

State of Oregon
Department of Environmental Quality

Memorandum

Date: June 2, 2011

To: Environmental Quality Commission

From: Dick Pedersen, Director

Subject: Agenda item B, Informational item: Umatilla Chemical Demilitarization Program status update
June 15-17, 2011, EQC meeting

Purpose of item This item will inform the commission about program updates, permitting activities, and project status at the Umatilla Chemical Agent Disposal Facility as of May 24, 2011.

Program news **Agent processing at the Umatilla Chemical Agent Disposal Facility**
DEQ is reviewing the final HD mustard trial burn report for the liquid incinerators. If approved, and the other permit requirements associated with 100-percent operations are met, the facility will be allowed to increase to 100 percent of the liquid incinerator permitted feed limits. The facility is already at 100 percent metal parts furnace operations.

As of May 24, 2011, the facility has destroyed 219,729 munitions, which represents 99.6 percent of all Umatilla munitions and bulk containers and 79.1 percent of the original Umatilla stockpile by agent weight.

HD mustard operations

The mustard agent campaign began June 4, 2009. There were 2,635 ton mustard containers in the original stockpile. This represents one percent of all facility munitions and bulk containers and 63 percent of the original stockpile by agent weight. As of May 24, 2011, 1,760 ton containers have been treated, containing 1,564 tons of mustard agent.

The metal parts furnace is used during ton container processing, which limits availability of the furnace to process potentially agent-contaminated secondary wastes. Therefore, the Army is storing potentially agent-contaminated wastes in containers and transporting them to J-Block permitted storage to be treated as the availability of the metal parts furnace increases, presumably at the completion of mustard agent ton container processing.

The emissions demonstration test for the treatment of HD ton container rinsates in the liquid incinerators is scheduled to begin June 13, 2011. Many of the solid heels that have formed in the bottom of the HD ton containers exceed the metal parts furnace waste feed limit. Rinsates are generated when the solid heel is treated with high-pressure, hot-water sprays to reduce the heel size.

GB (Sarin) operations

The facility completed sarin munitions and bulk items processing in July 2007. Sarin munitions and bulk items comprised 21.4 percent of the total Umatilla stockpile by agent weight. The facility

destroyed 155,539 munitions and bulk containers filled with 2,028,020 pounds of sarin nerve agent. This represented 70.5 percent of all Umatilla munitions and bulk containers and 21.4 percent of the original Umatilla stockpile by agent weight. The only remaining sarin-related waste is used filter system carbon.

VX operations

The facility completed VX munitions processing Nov. 5, 2008. VX munitions and bulk items comprised 9.8 percent of the total Umatilla stockpile by agent weight. The facility destroyed 14,519 VX rockets and warheads, one VX ton container, 156 VX spray tanks, 32,313 155mm VX projectiles, 3,752 eight-inch VX projectiles, and 11,685 VX mines filled with over 720,000 pounds of agent.

Except for carbon, the facility has treated all VX-related wastes previously stored in J-Block igloos.

