



# Chemical Demilitarization Directorate

Designated as the U.S. Army Corps of Engineers' Life Cycle Project Manager for Chemical Demilitarization more than 24 years ago, Huntsville Center's chemical demilitarization program is nearing the end of its mission.



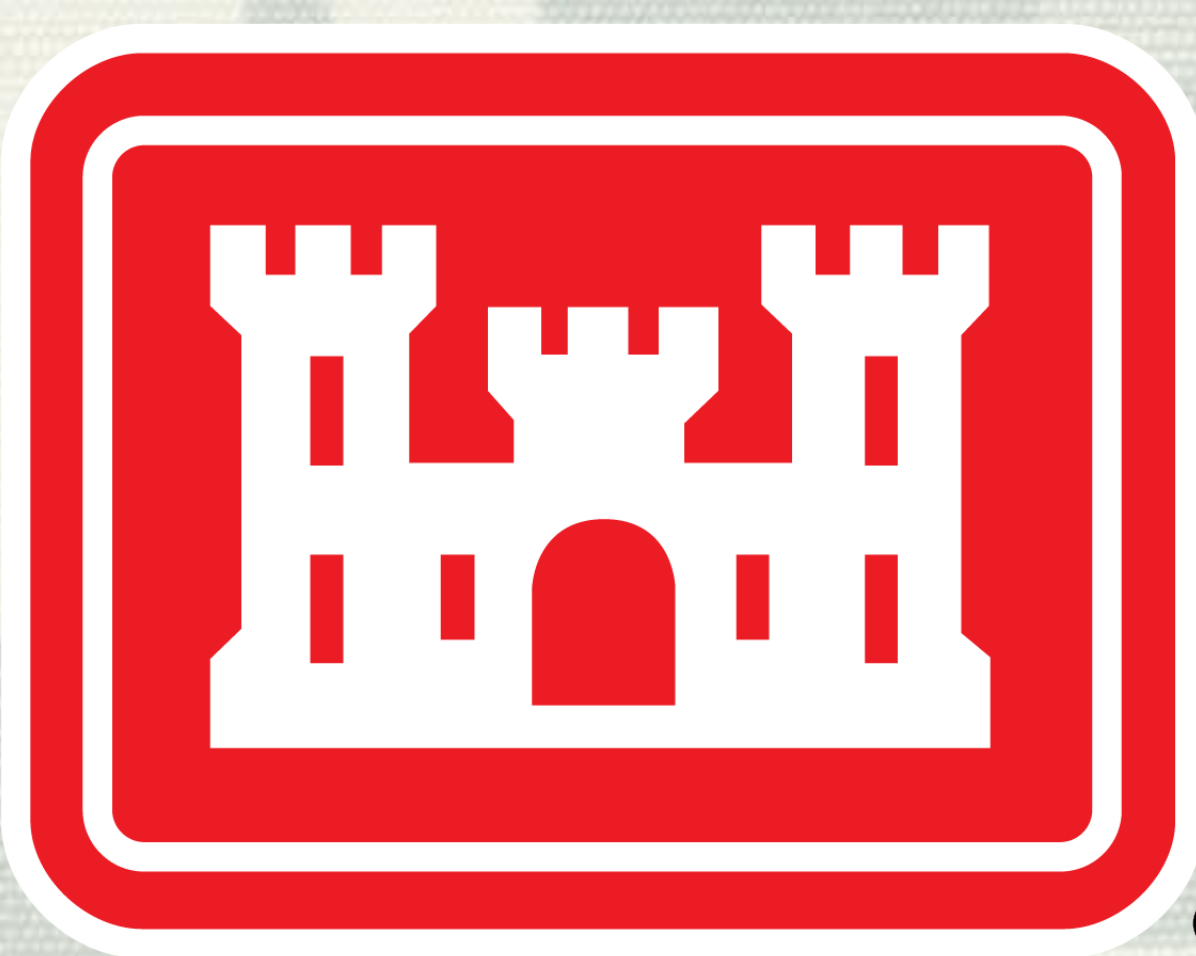
The completion of construction at the Blue Grass Chemical Agent Destruction Pilot Plant will bring an end to the chemical demilitarization program, which encompassed almost half of the Center's funding at the height of the program in 1998.



