Blue Grass Chemical Agent-Destruction Pilot Plant

Monthly Status Briefing

October 2011

BGCAPP

Project Background

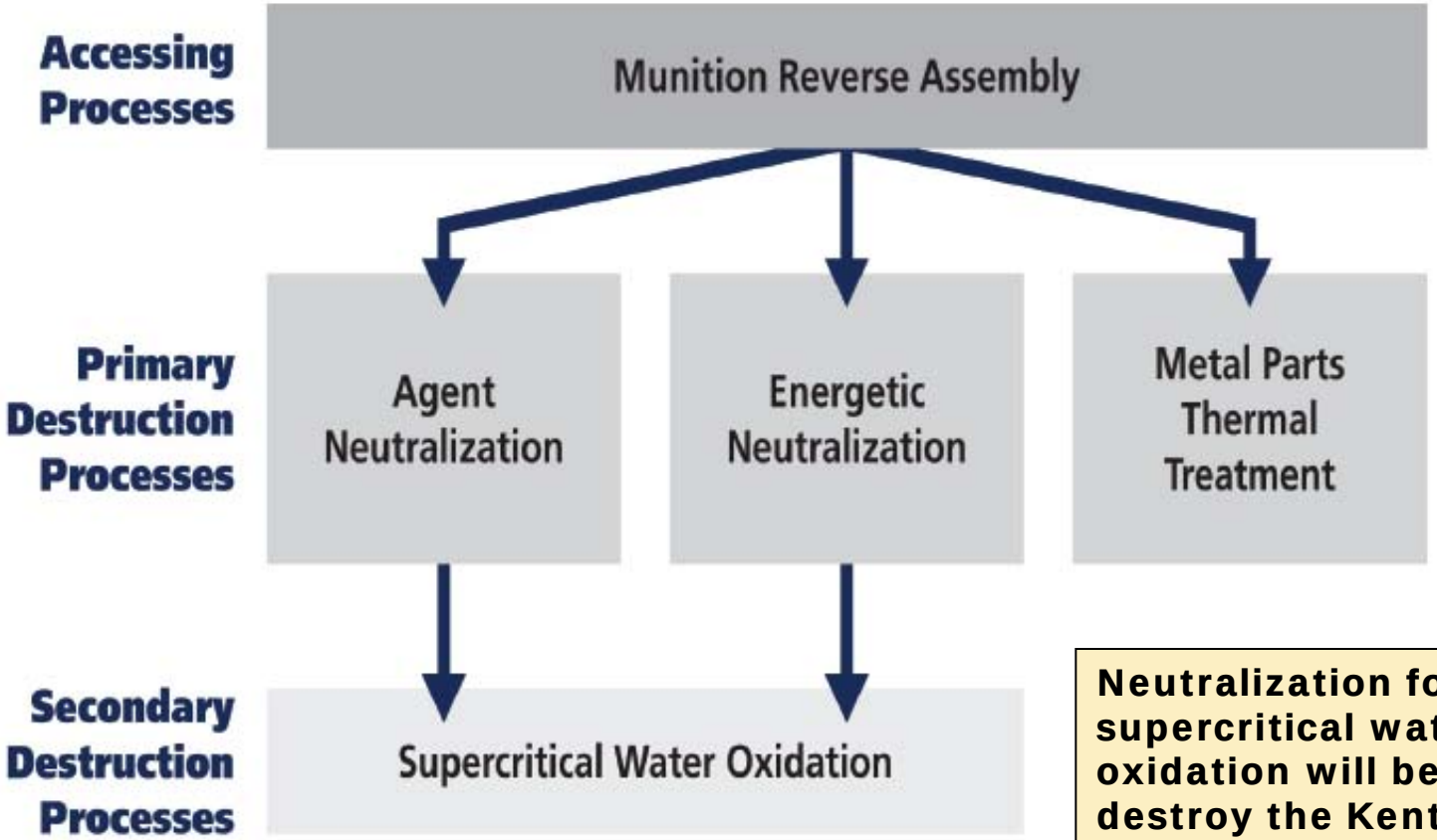
- The Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) will safely destroy 523 tons of chemical agent in rockets and artillery projectiles stored at the Blue Grass Army Depot in Richmond, Ky.

- 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 Assembled Chemical Weapons Alternatives (ACWA) Program, 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 both Kentucky and Colorado.

