

Monthly Status Briefing

September 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



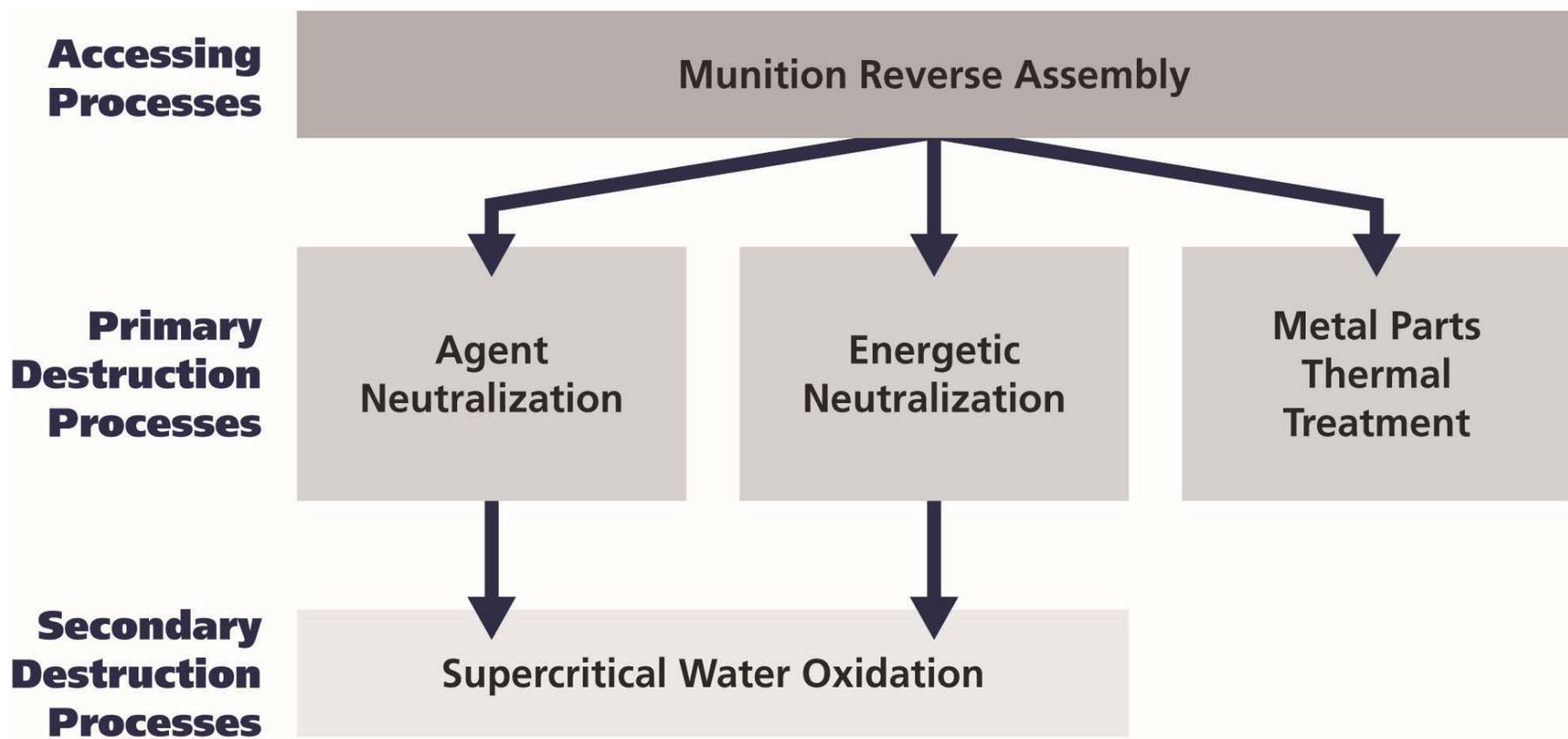
A PARTNERSHIP FOR SAFE CHEMICAL WEAPONS DESTRUCTION

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, Kentucky.
- 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), 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 (BPBG), a joint venture of Bechtel National Inc. and Parsons Government Services Inc., along with teaming partners AECOM, 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

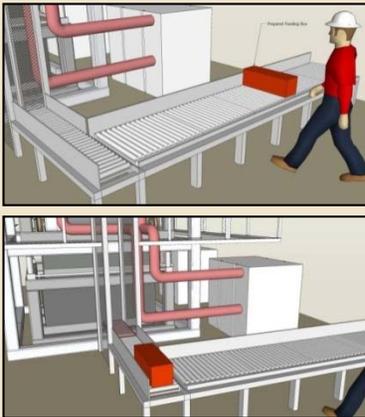
Neutralization followed by supercritical water oxidation will be used to destroy the nerve agent weapons stockpile.