Umatilla Chemical Agent Disposal Facility RCRA permitting activity

March 14 through May 25, 2011

Permit modification request submittals to DEQ			
#	Title	Submitted	
11-007	Modification of Permit Condition II.E.5	3/24/2011	
11-009	Redline Update for Permit Renewal	3/30/2011	
11-015	Laboratory Procedure Updates-Corrective Action (resubmittal of 11-008)	3/31/2011	
11-014	Carbon Methods for GB Agent-Free Determination	4/21/2011	
11-018	Update to Contingency Plan Emergency Coordinator List	4/26/2011	
11-020	Administrative Update to Appendix B of UM-PL-016	5/24/2011	
Permit modification request approvals or acceptances by DEQ			
#	Title	Received	Decision
09-021	Redline Annual Update for General, PAS, and MISC Systems	10/13/2009	3/16/2011
09-012	Spent Carbon Waste Determination (Agent-Free Carbon Analysis)	10/28/2009	4/12/2011
09-023	Annual Update for Furnace and Misc. Systems	12/21/2009	3/16/2011
10-021	Redline Annual Update for the CHB, HVAC, and Misc Systems	7/13/2010	3/30/2011
10-010	HD Rinsate Storage Tank System and Treatment in the Liquid Incinerator	8/4/2010	3/16/2011
10-025	Redline Annual Update for General, PAS, and Misc. Systems	9/2/2010	3/22/2011
10-020	Redline Annual Update for DMIL, MDB, and Misc. Systems	10/26/2010	3/22/2011
10-027	Addition of MDB HVAC Vestibule Carbon Filter	11/1/2010	3/28/2011
10-026	Redline Annual Update for Furnace and Misc. Systems	11/1/2010	3/30/2011
11-006	Waste Analysis Plan Appendix C Corrections	1/7/2011	4/13/2011
11-013	Modification of Operation of the DAL Secondary Cooling System and Addition of a Heat Shield to MPF DAL Door	3/10/2011	5/24/2011
11-007	Modification of Permit Condition II.E.5	3/24/2011	5/17/2011
11-009	Redline Update for Permit Renewal	3/30/2011	4/22/2011
Permit modification request approvals or acceptances by DEQ (continued)			

#	Title	Received	Decision	
11-015	Laboratory Procedure Updates-Corrective Action	3/31/2011	4/22/2011	
11-014	Carbon Methods for GB Agent-Free Determination	4/21/2011	5/11/2011	
11-018	Update to Contingency Plan Emergency Coordinator List	4/26/2011	5/24/2011	
11-020	Administrative Update to Appendix B of UM-PL-016	5/24/2011	5/25/2011	
IN PROCESS				
The following permit modification requests are under DEQ review				
#	Title	Received	Public Comment Period Close	Target Decision/ Review Date
Requests				
09-006	Amend Closure Plan	09/25/09	11/24/09 ¹ 05/16/11 ³	07/15/11
10-023	Post-HD ATB Operational Parameter Changes for LICs 1 and 2	10/22/10	N/A	TBD
¹ Initial (permittee) public comment period. ² DEQ (draft permit) public comment period. ³ 2 nd permittee public comment period due to significant changes				
<u>Acronyms/Abbreviations:</u>				
CHB = Container Handling Building		MAO = Mutual agreement and order		
DAAMS = Depot Area Air Monitoring System		MISC = Miscellaneous		
DAL = Discharge Airlock		MPF = Metal Parts Furnace		
DMIL = Demilitarization		PAS = Pollution Abatement System		
HVAC = Heating, ventilation, and air conditioning		TANK = Tank		
LIC = Liquid Incinerator				

DEQ continues to work on renewal of the facility's hazardous waste permit, and issued the draft permit May 31, 2011. The 45-day public comment period closes July 15, 2011. DEQ plans to issue the final renewal permit in early August 2011.

Umatilla
Chemical
Depot
RCRA
permitting
activity

March 14 through May 25, 2011

IN PROCESS				
The following Depot permit modification requests are under DEQ review				
#	Title	Received	Public Comment Period Close	Target Decision/ Review Date
Requests				
10-002	Removal of Hazardous Waste Determination Figure Flowcharts	10/28/10	N/A	TBD
11-001	Incorporation of the UMCD RCRA Closure Plan	05/04/11	07/11/11 ¹	08/02/11
¹ Initial (permittee) public comment period.				

**Significant
events at
other
facilities**

During this reporting period, the U.S. Army Chemical Materials Agency achieved elimination of 85 percent of the national stockpile.

Tooele Chemical Agent Disposal Facility, Utah

The Tooele facility started mustard disposal August 2006, and, as of May 26, 2011, has destroyed 99.94 percent of its original stockpile tonnage.