- The Bechtel Parsons Blue Grass Team, a joint venture of Bechtel National, Inc., and Parsons Infrastructure and Technology Group, along with teaming partners URS Corporation, Battelle Memorial Institute, General Atomics and General Physics, is the systems contractor selected to design, build, systemize, pilot test, operate and close BGCAPP.

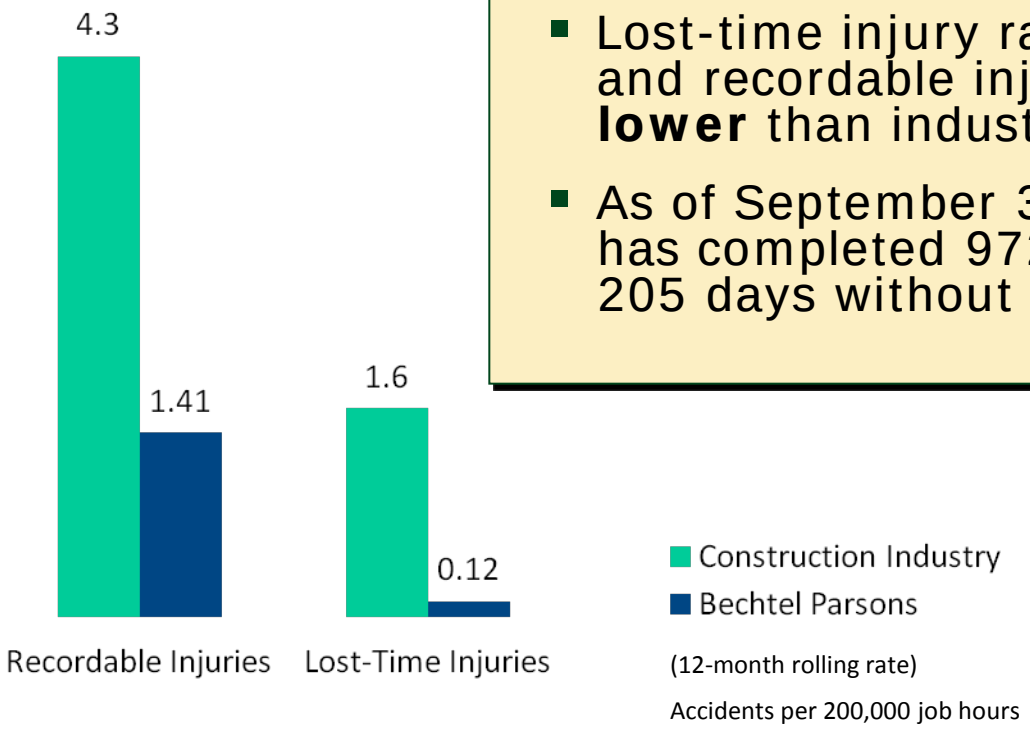
Destruction Technology



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

Safety

- Continued progress toward OSHA Voluntary Protection Program Star Status
- Lost-time injury rate **93 percent lower** and recordable injury rate **67 percent lower** than industry average
- As of September 30, 2011, the project has completed 972,744 hours and 205 days without a lost-time accident



