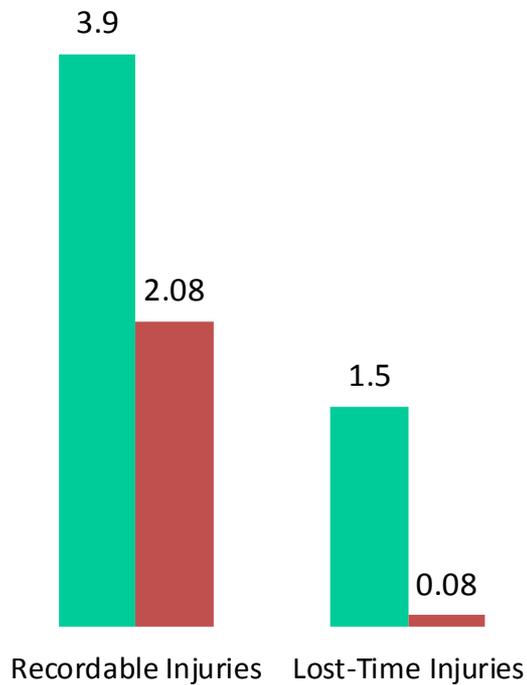


# Destruction Technology

Neutralization followed by supercritical water oxidation will be used to destroy the Kentucky stockpile.

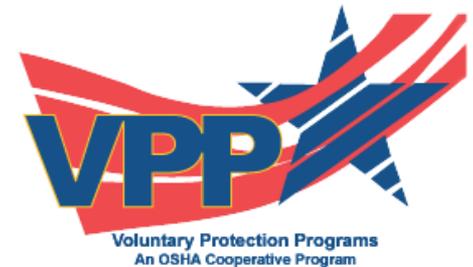


# Safety



- Occupational Safety and Health Administration Voluntary Protection Program Star Status site
- Lost-time injury rate is **95 percent lower** and recordable injury rate is **47 percent lower** than industry average
- As of September 30, 2013, the project has completed 2,099,856 hours and 324 days without a lost-time accident

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



# Continued Safety Focus

- **Safety remains a core value of the project workforce**
- **Workforce committed to a *Brother's Keeper* mindset**
  - Culture of mentoring one another, remaining vigilant and respectfully challenging unsafe workplace behaviors
- **Management and employees focused on goal of *Zero Accidents*:**
  - Communicating proper construction techniques, need for continuous improvement and incorporating lessons learned
  - Communicating importance of pre-planning and discussing daily work activities; identifying potential safety hazards before work begins



# Current Project Staffing

- **Total project employment—1,344**
- **Richmond, Ky.—1,338**
  - Nonmanual—621
  - Craft—717
  - Local hires—62 percent
- **Other locations—6**
  - San Diego, Calif.
  - Columbus, Ohio
  - Reston, Va.

