

# Monthly Status Briefing



Blue Grass Chemical Agent-Destruction Pilot Plant



Program Executive Office  
Assembled Chemical Weapons Alternatives

## June 2015



### BGCAPP

Blue Grass Chemical  
Agent-Destruction Pilot Plant

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



A PARTNERSHIP FOR SAFE CHEMICAL WEAPONS DESTRUCTION



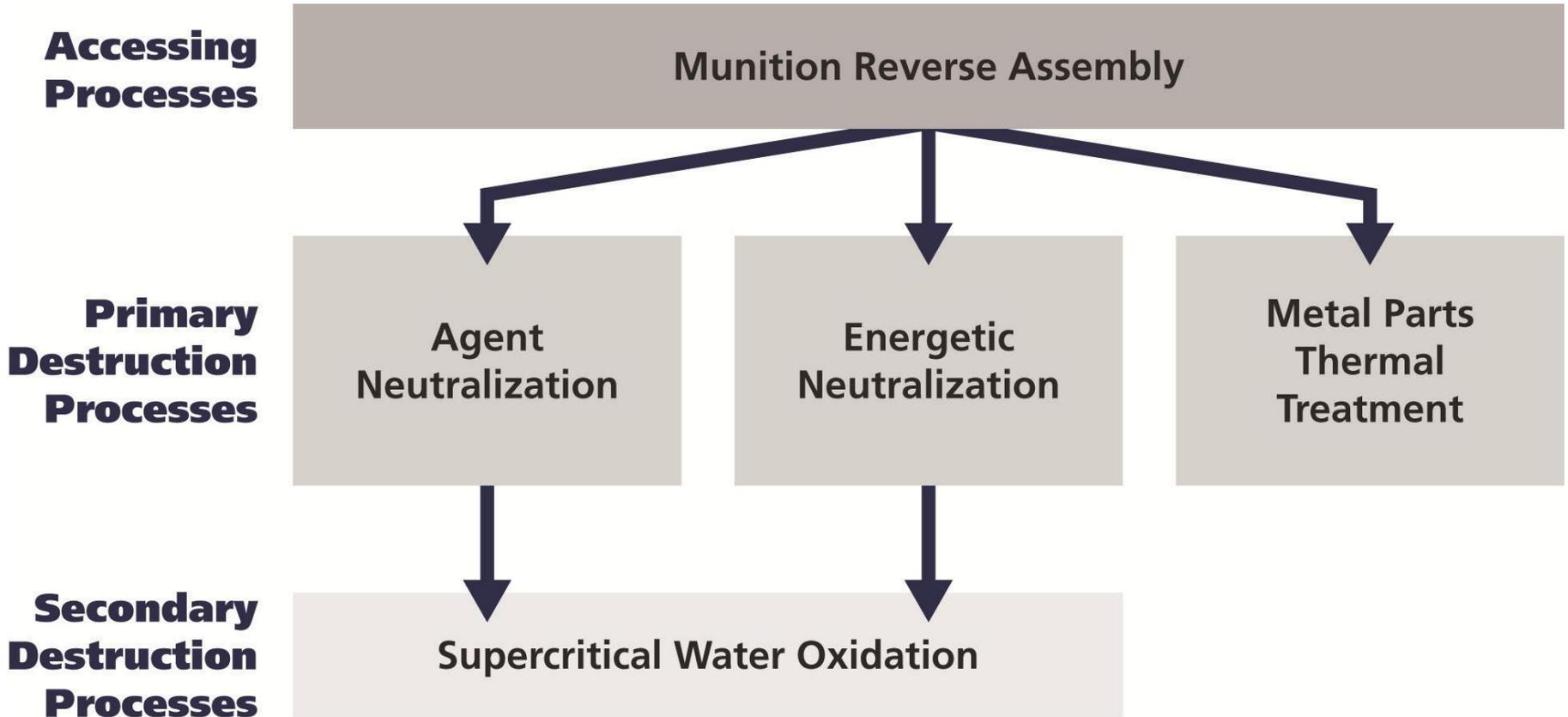
# Project Background

- 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, 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, 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