Current Project Staffing

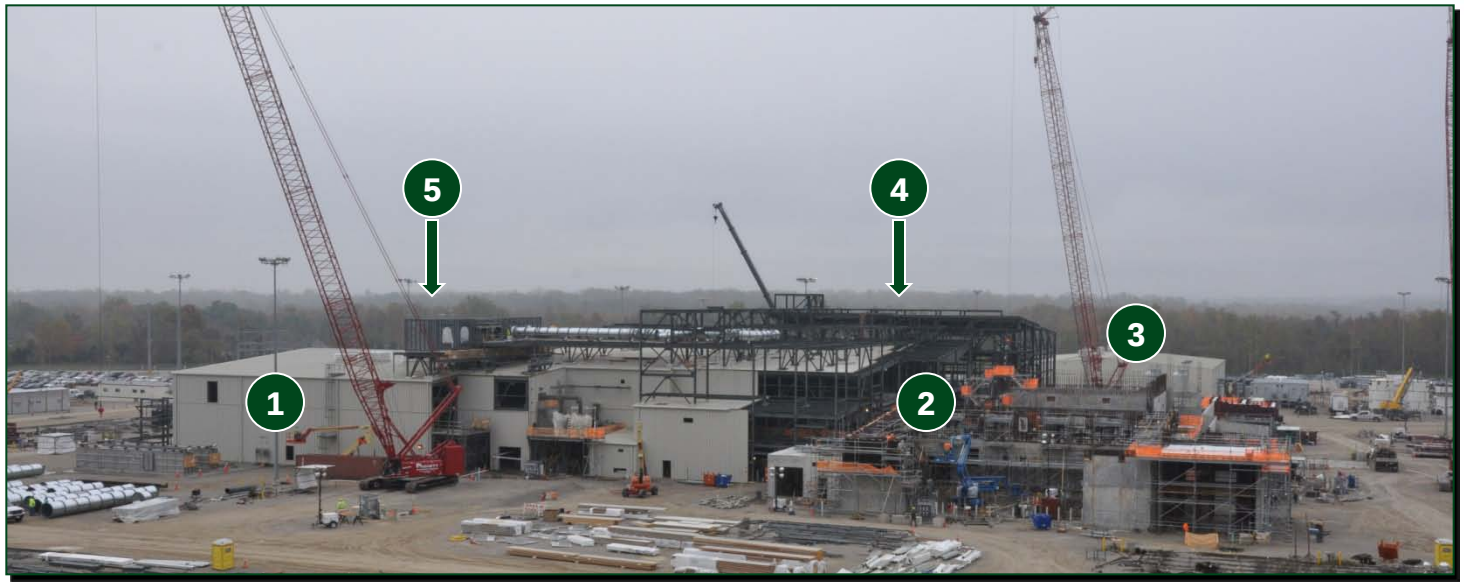
- **Total project employment—914**
- **Richmond, KY—738**
  - Nonmanual—380
  - Craft—358
  - Local hires—59 percent
- **Other locations—176**
  - Pasco, WA
  - San Diego, CA
  - Columbus, OH
  - Frederick, MD

More than 350 skilled craft workers are safely building the BGCAPP.

Economic Impact

- **Acquisitions to date**
  - $75.8 million spent with Kentucky companies
  - $45.2 million spent in Madison and surrounding counties
- **Payroll to date**
  - $204 million of local payroll paid
  - $423 million more to be paid during the remainder of project

Construction Work in Progress



1 Control and Support Building (CSB)
- Metal wall studs and sheet rock
- Electrical, piping and fire detection systems
- Heating, ventilation and air conditioning (HVAC)

3 Utility Building
- Electrical, piping and HVAC systems
- Exterior tanks
- Concrete pads for exterior utilities
- Bulk chemical storage tanks

2 Munitions Demilitarization Building (MDB)
- First and second lift concrete placements
- Structural steel and wall paneling
- Electrical and piping systems
- Vessels and tanks

4 Supercritical Water Oxidation (SCWO) Process Building (not visible in photo)
- Pipe rack steel and equipment tanks

5 Laboratory Building (not visible in photo)
- Concrete foundation complete
- Awaiting building modules

Control and Support Building (CSB)

BGCAPP construction craft workers are diligently erecting support steel along the CSB exterior (above left) . The steel will house utilities such as chilled water and steam to support plant operations. Inside the CSB (above right) craft workers are safely installing heating, ventilation and air conditioning duct work. Once complete, the CSB will house the control room and integrated control system used to operate BGCAPP.

