

**ATTACHMENT 7**

**CLOSURE, POST-CLOSURE PLANS,  
AND COST ESTIMATES**

## **Attachment 7 CLOSURE, POST-CLOSURE PLANS, AND COST ESTIMATES**

This Closure Plan describes the activities that will be undertaken for the closure of the hazardous waste container storage unit (CSU) when Univar Solutions, LLC (Univar) facility ceases to operate or alters operations at its Clearfield, Utah, facility such that hazardous waste is no longer generated or no longer needs to be stored for greater than 90 days. General facility information is provided below:

U.S. EPA Identification Number:	UTD048406144
Owner's Name:	Univar Solutions, LLC
Address:	3 Waterway Square Place, Suite 1000 The Woodlands, Texas 77380
<i>(Note: Univar leases the facility from Freeport Center Associates)</i>	
Person Responsible for Maintenance of Closure Plan:	Ed Graves Environmental Engineer (614) 613-4414
Facility Name:	Univar Solutions, LLC
Facility Location:	Freeport Center, Building 12 Clearfield, Utah 84016

### **1.0 CLOSURE PLANS**

#### ***1.1 Closure Performance Standard***

At least forty-five (45) days prior to closure of the CSU, this plan shall be modified to add detailed procedures for sampling and decontamination or removal of all contaminated soil, groundwater, equipment and structures. The closure information in this document is general and is based on current information and future estimates of the use, current inventory and potential contamination and remediation.

When necessary, prior to initiating closure, the Director may require that a baseline-sampling program be completed to determine background concentrations of contaminants in all appropriate media, equipment, structures and decontamination waters.

A sampling and analysis plan (SAP) shall be submitted to the Director prior to any sampling activities. The SAP must be approved in writing by the Director prior to implementation.

1.1.1 The hazardous waste CSU will be closed in a manner that will:

- Minimize the need for further maintenance.
- Control, minimize, or eliminate the post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.
- Comply with the closure requirements of the Utah Administrative Code and unit-specific closure requirements.

Copies of this Closure Plan and subsequent authorized amendments to the plan will be available at the facility until closure of these areas is completed and certified.

This plan does not address corrective actions concerning past activities that are identified as Solid Waste Management Units (SWMUs)

### ***1.2 Time and Activities Required for Partial Closure and Final Closure Activities***

The hazardous waste CSU is expected to remain operational during the life of the Clearfield facility. No partial closure activities are planned for this facility. If an unanticipated partial closure is necessary, this Closure Plan will be amended as discussed in R315-264-112(c).

### ***1.3 Maximum Waste Inventory***

The maximum inventory of hazardous wastes that could be in storage at any time during the life of this facility is in the hazardous waste container storage areas is 32,560 gallons (which is equivalent to 592, 55-gallon drums). Table 1 of this section contains a list of all hazardous waste codes the facility is permitted to store.

### ***1.4 Schedule for Closure***

A time schedule for the closure of the hazardous waste storage areas is shown in Table 2 of this section. Table 2 represents the maximum time allotted for closure activities at the Clearfield facility.

#### **1.4.1 Time Allowed for Closure**

Table 2 specifies that:

- All closure activities will be completed within 180 days from the receipt of the final volume of waste.
- All hazardous wastes will be removed off-site within 90 days from the receipt of the final volume of waste.

#### 1.4.2 Extension for Closure Time

If closure activities are expected to extend beyond 180 days after receiving the final volume of hazardous waste, a petition for a schedule for closure that justifies that a longer period of closure time is required and will be submitted for written Director approval. However, it is not anticipated that closure will extend beyond 180 days after the receipt of the final volume of hazardous waste.

### 1.5 *Closure Procedures*

#### 1.5.1 Inventory Removal

Within 90 days of receiving the final volume of hazardous waste, the entire inventory will be transported by a licensed hazardous waste transporter to a RCRA licensed, off-site TSD. Containers will be properly manifested, packaged, and labeled for shipment according to DOT and EPA regulations. Prior to shipment, containers will undergo an inspection for leakage. Leaking containers will be placed in overpack drums with absorbent. Any equipment or clothing that contacts the hazardous waste will be decontaminated or disposed of as a hazardous waste.