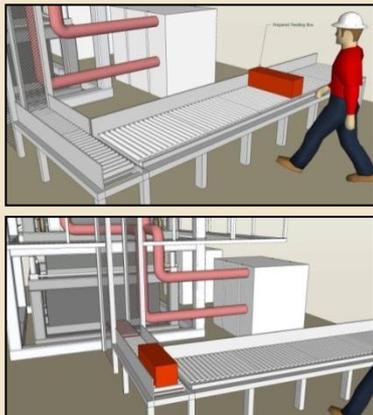
**Neutralization followed by supercritical water oxidation will be used to destroy the nerve agent weapons stockpile.**



# Explosive Destruction Technology Static Detonation Chamber (SDC)

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

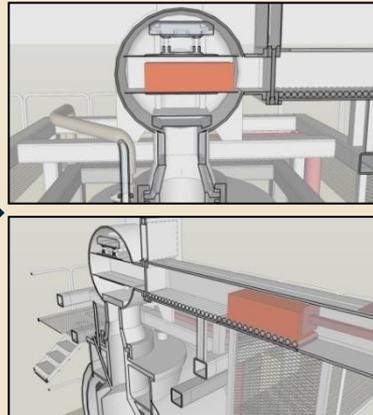
## Step 1



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

System allows for single handling of projectiles by workers

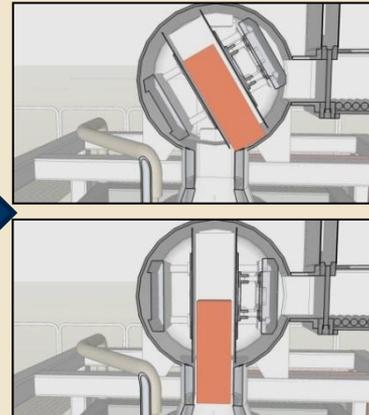
## Step 2



Projectiles conveyed to top of vessel

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

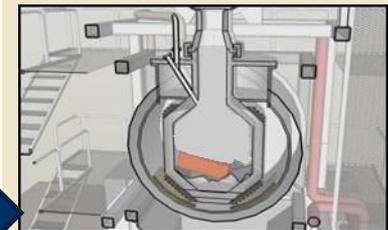
## Step 3



Projectiles fed into electrically heated detonation chamber

Chamber temperature maintained above critical temperature of energetics inside the projectiles

