

**APPENDIX E**  
**CLOSURE PLAN**

## **APPENDIX E**

### **CLOSURE PLAN**

This Closure Plan includes references to the TSCA PCB Commercial Storage Renewal Application, Revision 10, prepared by Veolia ES Technical Solutions in March 2015. This plan includes four attachments: a Health and Safety Plan, Sampling and Analysis Plan (SAP), Closure Cost Estimate, and Financial Assurance Mechanism. The SAP incorporates the Quality Assurance Project Plan (QAPP) and also includes the selected laboratory Quality Assurance Manual.

#### **E.1 FACILITY DESCRIPTION**

The facility description is used to demonstrate that the activities described in the closure plan are adequate with respect to the quantity of materials, regulated units, facility location, environmental setting, and design. Information related to the general description of the facility, site location and boundaries, and the environmental conditions at the site are presented in Section 3.0 of the Application.

##### **E.1.1 General**

The facility currently consists of four warehouse-type buildings, one of which is not used for PCB and PCB Item management (Building 1), three of which will remain operational and include PCB activities. The buildings are located on a 2.67-acre parcel of land that is equipped with employee and visitor parking areas, truck wells, and outdoor storage areas that are paved with asphaltic concrete. Parking areas are located to the south of the buildings, and outdoor storage areas are located to the north of the buildings.

##### **E.1.2 PCB Areas**

The units to remain open under this permit are listed in the Summary of PCB Units (below).

## SUMMARY OF REGULATED PCB UNITS TO REMAIN OPEN PENDING FINAL FACILITY CLOSURE

Bldg. No.	Type of Unit	Unit Description	Unit Dimensions	Unit Storage Design Capacity (cubic yards) <sup>1</sup>	Site Unit Location	Other Units
2	Building 2 Pod	Drums, Totes, Cubic Yard Boxes, Bins or Equipment Storage	72.33' x 10.33' x 10" high	41.59 cubic yards	Building 2	8,400 gallons
	Building 2 Curbed Area	Drums, Totes or Cubic Yard Box Storage	19.75' x 24.58' x 0.625' high	20.79 cubic yards	Building 2	4,200 gallons
3	Building 3	Drums, Bins, Cubic Yard Boxes, Totes, or Equipment Storage	Area totaling 5,432.75 square feet with 6-inch high containment curb	228.76 cubic yards	Building 3	46,200 gallons
4	Building 4 Pod	Drums, Bins, or Cubic Yard Box Storage	28.16' x 8.66' x 0.83' high	16 cubic yards	Building 4	3,232 gallons

<sup>1</sup> The highest volume of either drums or totes for each storage area, as calculated in Appendix C of the TSCA renewal application, was used as the basis for the design volume.

### E.1.3 PCB Waste Storage Capacity Design

The facility is designed to manage up to 307 cubic yards of PCB and PCB-contaminated items.

### E.1.4 Extent of Storage Capacity Relative to Other Materials

The maximum extent of PCBs and PCB Items to be stored under this permit (50 ppm PCB and greater) is quantified in Table 1-1 of the Application and above as a total of 307 yd<sup>3</sup> or 62,032 gallons. (Containment details are provided in Figure 9 of the PCB Commercial Storage Renewal Application.) The facility is requesting a permitted storage capacity of 218 yd<sup>3</sup> or 44,190 gallons.

With regard to the activities in Buildings 2, 3 and 4, the extent of PCBs and PCB Items relative to other materials is roughly 50%; the remaining 50% of the materials handled at the facility (Buildings 2, 3 and 4) are either non-PCB (<50 ppm PCB) or non-TSCA items. With regard to Building 4, the extent of PCBs and PCB items relative to other materials is roughly 15%. The breakdown is as follows:

**TABLE E-1: EXTENT OF PCB ACTIVITIES**

<b>Building</b>	<b>PCB Activities</b>	<b>Other Activities</b>
Building 2	50%	50%
Building 3	100%	0%
Building 4	15%	85%

## E.2 PCB INVENTORY

Pursuant to 40 CFR 761.65(e)(1)(iii), the closure plan must identify the maximum inventory of PCB waste (including PCB residues) that could be handled at the facility at any one time. In estimating the maximum inventory that may be present at the facility, considerations such as operating procedures, incinerator and disposal site agreements, hauler pick-up frequency, and other predictable events have been incorporated to determine periodic accumulations of waste material. The following subsections will identify the various types and amounts of PCB waste that may be present at the facility and the methods utilized for disposing of the wastes.