#### 1.5.2 Disposal or Decontamination of Equipment, Structure, and Soils

The facility CSU covers approximately 2,300 square feet (Storage areas 2, 3, and 4: 1,824 square feet; Storage Area 1: 500 square feet). The CSU is curbed and provides four separate storage areas within the CSU, allowing segregation of incompatible wastes. The CSU is designed to provide storage for a maximum waste volume of 32,560 gallons, which is equivalent to 592, 55-gallon drums. Containers are stacked no more than two high. The approximately six-inch thick concrete base is of sufficient thickness and material to prevent container spills and leaks from migrating out of the storage areas. The base will be maintained free of cracks and gaps, and is coated so that it is impervious to contained wastes until such time as the accumulated material is detected and removed.

Closure of the CSU will be completed within 180 days after receiving the final volume of hazardous waste. The need for a time extension is not anticipated at this time. Disposal and decontamination activities will include:

- The entire surface areas of the CSU and any equipment used in the transport and handling of hazardous waste shall be inspected for spills or evidence of spills, leaks, cracks or other evidence of potential release of contaminants to the environment and documented. The containment surfaces will be inspected for cracks, holes, or evidence of potential leakage or loss of integrity.

- The operating record shall be reviewed to identify the location of any spills or impact to the integrity of the secondary containment.
- Soil at the facility is not expected to be contaminated by the container storage of hazardous wastes. However, if evidence of possible soil contamination is present, soil sampling will be conducted. If cracks, holes, or evidence of potential leakage is documented, a core will be taken at the point(s) where integrity is questioned, through the concrete. Soil samples will be analyzed for constituents of the wastes managed at the facility.
- The entire surface areas of the CSU and any equipment used in the transport and handling of hazardous waste or equipment used during closure activities will be steam cleaned or rinsed using a high-pressure water wash within the storage area containment system. The solution to be used during steam cleaning or pressure washing will be specified in the modified closure plan, section 1.1 above, submitted to the Director for approval prior to closure. Water can be used if visible surface contamination is minimal. In areas where surface contamination is high, a heavy-duty cleaning solution may be required followed by steam cleaning. The surfaces of the CSU will be scrubbed with the heavy-duty cleaning solution using an industrial floor cleaner. A plastic sheet, or other moisture barrier, will be placed around the outside perimeter of the storage areas to protect surrounding surfaces. This sheeting will be characterized and managed appropriately following the decontamination of the storage areas. Following steam cleaning and scrubbing activities, the entire surface area of the CSU will be triple rinsed with potable water. The floors will be thoroughly wetted over the entire surface area. Then using a dry vacuum, new floor mops, and squeegees, the surface water will be removed, working from the periphery to the center. Once the first rinse is removed, this procedure will be repeated for the second and third rinses. After which, the area will be visually re-inspected for visible evidence of contamination.
- Wash and rinse water will be accumulated into containers. This water will be characterized (i.e., analyzed for corrosivity and the toxicity characteristic leaching procedure [TCLP]) and managed accordingly. If determined to be hazardous, it will be managed in the same manner as the final volume of hazardous waste. If the rinse water is determined to be non-hazardous, it will be containerized and shipped offsite for disposal at a non-hazardous waste facility. An estimated 495 gallons maximum will be generated during steam cleaning, rinsing, and scrubbing activities.
- A separate rinse sample will be collected from each storage bay from the third rinse. Each sample will be analyzed for the constituents of the wastes managed at the facility. Sampling methods will be in accordance with

procedures established in SW-846 (*EPA Test Methods for Evaluating Solid Waste, November 1986, and as updated*), or other approved methods.

- A blank sample of the potable water used for rinsing, an equipment blank, and a trip blank will also be collected. The potable water and trip blank samples will only be analyzed for the entire suite of analyses if rinse sample results are questionable.

#### Analytical Parameters and Test Methods

Samples collected during closure activities will be analyzed for the constituents of the wastes managed at the facility, in accordance with the applicable SW-846 methods or other approved methods. A Utah certified off-site analytical laboratory will analyze the samples.

The analytical laboratory chosen for these analyses will be required to comply with SW-846 Quality Assurance/Quality Control (QA/QC) procedures for each analytical procedure performed.

