

Operation *Swift Solution* Update



Nov. 10, 2008

Presented to:

**Chemical Stockpile Emergency Preparedness Program Officials
Richmond, Ky.**

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A Partnership for Safe Chemical Weapons Destruction



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Today's Objective



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- **To share with the emergency preparedness community the status of Operation *Swift Solution* and the issues we have addressed up to this point**
- **To move forward together in the elimination of this potential risk safely and efficiently**



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U.S. Army Partners in Operation *Swift Solution*



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Assembled Chemical Weapons Alternatives

Assembled Chemical Weapons Alternatives, known as ACWA, is the program responsible for the destruction of chemical weapons in Kentucky, to include the three deteriorating steel containers stored at the Blue Grass Army Depot.



Blue Grass Army Depot

The Blue Grass Army Depot is the installation on which the Blue Grass Chemical Activity is located. It is the permit holder for the chemical activity's Part B Resource Conservation and Recovery Act Permit.



Blue Grass Chemical Activity

The Blue Grass Chemical Activity is responsible for the safe storage and maintenance of the chemical weapons stockpile at the Blue Grass Army Depot.



U.S. ARMY CHEMICAL
MATERIALS AGENCY

U.S. Army Chemical Materials Agency

The Chemical Materials Agency is responsible for the safe storage and maintenance of all the U.S. chemical weapons stockpiles.



U.S. Army Edgewood Chemical Biological Center

A team from the Edgewood Chemical Biological Center will use the Chemical Agent Transfer System to drain and neutralize the contents of the steel containers.



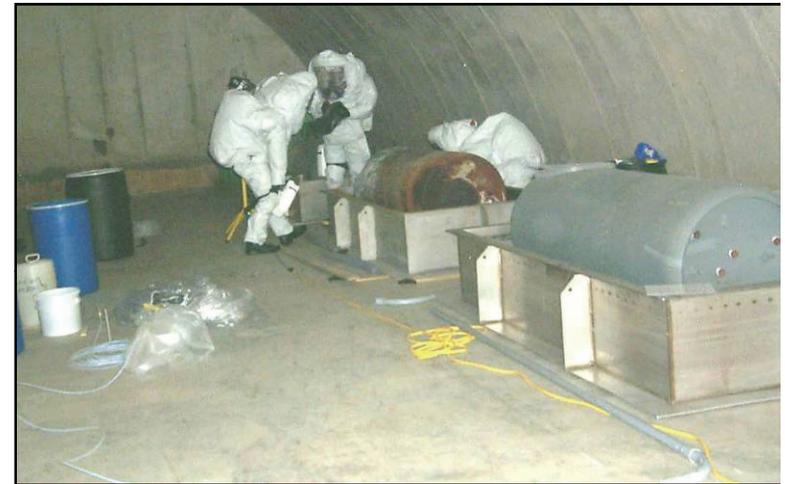
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Situation Description



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- **Three corroding steel containers (referred to in Army nomenclature as “ton containers”) in storage at the Blue Grass Chemical Activity pose a potential risk to the technicians who must monitor them, and also to the depot workforce**
- **The continuing presence of these waste chemicals has the potential for disrupting depot operations and construction schedules**
- **Because of the potential for future leaks, this situation must be remedied as soon as possible**



The contents of these containers are a combination of the nerve agent GB, GB breakdown products and other waste fluids from past sampling and maintenance activities.



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Chronology of Events



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Date	Action
Aug 07	<ul style="list-style-type: none">Blue Grass Chemical Activity detects a leak in one of three steel containers holding a mixture of GB and its breakdown products
Sep 07	<ul style="list-style-type: none">Initial discussions begin with Kentucky Department for Environmental Protection (KDEP), the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) workforce and Citizens' Advisory Commission (CAC)/Chemical Destruction Community Advisory Board (CDCAB) co-chairs
Nov 07	<ul style="list-style-type: none">Follow-on meetings with KDEP and CAC/CDCAB co-chairs to discuss and receive input on destruction technology options
Dec 07	<ul style="list-style-type: none">Path forward outlined to KDEP, BGCAPP project workforce, and citizens' groupsDetailed preparations initiated
Jan 08	<ul style="list-style-type: none">Public meeting conducted
Feb-Mar 08	<ul style="list-style-type: none">Documentation for Temporary Authorization Request (TAR) developed
Apr 08	<ul style="list-style-type: none">First TAR submitted to KDEP
May 08	<ul style="list-style-type: none">Destruction/Treatment plan submitted to KDEP



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Chronology of Events, continued



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Date	Action
Jul 08	<ul style="list-style-type: none">▪ First Temporary Authorization Request (TAR) deemed technically complete for construction▪ Kentucky Department of Environmental Protection (KDEP) continues to review technical completeness for treatment operations▪ Waste treatment options discussed with Citizens' Advisory Commission's Secondary Waste Working Group▪ Low-level agent vapor originates from container that leaked in August 2007
Aug 08	<ul style="list-style-type: none">▪ Site preparation and improvement work conducted
Sep 08	<ul style="list-style-type: none">▪ Personnel mobilized and equipment set up▪ Second TAR submitted to KDEP to extend waste storage if necessary
Oct 08	<ul style="list-style-type: none">▪ Additional equipment received on site and installed▪ Pre-operational inspection conducted
Nov 08	<ul style="list-style-type: none">▪ KDEP approves TARs▪ Chemical Weapons Convention (treaty) inspectors briefed▪ Start of operations
Dec 08	<ul style="list-style-type: none">▪ Complete neutralization operations▪ Start container cut & clean operations
Jan 09	<ul style="list-style-type: none">▪ Start demobilization
Feb 09	<ul style="list-style-type: none">▪ Complete demobilization