## Designing the Army's flagship chemical weapons destruction facility

In 1982, Huntsville Center began design development for the Johnston Atoll Chemical Agent Disposal System (JACADS) in the Pacific, the flagship facility for destruction of chemical weapons using incineration technology.

Huntsville Center engineers used lessons learned at JACADS, including site and process adaptations, to design the Tooele Chemical Disposal Facility in Utah, the location of the largest original stockpile of nerve and blister agents in the United States.



US Army Corps of Engineers  
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### Program Milestones:

- 1981** — Huntsville Center and the U.S. Army Toxic and Hazardous Materials Agency sign a memorandum of understanding to establish a program for demilitarization of obsolete chemical weapons
- 1990** — USACE appoints Huntsville Center as the Life Cycle Project Manager for Chemical Demilitarization
- 1992** — The Center officially receives the chemical demilitarization facility construction mission
- 1998** — U.S. government assigns Huntsville Center to support chemical demilitarization activities in the former Soviet Union
- 2015** — The ninth and final chemical agent destruction facility is expected to be complete



## Facility Design & Construction

By the end of 1987, the Huntsville Center was in the process of designing eight chemical weapons disposal facilities at Continental U.S. military installations storing chemical munitions:

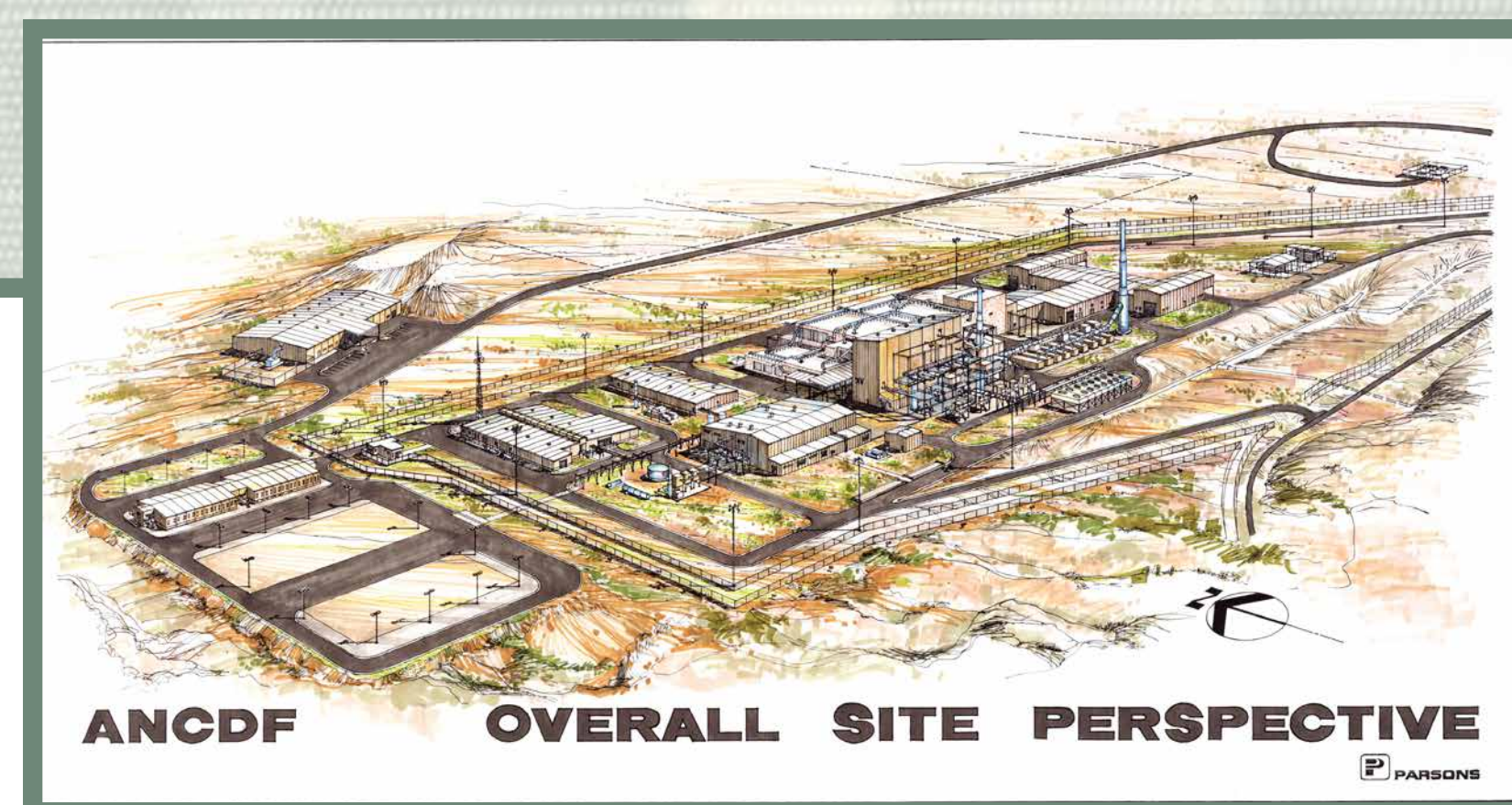
Aberdeen Proving Ground, Maryland  
Pine Bluff Arsenal, Arkansas  
Blue Grass Army Depot, Kentucky  
Pueblo Chemical Depot, Colorado  
Deseret Chemical Depot, Utah  
Umatilla Chemical Depot, Oregon  
Newport Chemical Depot, Indiana  
Anniston Army Depot, Alabama

