



# NEWS RELEASE

## U.S. Army Chemical Materials Agency

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### U.S. Army bids farewell to modern chemical weapons capability *NSCMP completes final step in destroying binary chemical weapons*

**ABERDEEN PROVING GROUND, Md.** — The U.S. Army Non-Stockpile Chemical Materiel Project has said “bye-bye” to binary chemical weapons, after completing the final step in destroying the binary precursor chemicals known as DF and QL.

NSCMP, part of the U.S. Army Chemical Materials Agency, was tasked with destroying existing stores of QL and DF, chemicals designed for use in binary chemical munitions. NSCMP neutralized the chemicals last year at Pine Bluff Arsenal, Ark., and shipped the resulting wastewater to a facility in Texas for final treatment and disposal. The treatment, which used wet air oxidation (WAO), was completed Nov. 27, 2007.

The U.S. Army developed binary chemical munitions in the 1980s to provide the United States with a modern chemical weapons capability. Binary chemical munitions were designed to combine two non-lethal chemicals to create nerve agent inside the munition while in flight to the target. Binary chemical weapons served an additional purpose as the catalyst leading to international agreements on the dissolution of chemical warfare practices.

The Chemical Weapons Convention (CWC), an international treaty signed by the United States requiring the destruction of chemical weapons, mandated the destruction of the binary chemicals QL, diisopropyl aminoethylmethyl phosphonite, and DF, methylphosphonic difluoride. NSCMP neutralized all existing QL and DF and shipped the resulting wastewater to Texas Molecular, a permitted treatment, storage and disposal facility in Deer Park, Texas.

Laurence Gottschalk, Non-Stockpile Chemical Materiel Project Manager, said he is proud of the team of contractors and government employees who completed the project ahead of schedule.

“The U.S. binary chemical materiel is history,” he said. “Congratulations to all of the people involved in completing this first-of-a-kind process in a safe, environmentally sound and timely fashion. I am proud of each member of this team. Each of them contributed to the success of the mission.”

After extensive technology evaluation and testing, NSCMP chose Zimpro® wet air oxidation (WAO) as the best process to treat the wastewater. Zimpro® WAO, provided by Siemens Water Technologies, has more than 50 years of commercial history. Developed in the 1930s as a process to produce artificial vanilla, it was patented as a waste treatment process in 1950. Since then, it has treated wastewater from refineries, acidic material from industrial plants, and sewage sludge.

“This success is especially fulfilling for the Non-Stockpile government-contractor team and a great accomplishment for the U.S. Army,” said Edward Doyle, NSCMP’s waste project manager. “We used an

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'out-of-the-box' approach to partner with industry on this project and the resulting safe operation of the WAO unit while exceeding projected efficacy, availability and schedule is a great way to end this chapter of our cold war legacy."

Non-Stockpile initiated bench-scale testing of the WAO process in 2001. Following were the design and fabrication, and the start of operations of a full-scale WAO system in March 2007. These steps were conducted for the U.S. Army by Shaw Environmental and Infrastructure, NSCMP's waste management contractor.

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[WAO Facility](#)

Photo by Ira Silverberg, courtesy of U.S. Army

CAPTION:

The U.S. Army Non-Stockpile Chemical Materiel Project completed operations at a wet air oxidation (WAO) facility in Texas Nov. 27. The WAO treated wastewater from the neutralization of binary chemicals, the final step in the project to destroy binary chemical weapons.