### E.2.1 Maximum Inventory

The estimated maximum inventory of waste for each expected type of waste is outlined below:

**TABLE E-2: MAXIMUM INVENTORY FOR DISPOSAL<sup>1</sup>**

<b>PCB Waste Type</b>	<b>Typical Maximum Inventory</b>	<b>Disposal Method</b>
Containerized Liquids	14,000 gallons total (10,000 gallons of oils/materials and an additional 4,000 gallons of wash water to be generated at the time of closure)	Incineration
Landfillable Solids	1,620 ft <sup>3</sup> (60 yd <sup>3</sup> of landfillable solids)	Landfill
Incinerable Solids	(20,000 pounds and up to 10 drums of non-landfill materials)	Incineration
Non-leaking ballasts	Up to 325 drums	Landfill
Oil-filled electrical equipment	20 yd <sup>3</sup> of equipment (10 tons)	Landfill
Scrap Metal	Up to 40 tons of scrap and pods	Landfill

The determination of the maximum inventory is based on operational history, the sector of the market served by the facility, and the design and intended operation of the facility. Veolia intends to store any combination of the above items. Additionally, it is the intent of Veolia to dispose of equipment, containment structures, and containment pods at the time of closure of Buildings 2, 3 and 4, and that the containment pods may be cleaned and recycled (e.g., disposed as recoverable scrap metal).

### **E.2.2 Disposal Inventory**

The estimated maximum quantity of PCB wastes to be disposed of during facility closure is provided in Table E-2. On-site treatment prior to shipment or on-site disposal of PCB waste will not occur at the facility. Waste shipments will utilize DOT-approved shipping containers including drums, totes, or tri-wall boxes. In accordance with 49 CFR 173.240(c), sift proof non-DOT specification portable tanks and closed bulk bins (roll-offs) are authorized and will also be used.

Ninety days prior to closure, VES will update the current inventory of waste and materials and will initiate efforts to remove the materials and waste generated by routine facility activities. During the 90-day period, efforts will be made to dismantle and decontaminate containment structures, and to prepare the buildings for sampling activities. The Closure schedule is discussed in detail in Section E.4. The designated disposal facilities for the receipt of waste are listed below:

**TABLE E-3: PCB DISPOSAL FACILITIES**

<b>Disposal Facility</b>	<b>Materials</b>
Veolia ES Technical Solutions, Port Arthur, TX TXD000838896	PCB Debris, drummed solids, and liquid materials (regulated PCBs and PCB Items)
Clean Harbors, Aragonite, UT UTD981552177	PCB Debris, drummed solids, and liquid materials (regulated PCBs and PCB Items)
US Ecology, Beatty, NV NVD3300100000	PCB debris, PPE

At the time of Closure, disposal of regulated PCB items will occur at a landfill whenever allowed under current regulation. Materials that cannot be disposed of via landfill will be incinerated at a TSCA-approved PCB incinerator. Estimates of materials to be disposed, and corresponding disposal methods, are provided in Table E-2. The closure cost estimate was calculated based on these disposal methods and in accordance with current regulatory requirements. Should the regulatory requirements or the estimated quantities of materials present at the facility change, the closure plan and the closure cost estimate will be revised in accordance with those regulatory changes.

### **E.3 CLOSURE PLANNING**

Consistent with 40 CFR 761.61(a) for remediation waste, this section provides a detailed description of the activities that will be performed to characterize and remove or decontaminate PCB waste residues from the floors, walls, ceiling and outdoor storage areas of the facility. Specific items to be addressed include:

- Site Characterization
- Cleanup Levels
- Decontamination
- Post-Cleanup Verification Procedures

#### **E.3.1 Site Characterization**

As part of the closure plan, a facility conducting self-implementing cleanup of PCB remediation waste must characterize the site adequately to be able to provide the necessary notification information prior to closure, and the required cleanup certification following the completion of closure activities [40 CFR 761.65(e)(1)]. Typically, site characterization for PCB remediation waste is done in accordance with Subpart N of 40 CFR 761 to determine the extent of PCB contamination at a site; however, Veolia has elected to forgo the site characterization process and

will assume that the facility locations used for PCB and PCB Item storage and processing are subject to 40 CFR 761 Subpart G [see 40 CFR 761.65(e)(1)(iv) and 761.125(c)(4)] cleanup levels for porous surfaces and unrestricted re-use, and Subpart O sampling protocols to verify completion of self-implementing clean-up activities. Details are provided in the data quality objective (DQO) table appended to the sampling and analysis plan (SAP) both provided as attachments to this closure plan.

