Pueblo Chemical Agent Destruction Pilot Plant

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The U.S. Army Corps of Engineers Engineering and Support Center's Chemical Demilitarization program continues its support to the Assembled Chemical Weapons Alternatives at the Pueblo (Colorado) Chemical Agent-Destruction Pilot Plant.

Construction work is steadily increasing, and the facility design is nearly complete, said Huntsville Center Project Manager Bill Craven.

Huntsville Center is the Corps of Engineers Life-Cycle Project Manager for facility design and construction, equipment design, acquisition and building complex facilities at continental U.S. facilities that use a variety of technologies to safely destroy the nation's stockpile of aging chemical weapons.

The Pueblo plant is similar to its sister facility, the Blue Grass (Kentucky) Chemical Agent-Destruction Pilot Facility, but not identical.

"Pueblo Chemical Depot stores only mustard agent in artillery and projectile, while Blue Grass has mustard, GB and VX," Craven said. "The technology selected for Pueblo, neutralization followed by biotreatment, is also different."

The process for destroying the chemical weapons at Pueblo involves five steps. First, robotics will remove the energetic components.

"This will take place n the Enhanced Reconfiguration Building," Craven said.

The energetics will be disposed of off site at an existing permitted facility. Next, the agent will be removed from the body robotically and the agent will be washed out with pressurized water.

In step three, the mustard agent will be mixed with additional water and a caustic solution. The byproduct from this process is called hydrolysate. The hydrolysate is readily digestible by the microbes used in biotreatment, which is the fourth step.

The hydrolysates will go through large tanks containing microbes that digest and further break down the solution. Water released from the process will be recycled, leaving salts and biosludge. The biosludge will be filtered to remove water and shipped off site to a permitted treatment, storage and disposal facility.

The final step is treating the metal parts, which requires decontaminating to a higher level by heating to 1,000 degrees Fahrenheit for 15 minutes. The metal can then be recycled.

"Accessing the agent from the munitions, agent neutralization, metal parts treatment and treatment of contaminated secondary wastes and closure materials will all take place in the Agent Processing Building," Craven said.

Craven also said the facility's final design will be complete this month. Initial construction has progressed on schedule, with the access road and site fencing complete.

"The Access Control Point, which includes a vehicle inspection station and an identification and registration building, will open this summer," Craven said. Site clearing and duct bank work continue.

"We are particularly proud of the fact PCAPP employees have worked more than 2.3 million job hours without a lost-time injury," Craven said.

The total cost of the project is around $3.1 billion, and Craven cites funding as the biggest challenge for the project.

"Funding has been limited, so it's increased the length of the total project," he said.

The Bechtel Pueblo Team is the systems contractor selected to design, build, systemize, pilot test, operate and close the facility. Bechtel Pueblo Team is a partnership of Bechtel National, Inc., Washington Demilitarization Co., Parsons and Battelle Memorial Institute. The Corps of Engineers' Omaha District is executing support contracts for the facility.

Huntsville Center Commander Col. Larry McCallister made his first visit to the Pueblo site in March and met with ACWA Site Manager Gary Anderson, Pueblo Chemical Depot Commander Lt. Col. John Riley and Bechtel National Inc. Project Manager Paul Henry.

McCallister also visited with the Huntsville Center Pueblo Resident Office.

"We have nine government employees on our staff, and we will be adding two more government employees to replace contractors at the site for a total of 11 employees," Craven said.

The staffing will steadily increase as the project reaches its peak of construction in the 2009 to 2010 time frame, he said.