#### Clean Standards

The waste storage areas will be considered clean when one of the following standards are met by the rinsate samples from the third rinse, whichever is lowest:

- (i) "Non-detect" based on the method detection limit (MDL) for the analytical test method used for each constituent. If a constituent concentration in the rinse water sample is above the MDL, the performance standard will still be met if the constituent concentration is less than or equal to that constituent's concentration in the equipment blank or field blank sample.
- (ii) Public drinking water maximum contaminant levels (MCLs) for hazardous waste constituents, as promulgated in R309-200-5(1)(c) for inorganics and R309-200-5(3) for organics.
- (iii) If no MCL is available, the tapwater screening levels, as promulgated in the EPA Regional Screening Levels, will be used.
- (iv) If no MCL is available, then a level of one milligram per liter (mg/L) will be used.

If the MCL or MCLG is less than the constituent's analytical detection limit using methods found in SW-846, then the SW-846 analytical detection limit will be used as the clean standard. The comparison to MCLs is based on the rinsate sample minus equipment blank (background).

It is expected that one wash and triple rinse cycle will be adequate to completely decontaminate the storage areas. However, should the concentrations of constituents in the rinsate samples exceed the above standards, then a second wash and triple rinse cycle will be completed. The rinsate generated from the second cycle will be analyzed for the constituents that exceeded the standards in the first cycle. In the unlikely event that the concentrations of constituents in the rinsate samples exceed the standards after the second wash and rinse cycle, then Univar will discuss the analytical results and appropriate actions to be taken with the Director or the Director's staff.

#### Director Notification Before Closure

As required by (R315-264-112(d)), the Closure Plan will be submitted to the the Director for approval at least forty-five (45) days prior to the date on which closure of the regulated unit is expected to begin.

The date when closure is expected to begin must be no later than thirty (30) days after the date on which any hazardous waste management unit receives the known final volume of hazardous waste, or if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous waste, no later than one year after the date on which the unit received the most recent volume of hazardous waste. At closure, if changes to the plan are necessary, the Permittee shall submit a modified plan showing the requested changes as a permit modification request. As required by R315-264-112(d), the Closure Plan will be submitted to the Director for approval at least forty-five (45) days prior to the date on which closure of the regulated unit is expected to begin. Closure shall not proceed until the Director has approved the modified plan.

#### Certification of Closure

As required by (R315-315-264-115), within sixty (60) days of completion of closure of the CSU, a certification that the HWMU or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan will be submitted to the Director for written approval. The closure certification shall be submitted by registered mail or other proof of delivery. The certification will be signed by the owner or operator and by an independent registered professional engineer in accordance with R315-270-11(d)(i). Table 2 of this section includes a schedule for closure, although an actual date of closure has not been determined at this time.

### 1.5.3 Closure of Containers

Hazardous waste removal and disposal; container decontamination and disposal; site decontamination and disposal including linings, soil, and washes; and maximum inventory are addressed in Sections 1.5.1 – Inventory Removal and 1.5.2 – Disposal or Decontamination of Equipment, Structure, and Soils.

## **2.0 CLOSURE COST ESTIMATE**

The closure cost estimate is shown in Table 3. Total closure cost is estimated to be **\$331,362**.

## **3.0 POST-CLOSURE PLANS**

Post-Closure care requirements are not expected to apply to the CSU because these units are not hazardous waste treatment and disposal units or tank systems where contaminated soil is expected to remain in-place. Any required post closure shall be in accordance with R315-264 and 270.

## **4.0 POST-CLOSURE COST ESTIMATE**

Post-Closure Cost Estimate requirements do not apply to the CSU because these units are not hazardous waste treatment and disposal units or tank systems where contaminated soil is expected to remain in-place.

## **5.0 NOTICES REQUIRED FOR DISPOSAL FACILITIES**

Because the CSU is not a disposal unit and no hazardous wastes are expected to remain after closure, notification to the local authority with jurisdiction over land use and a notice in the deed regarding the use of this property for the management of hazardous waste will not be required.

**TABLE 1**  
**RCRA HAZARDOUS WASTE STORAGE**

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**RCRA HAZARDOUS WASTE STORAGE**

**Univar Solutions, LLC**  
**Clearfield, Utah**

The Clearfield facility accepts containerized hazardous wastes that are generated by the customer and are qualified for acceptance by a permitted receiving facility.

