U.S. ARMY CHEMICAL MATERIALS AGENCY

MONTHLY UPDATE

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Storage structures readied for future use

New monitoring requirements dictating DCD igloo cleanup

Thirty down, 178 to go. One by one, Deseret Chemical Depot's storage igloos are being emptied, cleaned, monitored and sealed until future use.

It's a task that has recently been coupled with more stringent guidelines from the U.S. Army's Chemical Materials Agency (CMA). CMA recently directed its stockpile storage locations to toughen their monitoring requirements from the WPL (Worker Population Limit) to the GPL (General Population Limit), which are time-weighted average exposure limits recommended by the Centers for Disease Control and Prevention. The GPLs are 2 to 30 times more stringent than the WPLs.

DCD Commander, Col. Mark Pomeroy, visually inspects an empty igloo that has been monitored and confirmed to be free of chemical agent contamination. All DCD igloos that are cleaned and monitored successfully will remain sealed until they are utilized by Tooele Army Depot.

Before an igloo can be deemed "clean" it is warmed and maintained at 70 degrees Fahrenheit for 24 hours and then monitored for chemical agents. Using the conventional GPL monitoring method, the Depot Area Air Monitoring System (DAAMS), monitoring the igloos could have been costly and time consuming, considering the time it takes to complete DAAMs analysis. But an improved technology from nearby Dugway Proving Ground uses an optically enhanced flame photometric detector. It offers accurate results, near real-time monitoring and it's anticipated it could save money.

"We have been working closely with Dugway Proving Ground to get this technology," said Kevin Draper, DCD compliance inspector. "This is the first time the technology has been used for something like this and we're glad to have it."

Before an igloo is monitored, a team of workers walks through and carefully inspects the structure, searching for possible problem areas such as spots or cracks in the concrete that could be contaminated with chemical agent. The igloo is then thoroughly swept and pressure washed before it is heated and monitored for chemical agents VX, GB, mustard, lewisite and GA.

"Only one igloo had to be washed twice because its initial monitoring results were too high," said Draper. "We power washed it a second time and the monitoring results were good."

DCD Commander, Col. Mark B. Pomeroy, plans to visually inspect each igloo before its doors are sealed.

"I'm visually inspecting each empty igloo basically for peace of mind," said Col. Pomeroy. "If anybody asks me how do I know the igloos are empty? I can confidently tell them because I saw each and every one of them myself. I am also checking that the proper steps have been taken to ensure the empty igloos are also free of chemical agent."

So far 30 igloos have been certified empty and clean. DCD hopes to complete 60 igloos by the end of the year and finish all of them by the end of 2012.

All of DCD's igloos will eventually be turned over to Tooele Army Depot, which plans to take control of the entire DCD property in July 2013.

Demonstrating destruction efficiency

Workers complete ATLIC test burns

Workers at the Area 10 liquid Incinerator (ATLIC) have completed a combined Surrogate Trial Burn (STB) and Comprehensive Performance Test (CPT) to demonstrate the destruction efficiency of the incineration process. The ATLIC will destroy Deseret Chemical Depot's stockpile of GA nerve and lewisite blister agents stored in bulk containers.

"The trial burn went very, very smoothly," said Will Nielsen, GA/lewisite campaign manager. "It was a complicated trial burn that went very well."

During the STB, a surrogate chemical mixture was used to demonstrate the efficient combustion of hazardous chemicals. The mixture, containing chlorobenzene and tetrachloroethylene, was designed to mimic GA nerve and lewisite blister agents, only it is ranked by the EPA as being more difficult to destroy.

Because both agents are known to be contaminated with

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Dressed in protective equipment, entrants Frankie Griffith and Richard Curtis make the first entry into the Explosive Containment Room (ECR) to officially begin the cutter machine operations. (Clockwise, from top left) Griffith shows one of the 4.2-inch mustard mortars inside its overpack container before placing it in the specially designed cutter equipment, where a single cut is made around the top of the mortar. Griffith and Curtis re-enter the ECR after the cut is complete to remove the explosive components, also known as bursters, from the mortar.

Mustard mortars destroyed

Less than 200 projectiles remain to be processed at the TOCDF

In less than three weeks the Deseret Chemical Depot's (DCD's) stockpile of overpacked 4.2-inch mustard mortars has been destroyed. Tooele Chemical Agent Disposal Facility (TOCDF) workers completed destruction of the remaining 135 mortars on Oct. 14. Workers began processing the 4.2-inch mortars on Sept. 29—utilizing a specially-designed cutting machine that assisted with the removal of the explosive components.

Originally, plans were to use the DAVINCH, or Detonation of Ammunition in a Vacuum Integrated Chamber, to dispose of DCD's 300-plus overpacked, mustard-filled munitions, consisting of 4.2-inch mortars and 155mm projectiles. However, unexpected schedule delays to the DAVINCH made it necessary to utilize the TOCDF facility in time to meet the international treaty date of April 29, 2012.