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Current Status



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- **U.S. Army Element, Assembled Chemical Weapons Alternatives, in collaboration with the Blue Grass Army Depot and the Blue Grass Chemical Activity as the permit owner/operator, worked in cooperation with the Kentucky Department for Environmental Protection and the U.S. Environmental Protection Agency to obtain approval to begin destruction operations for Operation *Swift Solution***
- **An operational readiness review and safety stand-down were conducted to ensure that the proper safety procedures are in place to protect the environment and the workforce**
- **Workforce briefed on operation**



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Site Preparation



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- **Received approval from Kentucky Department for Environmental Protection to begin site preparation**
- **Initiation of site preparation in August included clearing the site, placing a concrete pad and completing necessary road work**
- **Mobilized temporary structures and the equipment needed for the destruction operations**





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Technology



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- **The Chemical Agent Transfer System (CHATS) will be used to destroy the nerve agent GB and its breakdown products stored in three steel containers**
- **Since first developed, CHATS has successfully destroyed the contents of more than 2,000 steel containers**
- **Each steel container will be partially inserted into the CHATS and sealed to prevent the release of any chemical agent vapor**



The Chemical Agent Transfer System, front view above, and back view, below.





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Technology, continued



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- **The containers will be drained and the contents will be transferred into a neutralization reactor**
- **The reaction chemicals and mechanics are similar to those to be used at the Blue Grass Chemical Agent Destruction Pilot Plant**
- **Once neutralized, the liquid waste will be transferred into a “Eurotainer” for storage**



To maximize safety to the workforce and the community, the steel containers will be transported from the igloo to the general purpose operations shelter in a SPORTS, featured above.



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Technology, continued



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- **The Chemical Agent Transfer System (CHATS) is housed in a general purpose operations shelter comprised of a ceiling, walls and flooring**
- **The general purpose operations shelter will be maintained under negative pressure with an air filtration system containing carbon filtration units that will be attached to the shelter to prevent any agent release to the chemical limited area**



The exterior view, above of the general purpose operations shelter, and interior view, below, of the attached personnel decontamination system





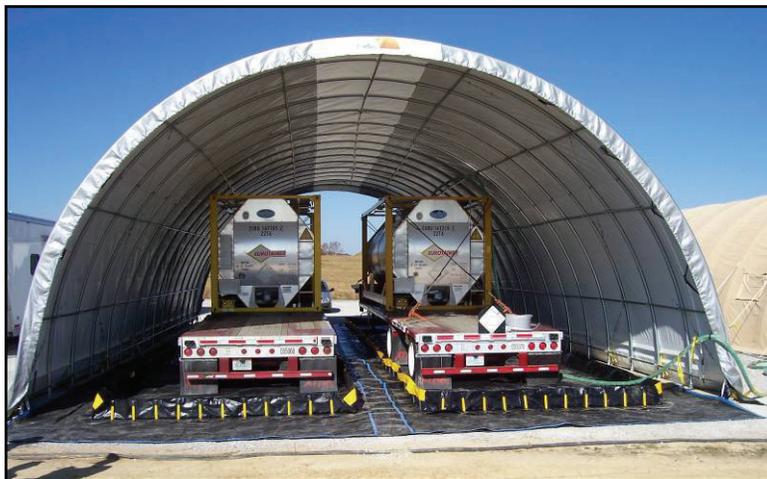
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Technology, continued



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- **Various other structures and equipment will support this operation including an operations shelter; chemical agent filtration system; analytical lab; trailers for command, personnel and treaty activities; and the radio communications system**



Above - The trailers above include the mobile analytical lab, far left, and the treaty trailer. The mobile lab will analyze the neutralization product, air samples and secondary waste. The treaty trailer will house treaty representatives who will monitor the destruction process by video and will have access to all lab reports to ensure neutralization of the GB and caustic solution.

Left - Eurotainers also have been brought to the Swift Solution site. These will safely store the liquid waste produced during operations, which will be disposed of at an off-site permitted disposal facility.



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Safety Procedures and Plans



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- **The Operation *Swift Solution* team planned for emergency response and contingency actions for this mission, which was part of the Temporary Authorization Request approved by the Kentucky Department for Environmental Protection**
- **Emergency response and notification procedures are the same as practiced in the Chemical Accident/Incident Response and Assistance exercises, as well as the annual Chemical Stockpile Emergency Preparedness Program exercises**



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Secondary Waste Treatment Plan



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- **With the concurrence of the Kentucky Chemical Demilitarization Citizens' Advisory Commission and its subcommittee, the Chemical Destruction Community Advisory Board, all secondary liquid and solid wastes will be shipped to Veolia Environmental Services near Port Arthur, Texas for final treatment and disposal**
- **Assembled Chemical Weapons Alternatives considered several alternatives for disposal with the criteria being safety, expeditious treatment of all wastes using a single technology, and no expenditure of labor and resources to research and develop new approaches**
- **The only option that met all requirements was shipment to the Veolia facility which is fully licensed and permitted to accept such wastes**
- **This decision applies only to wastes generated by Operation *Swift Solution* and does not set a precedent for disposal of the larger quantities of similar waste to be generated in the future by the Blue Grass Chemical Agent-Destruction Pilot Plant**



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Questions