<b><u>D Codes</u></b>	<b><u>P Codes</u></b>
D001-D043 (except D003)	P029
<b><u>F Codes</u></b>	<b><u>U Codes</u></b>
F001–F009, F019, F034,	U001-U004, U008, U012, U019, U023, U028, U031,
F035, F037, F038	U032,
	U039, U043, U044, U051-U053, U055-U057, U069-
	U072,
	U075-U079, U080, U083, U088, U090, U092, U102,
	U103,
<b><u>K Codes</u></b>	U107, U108, U110, U112, U117, U121, U122, U123,
K001, K048-K052, K086	U125,
	U140, U147, U154, U159, U161, U165, U171, U199,
	U190,
	U194, U196, U210, U213, U219, U220, U223, U225,
	U226,
	U228, U239, U359

**TABLE 2**  
**SCHEDULE FOR CLOSURE**

<b>Table 2 Anticipated Closure Schedule</b>																			
<u>Activity</u>	<u>Number of Days</u>																		
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
Notification and Closure Plan submitted to Utah DEQ <b>180 days</b> prior to anticipated date of closure																			
Utah DEQ comments on the Clearfield facility's Closure Plan	█																		
Closure of Hazardous Waste Container Storage Areas:																			
1) Removal of final waste inventory	█																		
2) Decontamination of storage areas										█									
3) Removal and disposal of decontamination materials													█						
Soil sampling and removal of contaminated soil	<b>Not anticipated to be necessary</b>																		
Certification of closure and submittal to the Utah DEQ																			█

**TABLE 3**  
**CLOSURE COST ESTIMATE**

**Table 3  
UNIT CLOSURE COST ESTIMATE**

**Univar Solutions, LLC  
Clearfield, Utah**

<b>Task</b>	
Task 1: Hazardous Waste Container Storage Areas – Removal and Disposal of Waste Inventory and Decontamination:	
Drum sampling, characterization, removal, transportation, and disposal of waste inventory (Maximum 592 drums x \$350 <sup>a</sup> average per drum)	\$207,200
Storage Area Decontamination 4 Storage areas (2,300 square feet) <sup>b</sup>	\$10,467
Sample Analysis SW-846 Methods (5 samples at \$475 each, one for each of the four bays, and one equipment blank) <sup>c</sup>	\$2,375
Collection and Disposal of Decontamination Generated Wastes: Rinsate and solids (20 drums x \$350 average per drum)	\$7,000
<b>SUBTOTAL for Task 1:</b>	<b>\$227,042</b>
Task 2: Project coordination, planning, sample collection, closure certification <sup>d</sup>	\$10,000
<b>SUBTOTAL for Task 2:</b>	<b>\$10,000</b>
Other Costs:	
Mobilization, bonds, and insurance	\$5,000
Health and Safety <sup>e</sup>	\$1,000
Supervision <sup>f</sup> 5 percent of direct costs	\$11,852
<b>SUBTOTAL (Other Costs)</b>	<b>\$17,852</b>

Subtotal (Direct and Other)	\$254,894
Contingency for Soil Sampling (15%) <sup>g</sup>	\$38,234
Contingency (15%)	\$38,234
<b>TOTAL PERMITTED FACILITY CLOSURE COST (all unit costs combined)</b>	<b>\$331,362 (2017)</b>

<sup>a</sup> Based on Univar average cost per drum and waste types handled.

<sup>b</sup> Based on Univar Garland closure cost estimate provided by SET Environmental, Inc., dated December 15, 2015.

<sup>c</sup> Estimated based on quote obtained from TestAmerica Houston on May 28, 2013.

<sup>c</sup> Estimated by EHS Support based on industry experience from 1) costs that EHS Support incurred on similar projects or 2) labor and expenses that EHS Support would charge to complete the work.

<sup>e</sup> Health and safety costs in addition to labor (supervision) and includes equipment rental and personal protective equipment.

<sup>f</sup> Includes Univar EH&S oversight.

<sup>g</sup> No soil contamination is anticipated as a result of container storage and handling. Nevertheless, a 15% contingency has been added for sampling, analysis, removal, and disposal of contaminated soil.