The day before plant operations restarted, DCD storage area workers delivered two On-site Containers (ONCs) holding the first set of overpacked 4.2-inch mortars to the plant. As a result of previous sampling operations, the remaining 4.2-inch mortars were all in overpack containers, providing an air-tight seal to control any mustard agent leaks from the munitions.

Once TOCDF workers unloaded the 4.2-inch mortars from the ONC, they transported them into one of two Explosive Containment Rooms (ECRs) to remove the munitions from their overpack containers. Next, the mortars were placed onto the cutting machine, upon which control room operators used remote-controlled equipment to cut the mortar in order to access the munition's contents. The energetics from the mortars were then removed and processed in the Deactivation Furnace, while the agent-filled mortars and overpack containers were decontaminated in the Metal Parts Furnace.

Workers are currently preparing the plant for the 155mm mustard projectile campaign, which is expected to commence mid-November. As for the DAVINCH, it continues systemization activities and is anticipated to begin operations in mid-December. Both the DAVINCH and plant operations will be finished in time to meet the treaty deadline.

Upcoming Events

- **Nov. 8, 1:00 p.m. -** DCD Restoration and Advisory Board meeting to discuss environmental cleanup activities associated with the depot. The meeting will be held at the Tooele Chemical Stockpile Outreach Office, 54 S. Main Street in Tooele.
- **Nov. 17, 6:30 p.m. -** Utah Citizens' Advisory Commission meeting. The meeting will be held at the Tooele County Emergency Management Building, 15 East 100 South, Tooele.

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ATLIC

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metals, the surrogate mixture was also spiked with arsenic, lead and mercury. However, lewisite is known to contain higher concentrations of arsenic and mercury and will require an additional CPT to demonstrate the processing of the higher levels of metals. The lewisite CPT will be performed following change-over activities after the GA campaign.

The ATLIC includes a Pollution Abatement System (PAS) with enhanced capabilities to remove the higher quantities of metals contained in the agents. The STB and CPT also test the ability of the PAS to remove particulates and metals from the furnace exhaust, ensuring that it is environmentally safe before release into the environment.

Samples collected during the test burn have been sent to an external lab for analysis. The lab will verify the destruction efficiency and determine if the permit emission standards have been met. The lab results will be provided to both the Utah Division of Solid and Hazardous Waste (DSHW) and Department of Air Quality (DAQ) for final approval.

Disposal of the GA nerve agent is anticipated to begin in early November and is expected to take less than two weeks to complete. Lewisite operations will begin early next year.

Gene Youngerman, senior project chemist from URS' Austin, Texas office, prepares trial burn equipment inside a mobile test facility parked at the Area 10 Liquid Incinerator. The combined surrogate trial burn and comprehensive performance tests were completed on Oct. 7. URS Photo

Workers who helped make the TOCDF's ISO 14001 certification a reality, stand with the site's new flags celebrating the milestone. TOCDF is the first U.S. chemical demilitarization site to achieve independent certification of its Environmental Management System. The achievement was celebrated with two other accomplishments: receiving the Industry Leader Award from the National Safety Council and completion of CAMDS closure work, clearing the way for demolition this winter.

URS notifies employees of upcoming layoffs

On October 6, URS officials at the Tooele Chemical Agent Disposal Facility (TOCDF) began notifying project employees who will be affected by the initial rounds of workforce reductions.

Project employees support various activities at the Deseret Chemical Depot, including TOCDF disposal operations, Chemical Agent Munitions Disposal System (CAMDS) closure activities and Area 10 operations. Area 10 operations include secondary waste treatment, the Area 10 Liquid Incinerator (ATLIC) project for disposal of GA nerve and lewisite blister agents and the DAVINCH, or Detonation of Ammunition in a Vacuum Integrated Chamber, which will support destruction of the depot's remaining overpacked mustard munitions.

The first Reduction-In-Force (RIF) will occur in January 2012 and will affect 72 of the nearly 1,200 contractor employees. The second RIF will occur in March 2012 and will eliminate an additional 25 positions. Each affected employee will receive notification at least 90 days in advance of their RIF date.

Among the first employees affected are nearly 30 workers who support closure activities at CAMDS, the Army's former chemical weapons research and development facility. CAMDS closure work is in the final stages, and demolition, which will be done by another contractor, is expected to begin in January 2012.

The remaining affected employees work in other areas, including the TOCDF, secondary waste operations and the ATLIC.

Most contract employees who remain employed until their release dates will be eligible for incentive payments, plus additional payments for assisting the project in meeting performance goals.

Over the years, workers have been provided with education benefits to help them earn new college degrees and/or professional certificates. Workers are also given the opportunity to receive job search training, including resume writing, interviewing and networking skills.

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