Areas will be classified by contact (high or low) and surface type (porous or non-porous), and decontaminated in accordance with 40 CFR 761.79 and 40 CFR 761 Subpart S, or disposed of at a TSCA disposal facility.

Veolia reserves the right to implement Subpart N protocols in the future, if it so chooses. The additional sampling would be used for further developing site characterization data, for assessing the sufficiency of existing site characterization data, and determining which specific areas are subject to the TSCA clean-up standards either during interim closure activities (e.g., the closure of Building 4 to the storage of PCB and PCB Items) or at the time of final site closure.

### **E.3.2 Clean-up Levels**

For the purpose of cleaning, decontaminating, or removing PCB remediation waste, there are four general waste categories: bulk PCB remediation waste, non-porous surfaces, porous surfaces, and liquids. The Veolia facility and its components can be sorted into these categories independent of conducting characterization sampling (i.e., Subpart N does not have to be implemented for these determinations to be made, and this approach is consistent with 40 CFR 761.61(a)(4) where it states “*Cleanup levels are based on the kind of material and the potential exposure to PCBs left after cleanup is completed*”). Based on the definitions provided in 40 CFR 761.3, the facility surfaces remaining following the transfer and disposal of inventory, waste, and equipment will be porous floors, porous internal walls (to a height of 10 feet), and non-porous doors. For the purpose of implementing the closure plan, all surfaces will be initially categorized as high contact to minimize the potential need to file deed restrictions upon closure<sup>2</sup>. The PCB area classification for these surfaces is itemized in Table E-4 below. Cleanup levels will be in accordance with Subpart G 40 CFR 761.125(c) and based upon the general categorization of high contact and either porous or non-porous as discussed in Subparts D [40 CFR 761.61(a)(4)] and G.

**TABLE E-4: PCB AREA CLASSIFICATION [40 CFR 761.61(a)(4)]**

Area	Square Footage	Classification	Clean-up Standards [Subpart G – 761.125(c)(3)]	Number of Samples for Characterization (Subpart N)	Number of Samples for Verification (40 CFR 761.130(e) and Subpart O)
BUILDING 2	Interior Surfaces 6,727 ft <sup>2</sup> of floor space and 3,946 ft <sup>2</sup> of interior walls	High contact; porous.	1 ppm or less (*or its equiv. of 1 mg/kg)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Floors and Walls – 259 chip samples, ½ inch deep, plus 10% duplicate samples. Total of 286 samples analyzed.
	Interior Surfaces – miscellaneous high traffic	High contact; porous.	1 ppm or less (*or its equiv. of 1 mg/kg)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Nine additional samples in doorways, plus 10% duplicates. Total of up to 10 samples analyzed.
	Interior non-porous surfaces (doors)	High contact; non-porous.	10 µg/100cm <sup>2</sup> (wipe samples)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Doors – 8 wipe samples, plus 10% duplicate samples. Total of 9 samples.
	Interior non-porous surfaces (ventilation fans)	High contact	10 µg/100cm <sup>2</sup> (wipe samples)	Four samples plus 1 duplicate. Total of 5 samples.	
	Interior	High contact	1 ppm or less (*or its equiv. of 1 mg/kg)	One dust sample collected from above the historical processing area plus 1 duplicate. Total of 2 dust samples.	
BUILDING 3	Interior Surfaces 6,624 ft <sup>2</sup> of floor space and 3,920 ft <sup>2</sup> of interior walls	High contact; porous.	1 ppm or less (*or its equiv. of 1 mg/kg)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Floors and Walls – 271 chip samples, ½ inch deep, plus 10% duplicate samples. Total of 299 samples analyzed.
	Interior Surfaces – miscellaneous high traffic	High contact; porous.	1 ppm or less (*or its equiv. of 1 mg/kg)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Seven additional samples in doorways, plus 10% duplicates. Total 8 samples analyzed.
	Interior non-porous surfaces (doors)	High contact; non-porous.	10 µg/100cm <sup>2</sup> (wipe samples)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Doors – 8 wipe samples, plus 10% duplicate samples. Total of 9 samples.
	Interior non-porous surfaces (ventilation fans)	High contact	10 µg/100cm <sup>2</sup> (wipe samples)	Three samples plus 1 duplicate. Total of 4 samples.	
	Interior	High contact	1 ppm or less (*or its equiv. of 1 mg/kg)	One dust sample collected from above the historical processing area plus 1 duplicate. Total of 2 dust samples.	