Explosive Destruction Technology Static Detonation Chamber (SDC)

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

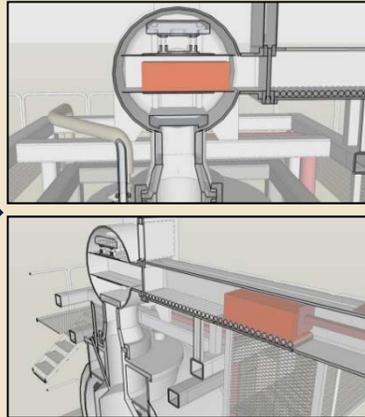
Step 1



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

System allows for single handling of projectiles by workers

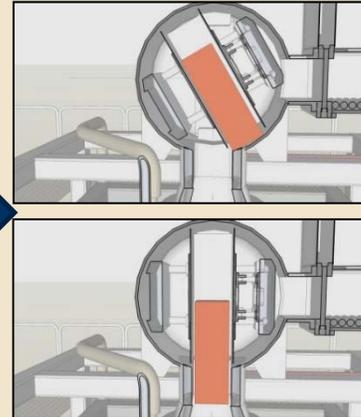
Step 2



Projectiles conveyed to top of vessel

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

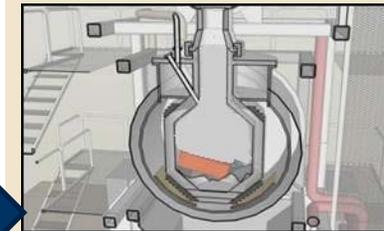
Step 3



Projectiles fed into electrically heated detonation chamber

Chamber temperature maintained above critical temperature of energetics inside the projectiles

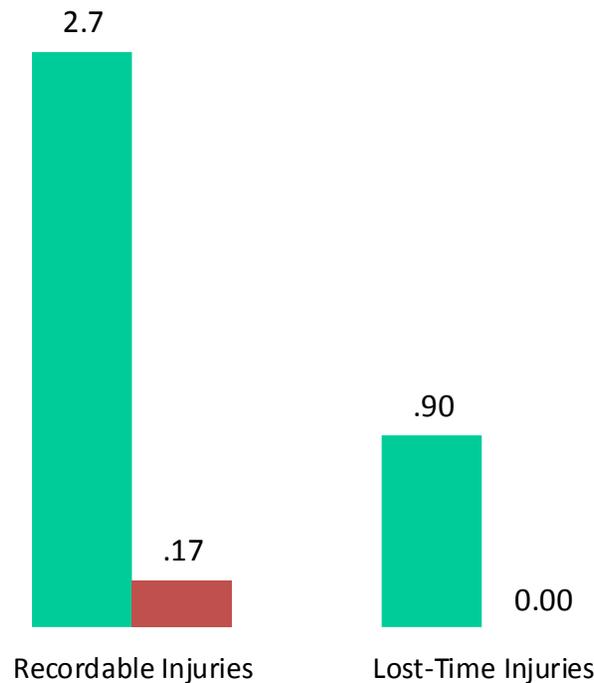
Step 4



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
- Re-certified Occupational Safety and Health Administration Voluntary Protection Program Star Status site
- Lost-time injury rate is **100 percent lower** and recordable injury rate is **94 percent lower** than industry average
- As of August 31, 2015, the project has completed 4,815,838 hours and 488 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—1,185**
- **Richmond, Ky.—1,172**
 - Nonmanual—**854**
 - Craft—**318**
 - Local hires—**42.5 percent**
- **Other locations—13**
 - Pasadena, California.
 - San Francisco, California.



Job seekers gather information about available positions at the Blue Grass Chemical Agent-Destruction Pilot Plant during the Career Opportunities Symposium at the Eastern Kentucky University Perkins Building on Sept. 2, 2015. More than 50 people attended the symposium and spoke with representatives from Bechtel, Parsons, Battelle, AECOM and GP Strategies.

Economic Impact

- **Acquisitions to date**
 - \$150.1 million spent with Kentucky companies
 - \$89 million spent in Madison and surrounding counties
- **Payroll to date**
(includes nonmanual and craft)
 - \$772 million of local payroll paid



Plant operators work together in the control room as training and systemization activities continue. The control room began 24/7 operations in July 2015.

Main Plant Work in Progress



Northwestern Corner - Observation Point

- | | | |
|---|---|---|
| 1 Personnel Maintenance Building | 6 MDB | 10 Supercritical Water Oxidation Building (not visible in photo) |
| 2 Medical Facility | 7 Container Handling Building | 11 Laboratory Building (not visible in photo) |
| 3 Hydrolysate Storage Area | 8 Explosive Destruction Technology Facility Site | |
| 4 Control and Support Building | 9 Utility Building | |
| 5 Munitions Demilitarization Building (MDB) Filter Banks | | |

Main Plant Progress



Above: Blue Grass plant workers pour concrete for a sidewalk outside the Entry Control Facility. Right: A newly-installed strainer stands inside the Explosive Containment Room. The strainer is part of the re-design of the munitions drain systems inside the Munitions Demilitarization Building.