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## Russian Chemical Weapons Destruction Support Program

In 1998 the U.S. government assigned the Huntsville Center as U.S. construction oversight agent for chemical demilitarization activities in the former Soviet Union. The Center provided contract planning, management and on-site program management for construction planning and implementation of the Russian Chemical Weapons Destruction Complex at Shchuch'ye.

The Center wrapped up the extensive mission in 2012.



## Construction Management - Start to Finish

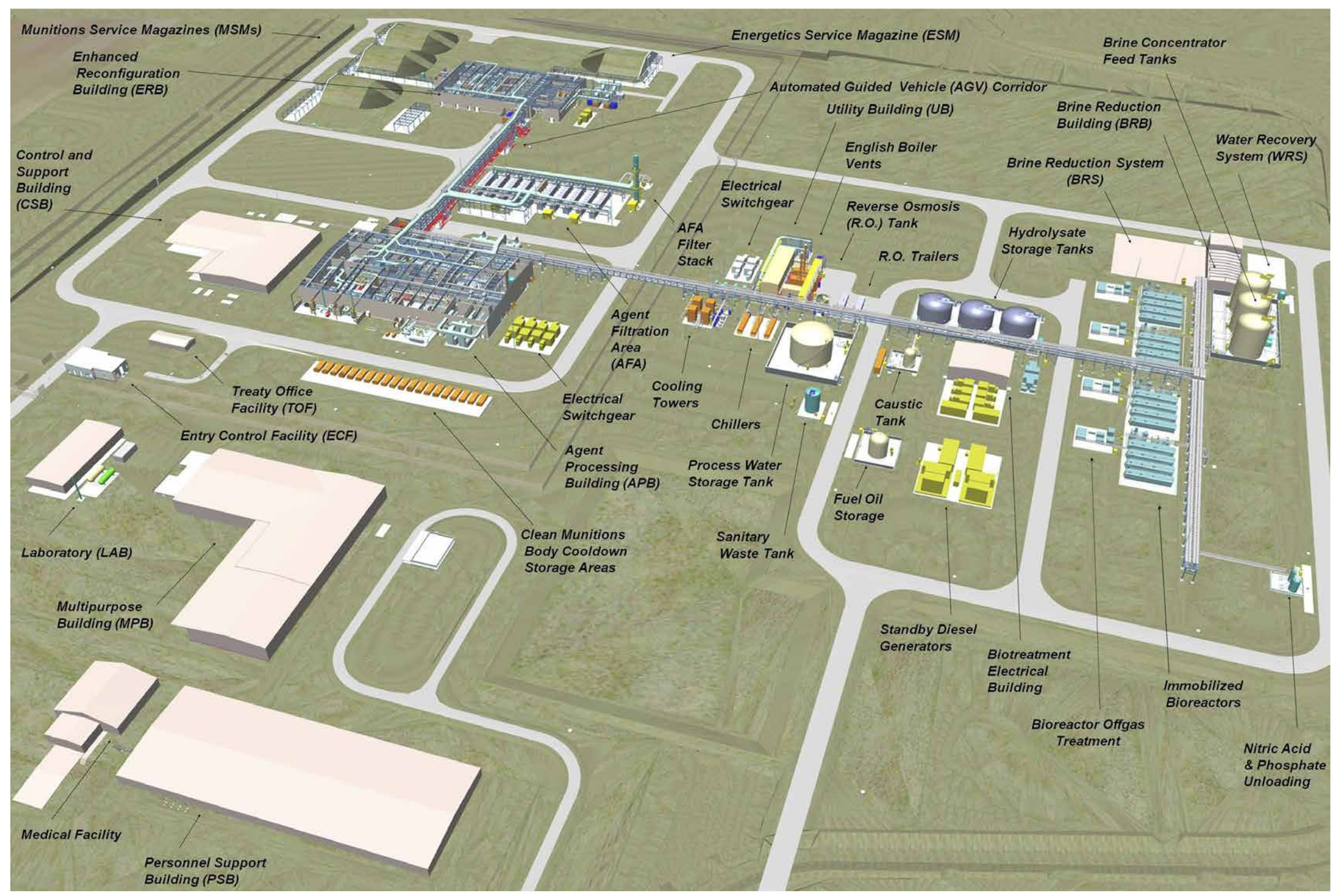
With construction complete in 2001, the Anniston, Alabama, Chemical Agent Disposal Facility was the first destruction facility for which the Huntsville Center managed construction start to finish — a big success for the Center.