Area	Square Footage	Classification	Clean-up Standards [Subpart G – 761.125(c)(3)]	Number of Samples for Characterization (Subpart N)	Number of Samples for Verification (40 CFR 761.130(e) and Subpart O)
BUILDING 4	Interior Surfaces 3,495 ft <sup>2</sup> of floor space and 1,100 ft <sup>2</sup> of interior walls	High contact; porous.	1 ppm or less (*or its equiv. of 1 mg/kg)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Floors and Walls – 113 chip samples, ½ inch deep, plus 10% duplicate samples. Total of 124 samples analyzed.
	Interior Surfaces – miscellaneous high traffic	High contact; porous.	1 ppm or less (*or its equiv. of 1 mg/kg)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Up to 7 additional chip samples in doorways, plus 10 % duplicate samples. Total of up to 8 samples analyzed.
	Interior non-porous surfaces (doors)	High contact; non- porous.	10 µg/100cm <sup>2</sup> (wipe samples)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Doorways – 4 wipe samples, plus 10% duplicate samples. Total of 5 samples.
BUILDINGS 2, 3, and 4 Loading Docks	Exterior Surfaces – 291 ft <sup>2</sup> of exterior walls per loading dock	High contact; porous.	1 ppm or less (*or its equiv. of 1 mg/kg)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Walls – 7 chip samples each , ½ inch deep, plus 10% duplicate samples; plus 3 judgmental samples around the Building 4 portal, plus one duplicate. Total of 28 samples for the three loading docks combined.
Ground Surface	Exterior – 31,515 ft <sup>2</sup> of ground surface	High contact; porous	1 ppm or less (*or its equiv. of 1 mg/kg)	NA; Veolia will assume that these areas need to be decontaminated and verified as clean using Subpart O standards.	Total of 813 chip samples, plus 10% duplicate samples. Total of 894 samples.
Dry Wells (8)	Not applicable (interior sediment)	High contact; porous	1 ppm or less (*or its equiv. of 1 mg/kg)	Three samples per dry well, plus a duplicate of one sample per dry well. Total of 4 samples per each of eight dry wells.	Contingency: Assume one boring with 3 soil samples collected, plus one duplicate samples for a total of four soil samples.

### **E.3.3 Health and Safety Plan**

In accordance with 29 CFR 1910.120(b), a site specific Health and Safety Plan (HASP) has been developed for minimizing the risk to personnel performing on-site inspection and sampling. The HASP addresses potential and known hazards at the facility, emergency information, personal protection requirements, decontamination procedures, monitoring requirements, access controls, training requirements, and weather related precautions. The HASP for the facility Closure is appended to this Closure Plan.

### **E.3.4 Decontamination Procedures**

The procedures to decontaminate the buildings are described in this section. The criteria used for cleanup methods will be based upon the requirements for high contact areas, the type of surface (porous or non-porous), time and safety requirements, the amount of wastes generated from the processes, and the costs. Site cleanup will be in accordance with the criteria set forth in 40 CFR 761.61(a)(4) and (5) which includes 40 CFR 761.79, 40 CFR 761 Subpart P, and technologies approved under 40 CFR 761.60(e).

#### ***E.3.4.1 Cleaning of Non-Porous Surfaces***

Non-porous surfaces will be identified and cleaned in accordance with 40 CFR 761 Subpart S to meet the standards at 40 CFR 761.61(a)(4)(ii). Decontamination of non-porous surfaces will be performed using a commercially-available degreaser, Industrial Purple Cleaner and Degreaser Concentrate (refer to the Material Safety Data Sheet provided in Appendix G of the application).