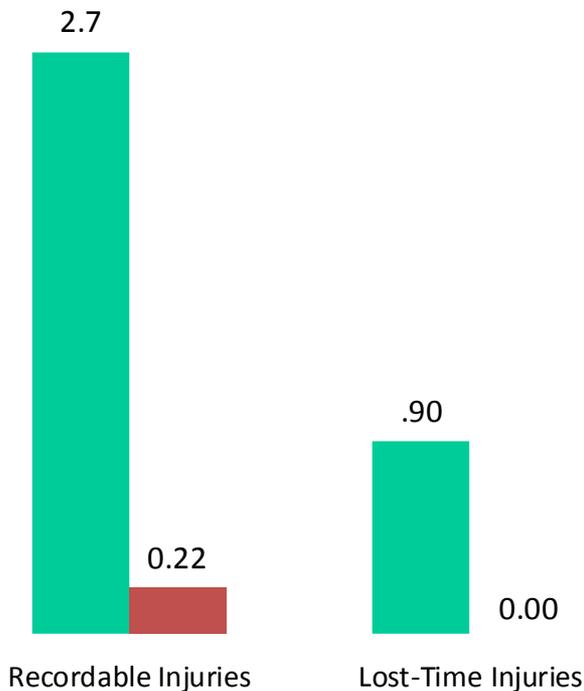
## Step 4



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

Off-gases treated by air pollution control system

# Safety



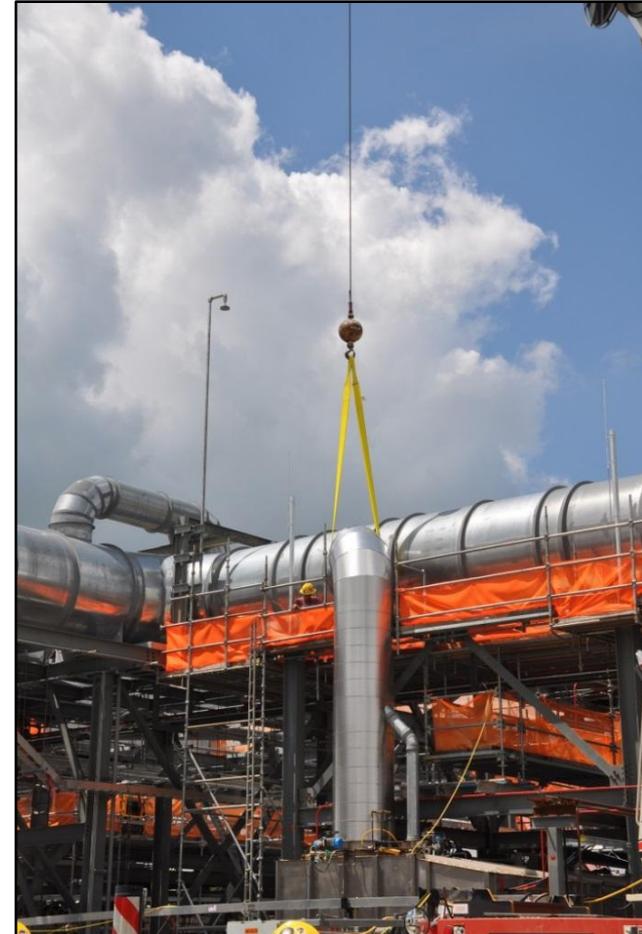
- Safety remains a core value of the project workforce
- Re-certified Occupational Safety and Health Administration Voluntary Protection Program Star Status site
- Lost-time injury rate is **100 percent lower** and recordable injury rate is **92 percent lower** than industry average
- As of May 31, 2015, the project has completed 4,043,725 hours and 396 days without a lost-time accident

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



# Current Project Staffing

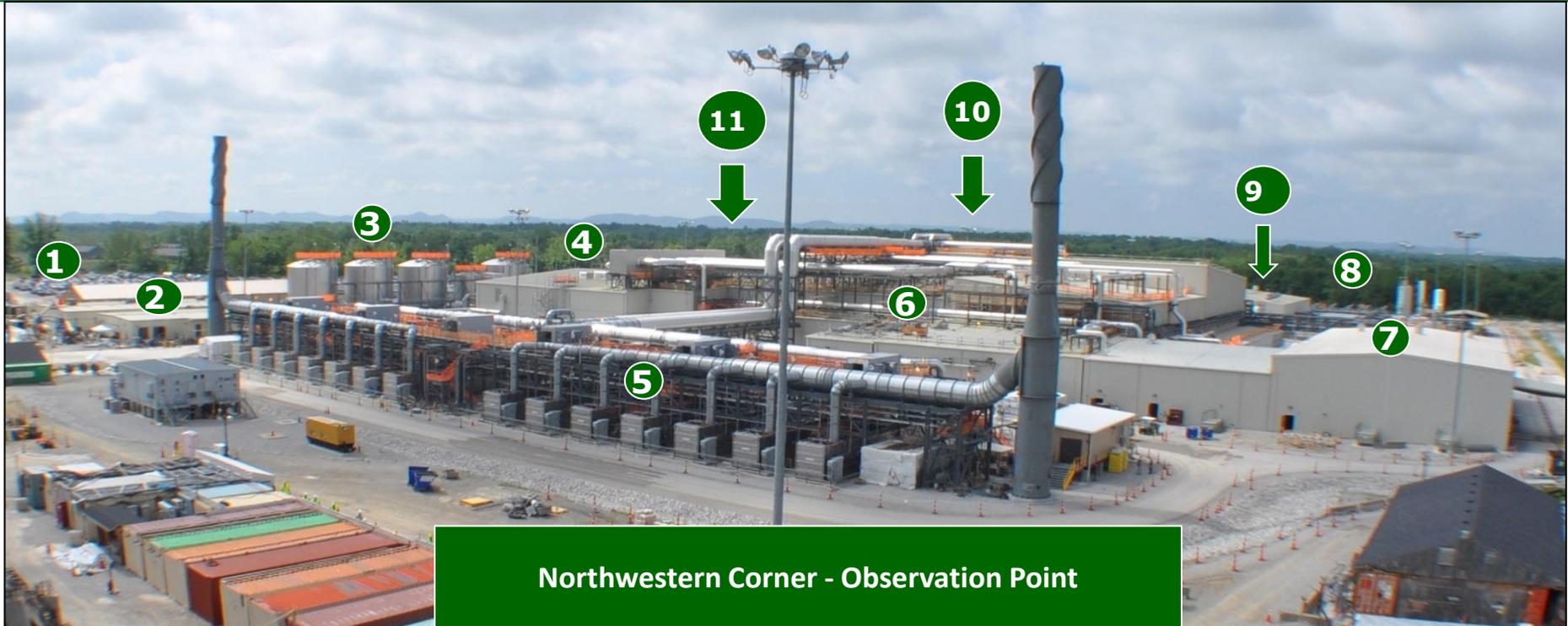
- **Total project employment—1,519**
- **Richmond, Ky.—1,507**
  - Nonmanual—835
  - Craft—672
  - Local hires—56.3 percent
- **Other locations—12**
  - Pasadena, Calif.
  - San Francisco, Calif.



