

State of Oregon
Department of Environmental Quality

Memorandum

Date: March 31, 2011

To: Environmental Quality Commission

From: Dick Pedersen, Director

Subject: Agenda item B, Informational item: Umatilla Chemical Demilitarization Program status update
April 21-22, 2011, EQC meeting

Purpose of item This item will update the commission about the program, permitting, and project status at the Umatilla Chemical Agent Disposal Facility.

Program news **Agent processing at the Umatilla Chemical Agent Disposal Facility**
During this reporting period, the Umatilla Chemical Agent Disposal Facility was able to increase its post-trial burn feed rates from 75 percent to 100 percent of the permitted feed limits. It also transitioned from metal parts furnace short-term incineration to normal operations for the first time in the facility's operating history. This was possible due to the additional resources from other regional offices and DEQ's expedited review of the final trial burn report and associated permit modification request. DEQ is reviewing the final HD mustard trial burn report for the liquid incinerators. If approved, and other permit requirements for normal operations are met, the facility will be allowed to increase to 100 percent of the liquid incinerator permitted feed limits.

As of March 14, 2011, the facility has destroyed 219,366 munitions, which represents 99 percent of all Umatilla munitions and bulk containers and 70 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 March 14, 2011, 1,397 ton containers have been treated, containing 1,241 tons of mustard agent.

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

GB (Sarin) operations

The facility completed sarin munitions and bulk items processing in July 2007. 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**

Oct. 31, 2010, through March 14, 2011

Permit modification request submittals to DEQ			
#	Title	Submitted	
10-026	Redline Annual Update for Furnace and Misc. Systems	11/01/10	
10-027	Addition of MDB HVAC Vestibule Carbon Filter	11/01/10	
11-005	Remove Annual Furnace Operating Hours Limitation (I.G)	01/19/11	
11-003	Metal Parts Furnace Specification 13188 Revision (10-024 Conditional Approval)	02/03/11	
11-004	Miscellaneous Application Changes (Attachment D-3-1 errors and omissions)	02/17/11	
11-012	Modifications to DAAMS SOP UM-0000-M-601	02/17/11	
11-008	WAP Appendix C Laboratory Procedure Corrective Action Revisions	02/22/11	
Permit modification request approvals or acceptances by DEQ			
#	Title	Received	Decision
10-004	Heel Transfer System High-Pressure Hot Water Operating Temperature Range	10/25/10	11/01/10
10-026	Redline Annual Update for Furnace and Misc. Systems	11/01/10	11/01/10
10-028	HD Agent Trial Burn Plan Attachment 9 Revisions	09/22/10	12/02/10
10-017	Document Relocation into Permit (Procedures MAO)	07/01/10	12/22/10
11-006	Waste Analysis Plan Appendix C Corrections (PMR 10-017, Procedures MAO, errors)	01/07/11	12/31/10
10-024	Post HD Agent Trial Burn Operational Parameter Changes for the Metal Parts Furnace	10/22/10	01/05/11
11-012	Modifications to DAAMS SOP UM-0000-M-601	02/17/11	02/10/11
11-003	Metal Parts Furnace Specification 13188 Revision	02/03/11	02/11/11
11-005	Remove Annual Furnace Operating Hours Limitation (I.G)	01/19/11	02/16/11
10-005	Redline Annual Update for BRA, TANK, and MISC Systems	03/31/10	03/09/11
11-004	Miscellaneous Application Changes	02/17/11	03/10/11

IN PROCESS				
The following permit modification notices and 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
09-012	Spent Carbon Waste Determination	10/28/09	04/01/11 ²	04/15/11
10-010	HD Rinsate Storage Tank Systems and Treatment in the Liquid Incinerator	08/04/10	02/07/11 ²	03/16/11
10-023	Post-HD ATB Operational Parameter Changes for LICs 1 and 2	10/22/10	N/A	To be withdrawn
11-008	WAP Appendix C Laboratory Procedure Corrective Action Revisions	02/22/11	N/A	04/18/11
Notices				
09-021	Redline annual update for General, PAS, and MISC systems	10/13/09	N/A	04/06/11
09-023	Redline Annual Update for Furnace and Misc. Systems	12/21/09	N/A	04/06/11
10-021	Redline Annual Update for the CHB, HVAC, and Misc Systems (<i>resubmittal of rejected 10-013</i>)	07/13/10	N/A	04/06/11
10-020	Redline Annual Update for DMIL, MDB and Misc. Systems	07/26/10	N/A	04/06/11
10-025	Redline Annual Update for General, PAS, and Misc. Systems	09/02/10	N/A	04/06/11
10-026	Redline Annual Update for Furnace and Misc. Systems	11/01/10	N/A	04/06/11
10-027	Addition of MDB HVAC Vestibule Carbon Filter	11/01/10	N/A	04/06/11
11-006	Waste Analysis Plan Appendix C Corrections (PMR 10-017, Procedures MAO, errors)	01/07/11	N/A	04/06/11
11-012	Modifications to DAAMS SOP UM-0000-M-601	02/17/11	N/A	04/06/11
11-013	Modification of Operation of the DAL Secondary Cooling System and Addition of a Heat Shield to MPF DAL Door	03/10/11	N/A	04/15/11
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>				
ATB = Agent Trial Burn		HTS = Heel Transfer System		
BRA = Brine Reduction Area		LIC = Liquid Incinerator		
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		

DEQ anticipates issuing the draft renewal hazardous waste permit for the Umatilla Chemical Disposal Facility in late April 2011.

**Umatilla
Chemical
Depot
RCRA
permitting
activity**

Oct. 31, 2010, through March 14, 2011

In-process permit modification request		
#	Title	Submitted
10-002	Removal of Hazardous Waste Determination Figure Flowcharts	10/28/10

**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 March 15, 2011, has destroyed 97.6 percent of its original stockpile tonnage.

The Tooele facility is currently treating HD mustard ton containers. The Tooele facility anticipates completing chemical operations by mid-2011. The remaining overpacked “leaker” munitions, which include 198 155mm projectiles and 135 4.2-inch mortars, and 47 Deseret Chemical Depot mustard agent samples will be destroyed using DAVINCH explosive detonation technology. Those operations are scheduled from September through December 2011. The Tooele facility has started its process 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 March 15, 2011, the facility has destroyed 92.5 percent of the original tonnage and its mustard campaign may end in early 2012.

The Anniston facility has ordered a static detonation chamber from the Swedish company DYNASAFE AB to process remaining mustard-filled munitions that have deteriorated over time. The chamber will be used to destroy small numbers of munitions to meet international treaty requirements, and will likely begin this summer.

Pine Bluff Chemical Agent Disposal Facility, Arkansas

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

The Pine Bluff facility has started closure. Decontamination and dismantling of the facility and equipment is expected to last approximately two years. Personnel have been trained on the Brokk 180 demolition machine, which is a hydraulic functioning and remote-controlled compact, light-weight machine designed for demolition activities including removal of concrete in toxic areas and the cutting of 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 should be completed by 2023.

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 constructed 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.

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.