



U.S. ARMY CHEMICAL MATERIALS AGENCY

# MONTHLY UPDATE

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## DESERET CHEMICAL DEPOT | June 24, 2010

### DCD committed to cleanup

A recent article and subsequent editorial in The Salt Lake Tribune insinuated that little has been done to clean up DCD's former demil sites.

"That's simply not true," says Troy Johnson, DCD environmental program manager. In fact, he says, DCD has made considerable progress remediating its contaminated sites. "We work with the U.S. Army Corps of Engineers, Army Environmental Command, the Utah Department of Environmental Quality and the U.S. Environmental Protection Agency to determine what needs to be done at each site," Johnson explains.

DCD originally had 29 Solid Waste Management Units (SWMUs), contaminated areas that were once used for the treatment, storage or disposal of solid wastes. So far, the remediation work on 14 SWMUs has been completed (institutional controls will indefinitely remain in place and groundwater monitoring will continue). The remaining 15 SWMUs range in scope and level of contamination—the largest and most complex sites being former disposal areas SWMUs 1 and 25. These SWMUs were used for demil operations including open burning and open detonation of both chemical and conventional munitions between 1945 and 1980. Back then, shooting holes into chemical munitions to allow drainage prior to open pit burning was an acceptable methods for destroying unwanted munitions. Today, it has resulted in an environmental remediation challenge—likely one of the most challenging cleanups the Department of Defense has ever faced.

"The clean up won't be easy," admits Johnson, who points out SWMUs 1 and 25 encompass approximately 1,500 acres of buried trenches, mounds and open pits littered with nearly 60,000 charred and burned out mustard mortar shells (believed to be empty), the remnants of at least one German GA bomb, conventional munitions such as M50 cluster bombs (some with live charges), projectiles, rocket warheads, grenades and contaminants such as napalm, paint, tear gas and smoke screen agents. "We can't just go in there and start digging things up. That would be reckless and downright dangerous," he says.

During the early 1980s, the Army actually attempted to recover munitions from one of the sites, says DCD Public Affairs Officer Elaine Grieser, but soon realized the severity of the danger. The effort was abandoned and SWMUs 1 and 25 have been largely left alone, until recently. Now more than 20 years later, DCD plans to tackle this enormous project once again.

"We have looked at all of our options and worked with our regulators at length regarding an appropriate approach regarding surface stabilization of these areas," says Johnson. Stabilizing the surface means cleaning it up and trying to remove as many munitions, hazardous material contaminants



The Army has been working with Utah State regulators regarding plans for remediation of the most complex SWMU sites on the depot.

and anomalies as possible. Johnson can only speculate how painstakingly the work will be.

"We don't know exactly how this will be done... We are going to solicit the best technology available from a handful of certified, high-tech companies."

Johnson says recovered, unexploded conventional ordinance will most likely be detonated, while munitions with chemical agent residue will be destroyed in an Explosive Detonation Technology system similar to the one that is being used in DCD's Area 10 to destroy the remaining 300 or so problematic projectiles and mortars.

Johnson says the Army has already spent more than \$30 million on remediation efforts at DCD. With the scope of a project such as this, he estimates costs will grow upwards of \$140 million.

"The article in the Tribune implied that we've been ignoring this issue," says Johnson. "We are actively doing all that we can do. Nothing has been ignored, nothing has been left unattended."

That includes keeping a close watch on contaminated groundwater. DCD has extensively performed groundwater monitoring at its 110 wells for more than 20 years—and continues to do so. Johnson says results are good. "The contaminants, which primarily consist of carbon tetrachloride and trichloroethane, are stable; they haven't migrated beyond the SWMUs. We are also keeping a watchful eye on potential migration of contaminants from the massive Mercur Outwash which lies adjacent to and partially crosses depot boundaries."

Johnson says the next major step is testing the soil on SWMU 25, which will be done next spring. He expects the actual surface cleanup of SWMUs 1 and 25 will start in 2012 and will take at least three years to finish. At that time, the water and soil will be re-tested to determine if the surface cleanup meets regulatory expectations.

(See CLEAN UP on page 3)

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## Construction zone

GA/Lewisite project brings major building activity to depot storage area

Construction is well underway for the new GA/Lewisite disposal facility in Deseret Chemical Depot's storage area – also referred to as Area 10. The facility was appropriately named the Area Ten Liquid Incinerator (ATLIC) and is similar in design to TOCDF's liquid incinerators, but is smaller in scale.

Site prep work began in early March and subcontractor workers from Brahma Construction Company have since been busy doing excavation work, laying utility lines and constructing the Personnel Support Facility (PSF). Not only will the PSF provide new showers, restrooms and a lunchroom for ATLIC workers, it will also support personnel working on other projects in the area.

Although ATLIC construction has begun, the incineration equipment will not be delivered and assembled in Area 10 until this fall. Prior to installation, the equipment will first be assembled and tested at Brahma's facility in Lakepoint. By conducting the testing at an off-site location, the equipment can be tested while construction activities continue at the depot, saving valuable project time.

The DCD stockpile consists of small quantities of GA and Lewisite agents stored in bulk containers. Agent destruction operations are scheduled to begin in summer 2011, targeting GA agent first. Workers will utilize two glove boxes to drain the agent and decontaminate the bulk containers. The ATLIC will dispose of the GA and Lewisite agents and the spent decontamination solution through high-temperature incineration. The facility will also have a pollution abatement system, which will cool, neutralize and remove particulates and metals from the exhaust gases before they are released into the atmosphere.

ATLIC operations are expected to take about six months and are scheduled to be completed in time to meet the April 2012 deadline.