A crane maneuvers a length of ductwork into place at the Munitions Demilitarization Building filter banks.

- **Acquisitions to date**
  - \$140.3 million spent with Kentucky companies
  - \$80.5 million spent in Madison and surrounding counties
  
- **Payroll to date**  
(includes nonmanual and craft)
  - \$738 million of local payroll paid

# Main Plant Work in Progress



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

# Main Plant progress: Ventilation



**ABOVE:** Significant progress has been made to the ventilation system for the Supercritical Water Oxidation Processing Building's control room.

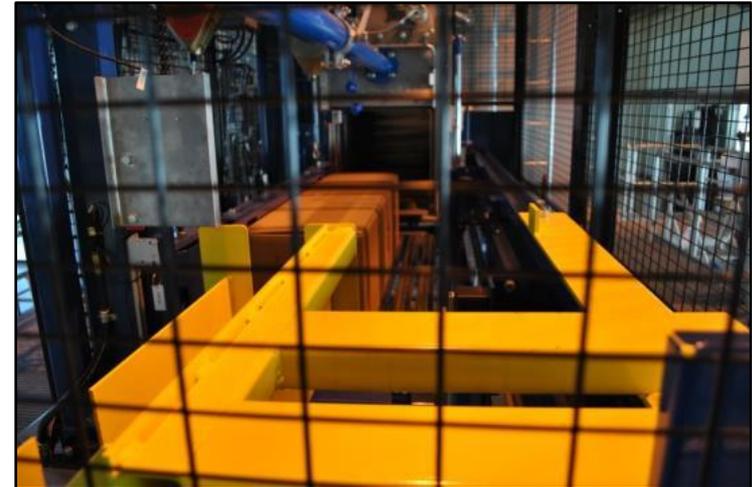
**LEFT:** Three steam stacks have been constructed on the exterior of the Utility Building as part of the facility's Heating, Ventilating and Air Conditioning system.

# Explosive Destruction Technology-Factory Acceptance Test

- **Completion of the SDC Cold Detonation Test in April**
  - Plant stressed to 125 percent of design limits
- **Completion of the SDC 72-hour endurance test in early June in Sweden with no issues encountered**
  - Simulated actual plant conditions
- **Review of test results and data**
- **Disassembly of SDC system for shipment to BGCAPP**
  - Arrival expected in August
- **Completion of the final review of the SDC Enclosure Building**
- **Installation of site electrical grounding grid and fire hydrants**
- **Continued installation of site underground utilities (water and electric)**



Feed boxes, above, on the conveyor and, below, a feed box is shown in Loading Chamber 1.



# Explosive Destruction Technology-Factory Acceptance Test



Control Room operators, above, monitor the Static Detonation Chamber Factory Acceptance Test conducted in Kristenhamn, Sweden.

The Static Detonation Chamber's Off-Gas Treatment System, right, above, at the site of the Factory Acceptance Test.

The Thermal Oxidizer Unit, right, below, during the Factory Acceptance Test.