#### ***E.3.4.2 Remediation Waste***

Contaminated solids derived from decontamination procedures, which do not have a solid surface, such as paper or cloth, will not be cleaned. These materials will be containerized and shipped off-site for landfill disposal. Liquids generated during decontamination procedures will be containerized and shipped off-site to an approved incinerator. Material generated during cleanup activities have been included in the maximum inventory estimates contained in Section E.2.1 and in the closure cost estimate appended to this Closure Plan.

#### ***E.3.4.3 Cleaning of Porous Surfaces***

Remaining porous surfaces include the floor and walls (to a maximum height of 10 feet). In accordance with 40 CFR 761.61(a)(4)(iii) and 761.61(a)(4)(i), these porous surfaces must be cleaned to 1 ppm PCB or less for high contact areas (and 25 ppm or less for low contact areas). Alternatively, if PCB contamination is detected above 1 ppm on a high contact porous surface, that surface may be sampled to determine the extent of the contamination, then removed by scarification and disposed of in accordance with 40 CFR 761.61(a)(4)(iii). If removal by

scarification is required, the impacted area will be tented and personnel working within the confined area will don appropriate personal protective equipment, including air respirators, to perform the required decontamination activities. Sampling of porous surfaces will be in accordance with applicable regulatory guidelines which may include EPA's Standard Operating Procedure for Sampling Porous Surfaces for PCBs (EPA 2011). See the SAP.

### **E.3.5 Post-Cleanup Verification Procedures**

Consistent with the facility closure requirements contained in 40 CFR §761.65(e)(1)(iv), post-cleanup sampling will be performed to verify complete decontamination for closure certification. The post-cleanup sampling will be completed by or under the direct supervision of an independent licensed professional engineer, and in accordance with the site health and safety plan (HASP), a sampling and analysis plan (SAP), and laboratory protocols as established in the Quality Assurance Project Plan (QAPP) protocol, appended to this Closure Plan.

#### ***E.3.5.1 Sampling Protocol***

The sampling protocol is presented in the DQO table included in the SAP appended to this Closure Plan.

***Sampling program design.*** Each of the areas designated in Table E-4 was defined using a sample pattern developed using Visual Sample Plan (VSP, Version 6.0) to identify an elliptical hot spot of specific size and shape (see DQO) with a 95 percent probability of identifying the hot spot and assuming no false negative errors. In accordance with 40 CFR 761.292, the samples will be submitted to an Arizona-licensed laboratory for analysis of PCBs using either Method 3500B/3540C or Method 3500B/3550B from EPA's SW-846, Test Methods for Evaluating Solid Waste, or a method validated under Subpart Q of 40 CFR 761, for chemical extraction of PCBs from individual and composite samples of PCB remediation waste. Extracts will be analyzed using Method 8082 from SW-846, or a method validated under Subpart Q, to analyze the extracts for PCBs.

***Collection of quality control samples.*** Quality control samples (duplicates) will be collected at the frequency of ten percent. Additional quality control samples will also be collected per the SAP.

Veolia will compare analytical results to the following standards as presented in 40 CFR 761.125(c)(3) which include 10 µg/100 cm<sup>2</sup> for non-porous surfaces, and 1 ppm for porous surfaces.

Sample results will be compared to the applicable PCB standard, as presented above, to determine whether closure standards have been achieved. These standards are consistent with those presented in Table E-4 and the SAP.

### ***E.3.5.2 Composite Samples***

Please note that 40 CFR 761.283 and 761.289 allow for the use of composite sampling in conducting verification analysis under Subparts O and P; however, Veolia is aware that EPA Region IX prefers to minimize the use of composite sampling during the verification process. Accordingly, Veolia is utilizing the coordinate-based sampling scheme described above, which eliminates composite sampling from the verification protocol. This methodology is also consistent with sampling guidance referenced at 40 CFR 761.130(e).

### **E.3.6 Waste Generation**

It is estimated that 4,000 gallons of wash water and 60 cubic yards of general waste materials will be generated during the cleanup process, based on a worst-case scenario. The wash water and waste will be containerized, tested, and labeled in accordance with applicable regulations. The liquid wastewater will be transported by a licensed transporter and disposed of at an approved incinerator. The solid waste material will be transported by a licensed transporter and disposed of at an approved, secured landfill, unless incineration is required.