Stakeholder Outreach: U.S. Rep. Andy Barr



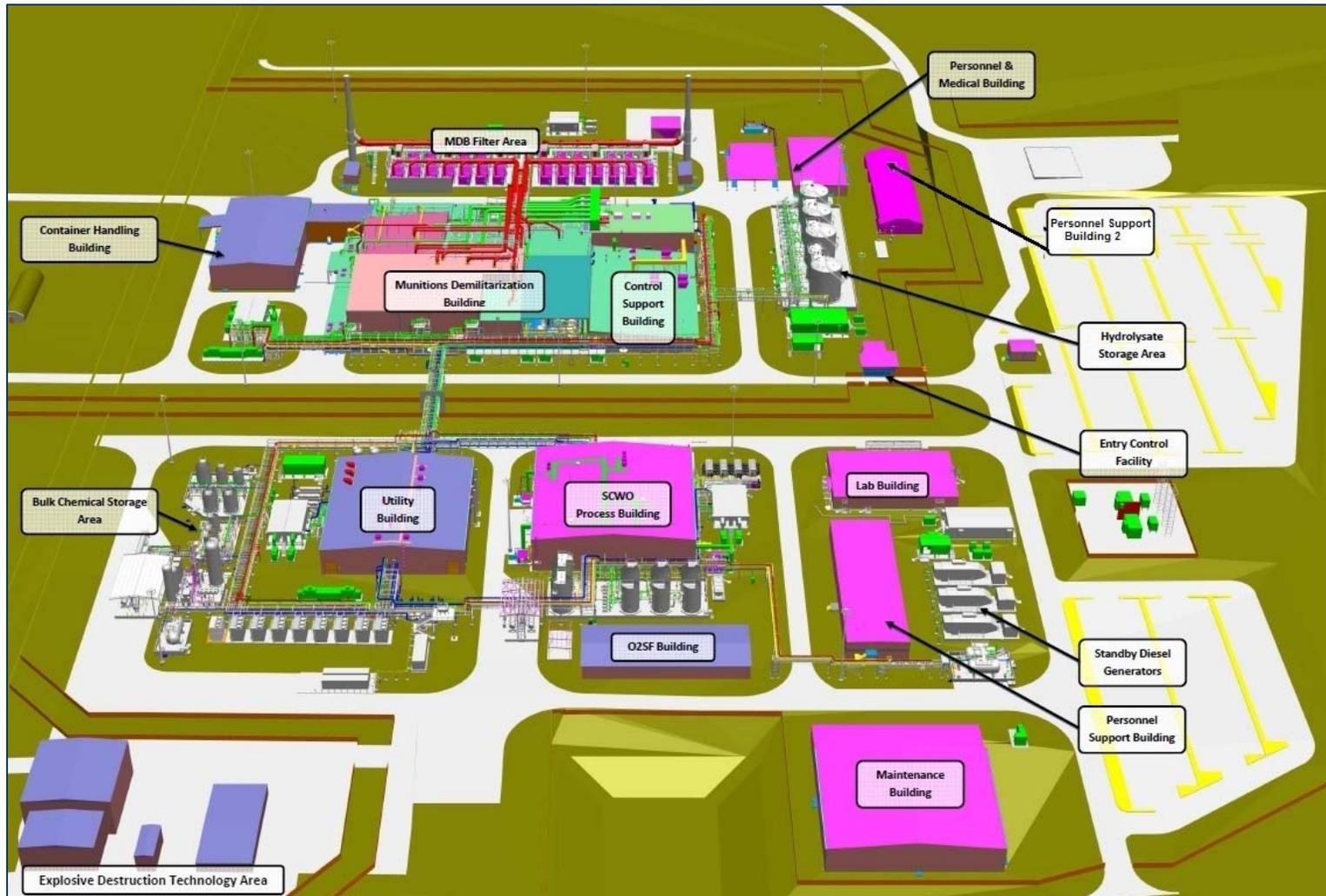
Left: Jeff Brubaker, site project manager, points out the Rocket Cutting Machine inside the Explosive Containment Vestibule to U.S. Rep. Andy Barr (R-Ky.) during a tour in August 2015. Right: Brubaker provides information to Barr and his staff on the Glove Box inside the Munitions Demilitarization Building. The Glove Box will be used by laboratory personnel to obtain samples to verify agent destruction.

National Academies of Sciences- Engineering-Medicine



Neil Frenzl, resident engineering manager, details the process change to munitions drains systems to a committee from the National Academies of Sciences-Engineering-Medicine inside the Explosive Containment Room during a tour in September 2015. The committee is reviewing the impacts of the elimination of the chemical agent washout process.

Blue Grass Chemical Agent-Destruction Pilot Plant



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