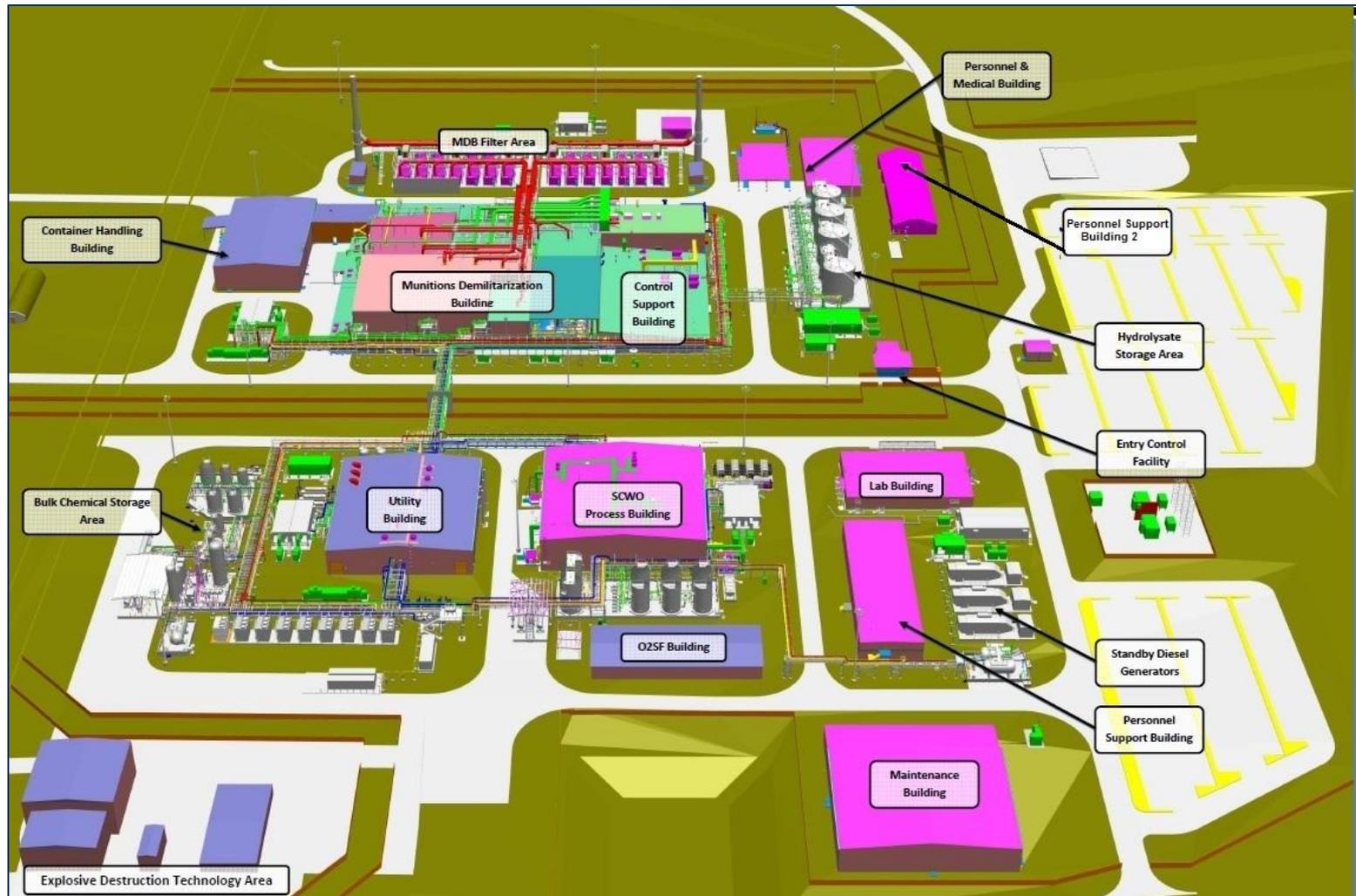


**Doug Omichinski, Bechtel Parsons Blue Grass project manager, recently recognized Madison County, Kentucky Sheriff Mike Coyle, right, and his staff for their support of the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP). The sheriff's office provided vehicle escorts for more than 80 over-dimensional, modular units delivered to the BGCAPP site since 2010. When assembled, these units make up buildings that house the lab and medical facilities and also included large, stand-by generators.**



**Bechtel Parsons Blue Grass and its Joint Venture partners supported the 2015 Kentucky Special Olympics Summer Games, held in Richmond, Kentucky, June 5-6.**

# Blue Grass Chemical Agent-Destruction Pilot Plant



# Contact Information

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