*The traditional Demilitarization Protective Ensemble (DPE) suit is pictured along side of the Modified DPE (MDPE) suit (on the right). You can see that the vision mask is much larger on the MDPE, enhancing the field of vision for the workers wearing the suit, making it easier for individuals to see their surroundings below them.*

## Enhancing protective equipment

CMA modifies protective suit for increased visibility

Workers at the TOCDF, as well as those at other CMA disposal facilities, will soon begin utilizing a Modified Demilitarization Protective Ensemble (MDPE) suit to make entries inside the facility. The DPE is a one-piece, fully encapsulated protective suit that is slightly positive in pressure to prevent workers from becoming contaminated when entering areas of the facility which are known to have chemical agent contamination.

The MDPE is the same as the traditional DPE, but it offers approximately a 35 percent larger field of vision.

The "enhanced vision mask" extends lower on the suit than the traditional DPE, allowing the individual to see more of his working environment, which makes it easier to manage and maneuver their air supply hose. "Now when the entrants look down towards the floor, they can actually see the floor and what's below them, instead of seeing the inside of their suit," explains Bert Durrant, CMA Personal Protective Equipment Team Lead. The modified visor is also fabricated in a bubble form, which will eliminate the worker's respirator mask from rubbing on the inside of the suit.

The modified suit is fabricated of the same material – Polyvinyl chloride and chlorinated polyethylene, better known as (See PROTECTIVE EQUIPMENT on page 3)



*Crews pour the concrete foundation for the ATLIC Environmental Control System (ECS), which will be attached to the backside of the igloo. The foundation required 33 trucks (or 330 cubic yards) of concrete in a single, continuous pour that began at 4 o'clock in the morning. The ECS will house the ATLIC and pollution abatement system.*

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*TOCDF Site Project Manager briefed conference attendees on secondary waste operations taking place at DCD. Ryba explained that by constructing and operating an alternative facility for treating waste, TOCDF officials were able to provide a more efficient and cost effective way of secondary waste disposal.*

## Chem demil professionals gather at international conference

The 13th annual Chemical Weapons Demilitarisation (CWD) Conference, held last month, provided an international forum to exchange information on the global successes and challenges experienced since inception of the Chemical Weapons Convention Treaty. The first conference was held in 1998 in Bournemouth, United Kingdom, and since has been held annually all over the world.

This year's setting was in Prague, Czech Republic, and the conference aimed to promote cooperation between government, Army Forces, industry, academia, and research and development organizations. Members of the conference were encouraged to share ideas and network with speakers, decision makers and those involved with policy at the international level.

The U.S. Army Chemical Materials Agency was well-represented at the event, including a number of guest speakers from Deseret Chemical Depot (DCD). DCD representatives presented various topics, including public involvement, process improvement, secondary waste disposal and GA/Lewisite destruction efforts.

"Conference attendees had an opportunity to gather valuable information that may provide solutions to challenges associated with world-wide chemical weapons disposal efforts," stated Ted Ryba, Site Project Manager for the Tooele Chemical Agent Disposal Facility (TOCDF). "We look forward to participating next year as we prepare to wrap up TOCDF operations."

## Clean up

*continued from front page*

"The federal government is committed to dealing with this issue, but because of the complexity of the cleanup, there are a lot of studies, a lot of documentation and a lot of safety submissions that have to be done and done thoroughly."

All of that information is available to the public. Documents are on display at the Tooele City Library, the Tooele Chemical Stockpile Outreach Office and the Utah Division of Solid and Hazardous Waste. There are also regularly scheduled public meetings such as the DCD Restoration Advisory Board and the Utah Citizens Advisory Commission on Chemical Weapons Demilitarization where the SWMUs are discussed at length.

"We have been quite open, honest and candid about the depot's past," says DCD Commander, Col. Gerald L. Gladney. "While we are in the progress of remediating these sites, the hard work and accomplishments of our present-day work force should not be overshadowed."

## Protective Equipment

*continued from page 2*

PVC and CPE – as the traditional DPE suit. The MDPE will continue to offer the same protective qualities as before; the modifications will simply enhance the visibility and movement of the workers.

TOCDF workers will continue to use the traditional DPE suits until they have a surplus of MDPE suits available, which they anticipate to take place around July. Once the MDPE surplus is established, TOCDF will send the remaining traditional suits back to the manufacturer to be retrofitted with the new modifications, upon which, they will be delivered back to the TOCDF.

### Tooele Chemical Agent Disposal Facility Processing

(as of June 20)

Total number of mustard agent-filled bulk containers destroyed	4,881
Total number of mustard agent-filled 155mm projectiles destroyed	54,453
Total number of mustard agent-filled 4.2-inch mortars destroyed	63,274
Percentage of total mustard agent stockpile destroyed	78.21%

## Upcoming Events

- **July 7, 6:00 p.m.** - TOCDF RCRA Class 3 Permit Modification public meeting. The meeting will be held at the Tooele Chemical Stockpile Outreach Office, 54 S. Main Street in Tooele.
- **July 13, 1:00 p.m.** - DCD Restoration and Advisory Board meeting to discuss environmental clean-up activities associated with the depot. The meeting will be held at the Tooele Chemical Stockpile Outreach Office, 54 S. Main Street in Tooele.
- **July 22** – DCD Change of Command Ceremony. Incoming Commander Col. Mark Pomeroy; outgoing Commander Col. Gerald L. Gladney (by invitation).

*The Tooele Chemical Stockpile Outreach Office will be closed July 5 for the observance of Independence Day.*

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