FACT SHEET

Neutralization of Chemical Agents

In 1994, in response to public input, the Army's Alternative Technologies and Approaches Project started investigating alternatives to incineration for the disposal of the chemical agent stockpiles at Aberdeen Proving Ground, Md., and Newport Chemical Depot, Ind. Each of these sites stores only one type of chemical agent.

These stockpiles, referred to as "bulk agent" stockpiles, are unique because they consist solely of large steel containers filled with chemical agent, without explosives or other weapon components. This simple configuration was ideal for testing alternative disposal methods.

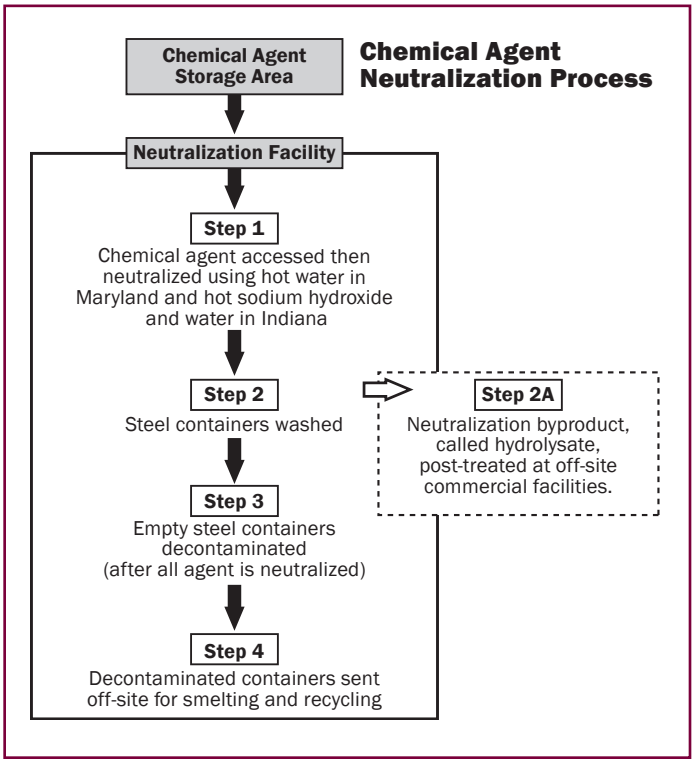
After much study and community involvement, the Army selected neutralization as the best disposal method for the bulk stockpiles. Three independent groups composed of industry, science, safety and technology experts such as the National Research Council, as well as the Maryland and Indiana Citizens' Advisory Commissions, supported the Army's selection. After obtaining the necessary environmental permits, the Army then began construction of neutralization pilot test facilities at the Maryland and Indiana sites.

After the Sept. 11, 2001, terrorist attacks, the Army investigated expediting safe neutralization of the two stockpiles. In 2002, the Army, with the agreement of state and federal agencies and officials, implemented accelerated schedules for neutralizing the Maryland and Indiana stockpiles. As a result of these accelerated programs, the chemical agent stockpiles in Maryland and Indiana should be destroyed at least two years earlier than originally scheduled.

Neutralization. Maryland's chemical agent stockpile will be destroyed by draining the agent from the steel storage containers and neutralizing it on-site in industrial reactors using hot water. The Indiana stockpile will be neutralized on-site in reactors using hot sodium hydroxide and water.

As shown in the diagram below, both processes access the agent, neutralize it and transport the resulting byproduct (hydrolysate) off-site to a commerical treatment and disposal facility for post-treatment. The empty steel containers then are cleaned, monitored to ensure complete decontamination and shipped off-site for smelting and recycling.

Hydrolysate treatment. At both sites, the hydrolysate formed in neutralizing the chemical agent will be tested to confirm that the chemical agent has been destroyed. Although free of chemical agent, the hydrolysate is considered an industrial hazardous waste and will require further treatment. The hydrolysate from the Maryland and Indiana facilities will be transported to off-site commercial treatment and disposal facilities for biotreatment and final disposal.



For more information, contact the Public Outreach and Information Office of the Chemical Materials Agency (Provisional) **1(800) 488-0648** or **www.cma.army.mil**