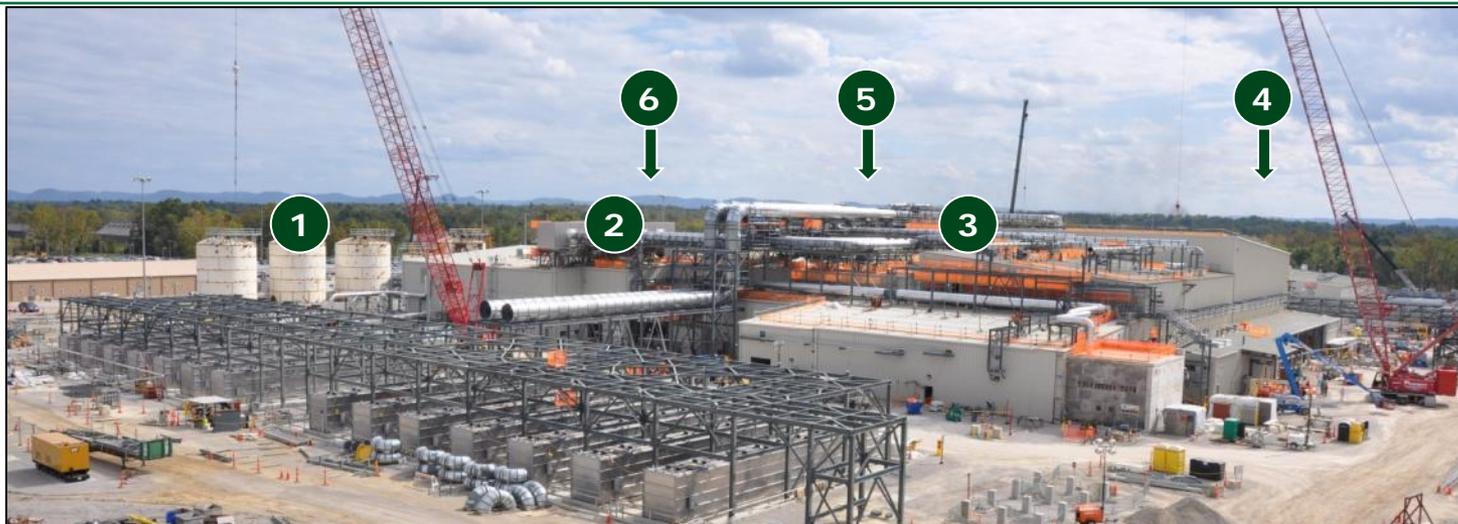


Nearly 62 percent of the BGCAPP workforce in Richmond, Ky., has been hired from the local area.

# Economic Impact

- **Acquisitions to date**
  - \$114.4 million spent with Kentucky companies
  - \$67.8 million spent in Madison and surrounding counties
- **Payroll to date (includes nonmanual and craft)**
  - \$484 million of local payroll paid

# Work in Progress



- 1 Hydrolysate Storage Area**
  - Hydrostatic testing, painting preparation
- 2 Control and Support Building (CSB)**
  - Facility Control System electrical wiring
  - Electrical, piping and fire detection systems
  - Drop ceiling and lighting systems
- 3 Munitions Demilitarization Building (MDB)**
  - Reverse assembly equipment installation
  - HVAC, electrical, piping, mechanical systems
  - MDB filter area support steel and stacks

- 4 Utility Building**
  - Exterior pipe rack support steel
  - Interior electrical and piping systems
  - Boiler room infrastructure
- 5 Supercritical Water Oxidation (SCWO) Process Building** (not visible in photo)
  - Mechanical equipment and lighting systems
  - SCWO effluent process tank area foundation
- 6 Laboratory Building** (not visible in photo)
  - Systemization complete, personnel occupancy

# Control and Support Building (CSB)



A painter applies a final coat to an area next to the CSB main operator control room (above left). A Systemization team member inspects an energized electrical panel inside the CSB (above right). Once complete, the CSB will house the control room and the integrated control system used to operate the plant.

# Munitions Demilitarization Building (MDB)



Workers install ventilation air ductwork (above left) which will connect the MDB to its exterior filter area. During plant operations, the MDB's negative air pressure system called cascading ventilation, draws fresh air into the building. The air returns to the atmosphere only after it passes through a series of carbon filter units that scrub the air as it passes through. Inside the MDB, piping and instrumentation equipment are installed inside the Munitions Washout System room (above right). The MDB is where the chemical weapons will be disassembled, the explosives removed and the agent neutralized.

# Supercritical Water Oxidation (SCWO) Process Building and Hydrolysate Storage Area (HSA)



Workers weld and install an HSA tank stairway (above left). At the SCWO Process Building, iron workers install a stairway atop the SCWO reactor units (above right). During operations, agent and energetic hydrolysates, byproducts of the neutralization process, are emptied into HSA holding tanks once agent destruction is verified. The 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.

# Balance of Plant Infrastructure



**An electrician installs wiring inside the Utility Building (above left). A duo of electricians install conduit near a section of pipe rack support steel (above right). Once complete, the Utility Building will house equipment to produce steam, compressed air, chilled water and hot water for operations. Once complete, the pipe rack will carry utilities to support plant operations.**

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