Based on the removal of the wastes and material, the decontamination of porous surfaces, and the confirmation sampling, the third party will document closure activities and prepare a certification of closure report. Copies of the material profile sheets, manifests, and disposal records associated with the closure will be included in the closure certification report. The records associated with the closure verification will be maintained for a minimum of 5 years.

### **E.3.7 Post Closure**

Post-closure activities are not anticipated at this time. It is the intent of Veolia to remove and dispose of excess inventory, and removable surfaces (e.g., containment pods) and to decontaminate the remaining walls, floors, and porous interior surfaces of Building's 2, 3, and 4. At the time of facility closure, it is the intent of Veolia to remove and transport, incinerate, or dispose of excess inventory, equipment, pods, It is the objective of Veolia to meet the cleanup standards of 40 CFR 761.65(e) at the time of post-cleanup sampling (e.g., analysis will indicate the surfaces are equal to or less than 1 ppm PCB) or the surfaces will be removed and disposed of at a TSCA-approved facility.

### E.3.8 Other Activities

As described in 40 CFR 761.65(e)(1)(v), a description of any other closure activities necessary to ensure that risks to the environment be minimized should be included. Examples of additional closure activities include groundwater sampling, storm water treatment and disposal, and permanent access control to eliminate site entry after closure. Due to the design of the facility and operational practices, no additional closure activities are anticipated at the site, with the exception of the advancement of a single soil boring to investigate potential PCB impact to soil adjacent to a dry well.

Veolia reserves the right to update this Closure Plan protocol should viable decontamination procedures be developed for porous surfaces.

In the event that PCB contamination is detected at levels above the federal cleanup levels, appropriate notice and corrective actions will be initiated as required through federal regulations or laws.

### E.4 CLOSURE SCHEDULE

As part of the closure plan requirements, a schedule for closing each area within the facility used for storage or handling of PCB waste must be prepared. Closure activities must be completed within 180 days of receipt of the final shipment of waste to the facility. The schedule must identify the time required for completion of each phase of closure as well as the expected year of closure.

The year of closure has been developed based on the estimated remaining material available for processing at the facility. Based on this information, the facility is scheduled to close in the year 2030.

A list of closure activities and estimated time frames is presented below.

**TABLE E-6: CLOSURE SCHEDULE [40 CFR 761.65(E)(1)]**

<b>Closure Activity</b>	<b>Duration (Deadline)</b>
Notification of Closure	Day Zero
Relocation of Stored PCB Materials	Day 15
Closure Begins	Day 30
Pre-Cleanup Investigation	Day 50
Facility Decontamination	Day 60

Post-Cleanup Sampling	Day 70
Receive and Process Analytical Results	Day 130
Analytical Report for Clean-up Sampling Prepared	Day 160
Closure Debris Removed	Day 160
Closure Certification Completed	Day 180
Closure Certification Submitted To EPA	Day 200

## **E.5 CLOSURE PLAN MODIFICATIONS**

Facility closure plans must be amended and resubmitted to the EPA for approval if certain conditions or events occur. Conditions or events, which would require an amended plan, are discussed in the following sections.

### **E.5.1 Operating Plan/Design Change/Ownership**

Whenever changes in the operating plan or the facility design are made, the owner / operator must submit an amended closure plan to the EPA for review and approval. Specific changes would require modifications to the closure plan include:

- Increases in the facility size or capacity
- Increases in the maximum inventory estimate
- Changes in the regulatory requirements that affect closure activities
- Changes in surrounding land use
- Changes in ownership or operational control
- Changes in sampling, analytical testing or data interpretation technologies.

Examples of changes in surrounding land uses that would affect the operation of the facility include installation of drinking water wells, installation of sanitary sewer lines that may be impacted during a spill, or a residential development.

### **E.5.2 Partial Closure**

An amended closure plan will be prepared for unexpected events that occur during closure which affect closure activities that are described in the current plan. Unexpected events may include a release during decontamination, discovery of off-site contamination, unavailability of designated disposal or incineration facility, or other unforeseen events. A current certificate of insurance is provided in Appendix F.