The Tooele facility completed HD ton container treatment. The Tooele facility anticipates completing chemical operations by mid-2011. Toole will use DAVINCH explosive detonation technology to destroy 198 155mm projectiles and 135 4.2-inch mortar overpacked "leaker" munitions and 47 Deseret Chemical Depot mustard agent samples. DAVINCH detonation chamber treatment operations are scheduled from October 2011 through January 2012. The Tooele facility has also started plans to eliminate small stockpiles of Tabun and Lewisite blister agent.

Anniston Chemical Agent Disposal Facility, Alabama

The Anniston facility began processing HT and HD mustard 4.2-inch mortars July 2, 2009. It is currently processing HD 155mm projectiles. As of May 26, 2011, the facility has destroyed 96.4 percent of the original tonnage and its mustard campaign may end in early 2012.

In April 2011, the Anniston facility started operating a static detonation chamber from the Swedish company DYNASAFE AB to process remaining mustard-filled munitions that have deteriorated over time. The Anniston facility will use the chamber to destroy small numbers of munitions as a means of meeting international treaty requirements. As of May 26, 2011, the Anniston facility has processed 431 105-mm projectiles and 28 4.2-inch mortars.

Pine Bluff Chemical Agent Disposal Facility, Arkansas

The Pine Bluff facility completed its chemical treatment operations Nov. 12, 2010. An end-of-mission ceremony was held March 10, 2011.

The Pine Bluff facility is in closure. Destruction of the Pine Bluff facility began March 28, 2011. Decontamination and dismantling of the facility and equipment will last approximately two years. Personnel have been trained on the Brokk 180 demolition machine. The Brokk is a hydraulic functioning and remote-controlled compact, lightweight machine designed for demolition activities including removal of concrete in toxic areas and cutting piping and steel.

Newport Chemical Agent Disposal Facility, Indiana

Newport was the third site to complete agent disposal operations, following Johnston Atoll Chemical Agent Disposal System in 2000 and Aberdeen Chemical Agent Disposal Facility in 2006. Closure has been completed. The U.S. Army Chemical Materials Agency transferred the property to the Department of the Army Base Realignment and Closure July 18, 2010.

Blue Grass Chemical Agent Destruction Pilot Plant, Kentucky

The Blue Grass facility will use neutralization followed by supercritical water oxidation to destroy its 524-ton stockpile of nerve and mustard agents. The facility has neutralized three sarin ton

containers, known as Operation Swift Solution, representing 0.2 percent of the stockpile. The facility is scheduled to begin chemical agent operations in 2018, recently extended from 2017, and to be completed by 2023. Construction is more than 30 percent complete, with startup projected for 2018.

Construction of the Blue Grass facility continues. The first structural steel for the control and support building was placed Sept. 17, 2009. In late April 2010, the final concrete mat foundation floor slabs were placed in the Munitions Demilitarization Building. The first two of three energetic neutralization reactors have been installed. The reactors will neutralize explosives that have been removed from munitions.

Based on the Army's commitment to treat all agent-contaminated secondary wastes onsite versus offsite shipment, as was done at Newport, the Army is processing all hydrolysates onsite. When treatment has been completed, the operational facilities will be shut down and the temporary structures and equipment will be shipped to Aberdeen Proving Grounds.

Pueblo Chemical Agent Destruction Pilot Plant, Colorado

The Pueblo facility will use neutralization followed by biotreatment to destroy its 2,611-ton mustard agent stockpile of artillery and mortar projectiles.

Nearly all the Pueblo facility buildings are up and enclosed and the medical and laboratory facilities are set and secured. Work continues inside the enhanced reconfiguration building and the agent processing building as workers focus on installing first-of-a-kind equipment and completing pipe routing pieces to the equipment. The construction crew recently turned over the electrical power distribution system to the start-up group. Facility construction is scheduled to be completed by March 2012, with startup targeted early 2015.

Litigation continues between the State of Colorado and the U.S. Army with regard to continued storage of the munitions and the required start and completion of destruction of the Pueblo stockpile. Based on the U.S. Army's commitment to treat all agent-contaminated secondary wastes onsite versus offsite shipment, as was done at Newport, all hydrolysates will be processed onsite.