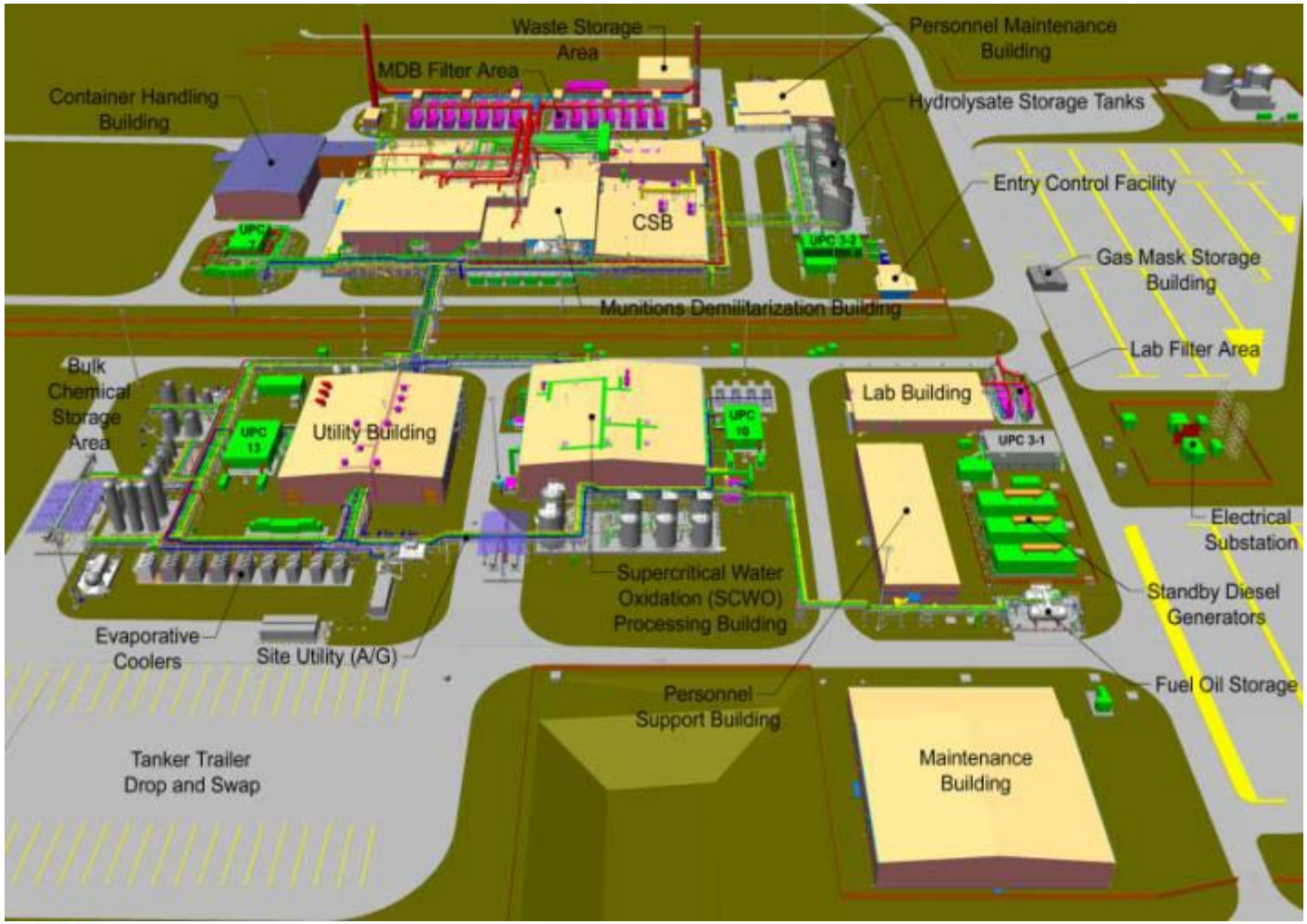
Munitions Demilitarization Building (MDB)

BGCAPP craft workers (above left) continue erecting formwork to prepare for more elevated concrete wall placements. Meanwhile, craft workers (above, right, top) installed more agent neutralization system tanks, agent neutralization reactors (above, right, bottom) and energetics neutralization reactors (not pictured). The MDB is where the chemical weapons will be disassembled, the explosives removed and the agent neutralized.

Supercritical Water Oxidation (SCWO) Process and Laboratory buildings

The SCWO Process Building (above left) concrete foundation is complete and interior piping support steel and equipment installations are underway. The Laboratory building's concrete foundation (above right) is complete in anticipation of receiving 20 modular building components. The SCWO Process Building will house the reactors where agent and energetic hydrolysates, byproducts of the neutralization process, will be subjected to very high temperatures and pressures to destroy the hydrolysates' organic content. The Laboratory will handle and analyze low concentrations of chemical agent when BGCAPP operations begin.

Utility Building (UB) and Bulk Chemical Storage (BCS) area

Outside the UB (above left), BGCAPP craft workers install reinforcing steel and formwork to prepare for a process cooling pump concrete pad placement. Inside the UB, BGCAPP craft workers continue installing piping and equipment systems. At the BCS area, craft workers (above right) are fabricating, erecting and welding large tanks. Once complete, the UB will house equipment to produce steam, compressed air, chilled water and hot water for operations. The BCS area will house four distinct chemicals required to support the neutralization followed by SCWO process.

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