### **E.5.3 Change in Closure Date**

The facility closure date is an estimated date only. For the purpose of developing a closure plan, schedule and cost estimate, an estimated closure date of 250 days following receipt of Application approval has been selected. If, for any reason, the facility closure date changes, an amended closure plan will be prepared and submitted to the EPA.

### **E.5.4 Change in Financial Status**

An amended closure plan will be prepared if the financial status of the owner changes over the remaining life of the facility. Changes in financial status that will require modified plans will be limited to circumstances in which the owner may not be able to adequately pay for closure of the facility.

## **E.6 CLOSURE COST ESTIMATE**

The following discusses the cost estimates that have been developed for closure of the Veolia facility. The scope of the closure activities within this plan includes Building 4, which has the street address of 5736 West Jefferson Street in Phoenix, Arizona 85043 (EPA ID #AZ0000337360). A detailed breakdown of the cost estimate is provided herein. The financial assurance mechanism is discussed in detail in the commercial storage application package and the most recent account statement is also included.

The initial cost estimate has been prepared consistent with the requirements of 40 CFR 761.65(f)(1)(i) through (iv) and is provided as Attachment E-3. The review of the cost estimate is intended to ensure that the cost information is current and accurate. Specific information concerning the cost estimate is described in the following subsections.

### **E.6.1 Cost Estimate Certification**

The closure cost estimate certification is provided in Section 1.2 of the renewal Application.

### **E.6.2 Closure Costs Consistency and Off-site Disposal Cost**

The closure cost estimate has been prepared in accordance with the information and activities described in the closure plan. The costs have been estimated using current (2015) dollar values for activities described in the plan. The closure cost estimate has been developed to estimate the cost of each activity and sub-activity contained in the plan.

The cost estimate is based on prices currently (2015) being incurred by Veolia for each of the activities described. Direct and indirect costs have been included in the total. The price for land disposal is based on current rates at the U.S. Ecology Secured Landfill located in Beatty,

Nevada. The price for incineration is based on current rates at the Veolia incinerator in Port Arthur, Texas.

Detailed spreadsheets containing the cost estimate are provided herein.

### **E.6.3 Maximum Costs**

The closure cost estimate prepared for the facility is based on closing the facility when the maximum waste inventory is present. The maximum PCB waste inventory is provided in Table E-2.

### **E.6.4 Third Party Costs**

The closure cost estimate has been prepared using third party cost data. The cost estimate assumes the use of Veolia personnel for the processing of remaining on-site materials as part of the certification of closure.

### **E.6.5 Salvage Credits**

The closure cost estimate does not include the revenues from recycling waste at the facility or the sale of equipment or salvageable materials. Revenues that cannot be used in calculating the closure cost estimate may include the sale of recovered metals, crushed bushings, process equipment, containment structures, and other related equipment. The closure cost estimate is based on current disposal, incineration, and freight costs incurred by VES and current waste disposal requirements.

### **E.6.6 Cost Adjustments**

The closure cost estimate will be adjusted whenever one of the following occurs: (1) the facility design or operation changes, (2) the expected year of closure changes, (3) demand for the corporation's services declines, (4) unexpected events occur during closure, or (5) the net worth of the corporation falls below the total estimated closure and post-closure costs. The closure cost estimate will be adjusted annually to account for inflation and in accordance with the guidance provided in 40 CFR 761.65(f)(2).

## **Plan Modifications**

The closure plan must be amended and submitted to the EPA for approval when certain changes occur. When the closure plan is modified, the closure cost estimate must also be modified to reflect the changes made. The closure cost estimate must be revised within 30 days of approval of any closure plan modification that increases the cost of closure. A request for a reduction in



the closure cost estimate can be requested if changes in the facility design (i.e., size) or operation cause the maximum to decrease.

### **Annual Inflation**

Consistent with 40 CFR 761.65(f)(2), the closure cost estimate must be revised annually to account for inflation. Two methods may be used to revise the cost estimate to account for inflation. The owner may either recalculate the costs based on the prevailing specific market unit prices for the current year, or adjust the estimate using an inflation factor multiplier.

The closure cost estimate is the basis for the level of financial assurance required. The revised closure cost estimate will be completed 60 days prior to the anniversary date of the current financial assurance mechanism.