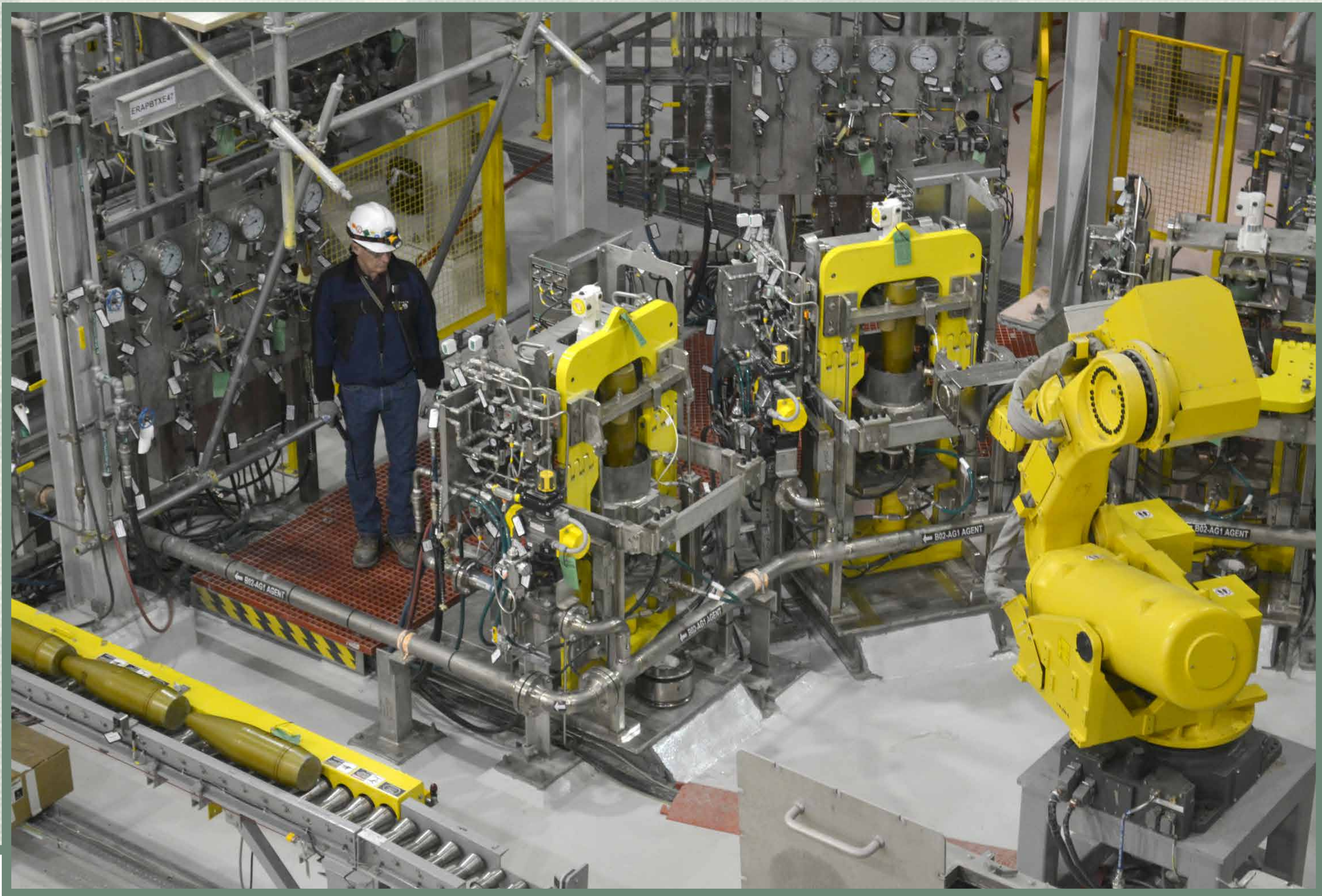




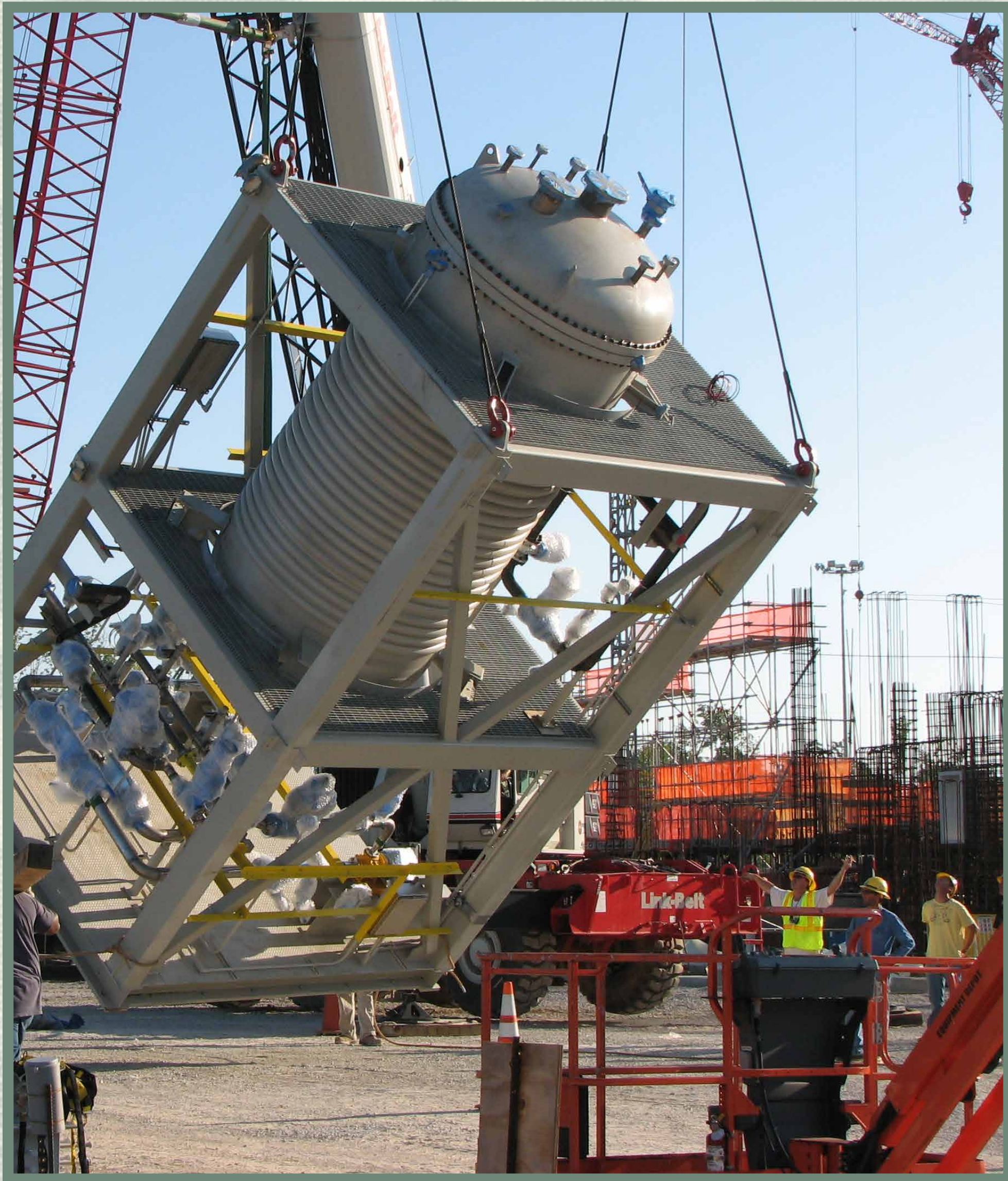
# Designing for Assembled Chemical Weapons Alternative Destruction Technologies



Construction on the Pueblo Chemical Agent Destruction Pilot Plant at Pueblo Chemical Depot, Colorado, was completed in October 2012. The facility destruction technology is neutralization followed by biotreatment.



For each disposal site, Huntsville Center staff has developed initial facility design requirements and identified appropriate equipment based on the approved destruction technology. Inside the Agent Processing Building of the Pueblo Chemical Agent Destruction Pilot Plant, a start-up specialist tests the Cavity Access Machines of the Munitions Washout System. Specialized robots, also procured by Huntsville Center, transfer materials to the appropriate stations.



Neutralization followed by supercritical water oxidation was the destruction technology approved by the Department of Defense for the Blue Grass facility. Three energetics neutralization reactors will neutralize chemical agents that have been removed from chemical munitions.

Huntsville Center’s mission at each location ends when the disposal facility begins operations.



## Designing & Building Blue Grass Blast Walls

With concrete walls 26 inches thick, the Blue Grass Chemical Agent Destruction Pilot Plant's Munitions Demilitarization Building has the most complicated blast walls of the entire program. Designed to protect workers in the unlikely event of an explosion, the walls are made of layers upon layers of rebar and self-consolidating concrete that required seven days to cure.



## Speedy Neutralization

In response to the Sept. 11 terrorist attacks, Huntsville Center began exploring "Speedy Neut" options in 2001 to accelerate the original neutralization process. The chemical demilitarization team helped rework existing processes to find a solution to dispose of the chemical agents sooner, without compromising safety or security.

9/11



Construction on the ninth and final chemical agent destruction facility — at Blue Grass Army Depot in Richmond, Kentucky — is expected to be complete in July 2015.

An often overlooked accomplishment of the chemical demilitarization program is the exceptional safety record achieved throughout the decades. **BUILDING STRONG®**