SECTION I

CLOSURE AND POSTCLOSURE CARE PLANS

R 299.9613 AND 40 CFR, PART 264, SUBPART G

CLOSURE AND POSTCLOSURE CARE PLANS
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I-1 Closure Plan

I-1a Closure Performance Standard

(R 299.9613 and 40 CFR 264.111)

This closure plan is designed to ensure that the EQ Detroit (EQD) facility will be closed in a manner that achieves the following:

a. Minimizes the need for further maintenance

b. Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, postclosure escape of hazardous wastes, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition byproducts to the ground or surface waters or to the atmosphere as applicable.

c. Complies with the unit-specific closure requirements for each of the following units:

Use and management of containers R 299.9614 and 40 CFR 264.178 and tank systems R 299.9615 and 40 CFR 264.197.

I-1b Unit Specific Information

(R 299.9613 and 40 CFR 264.112(b)(3) and (6))

The following table identifies each hazardous waste management unit at the EQD facility subject to the closure requirements of this hazardous waste operating license. The table also includes each unit's maximum licensed hazardous waste inventory, a list of the waste codes managed in the unit, the anticipated date of closure (if known), and the estimated duration of closure activities once closure begins. Unit-specific methods for closure are listed in the table below and detailed schedules are discussed in section I-1e of this attachment.

Unit Designation	Maximum Inventory	Hazardous Waste Codes Managed	Scheduled Closure Date	Estimated Duration of closure
T-201	20,000 gal	See **Table C-4**	None	180 days
T-202	20,000 gal	See **Table C-4**	None	180 days
T-203	20,000 gal	See **Table C-4**	None	180 days
T-204	17,000 gal	See **Table C-4**	None	180 days
T-205	17,000 gal	See **Table C-4**	None	180 days
T-206	17,000 gal	See **Table C-4**	None	180 days
T-207	1,200 gal	See **Table C-4**	None	180 days
T-208	17,000 gal	See **Table C-4**	None	180 days
T-301	8,000 gal	See **Table C-4**	None	180 days

Unit Designation	Maximum Inventory	Hazardous Waste Codes Managed	Scheduled Closure Date	Estimated Duration of closure
T-302	8,000 gal	See **Table C-4**	None	180 days
T-303	6,500 gal	See **Table C-4**	None	180 days
T-304	6,500 gal	See **Table C-4**	None	180 days
T-305	15,000 gal	See **Table C-4**	None	180 days
T-306	20,000 gal	See **Table C-4**	None	180 days
T-701	210 Yd	See **Table C-4**	None	180 days
T-702	490 Yd	See **Table C-4**	None	180 days
T-703	490 Yd	See **Table C-4**	None	180 days
T-704	510 Yd	See **Table C-4**	None	180 days
T-705	290 Yd	See **Table C-4**	None	180 days
T-706	170 Yd	See **Table C-4**	None	180 days
H-1	5,500 Cu ft	See **Table C-4**	None	180 days
H-2	5,500 Cu ft	See **Table C-4**	None	180 days
Rail Container Storage Area	207,000 gal	See **Table C-4**	None	180 days
North Drum Storage Area	100,430 gal	See **Table C-4**	None	180 days
North Drum Staging Area	54,340 gal	See **Table C-4**	None	180 days
Corrosive Drum Pad	6,600 gal	See **Table C-4**	None	180 days
Chemical Precipitation Drum Pad	6,600 gal	See **Table C-4**	None	180 days
North Container Storage Pad	80,800 gal	See **Table C-4**	None	180 days
Chemical Fixation Container Storage Area	149,480 gal	See **Table C-4**	None	180 days
Lab Pack De-pack Area	8,800 gal	See **Table C-4**	None	180 days

I-1c Schedule of Final Facility Closure

EQD has not determined when the facility will close and does not anticipate completing the final closure of the entire facility prior to expiration of the facility's hazardous waste license. The schedule for closure is described below.

1. Removal, Treatment, and Disposal of Waste Inventory,
2. Cleaning of Tanks,
3. Cleaning of Equipment,
4. Cleaning of Concrete and Asphalt Surfaces,
5. Disposal of Decontamination Agents,
6. Sampling, Analysis and Background, and
7. Disposal of Concrete, Asphalt and Soil.

Total Number of days to complete items 1-7 in the schedule is 180 days.

I-1c(i) Cleaning of Tanks

The decontamination of tanks will be performed in compliance with the extraction technologies specified in 40 CFR 268.65, or will consist of triple rinsing. The sides and bottom of the waste treatment/storage tanks will be cleaned to remove all solid and sludge deposits. Cleaning time for the tanks is estimated to be 2 hours per tank. Hydro-blasting is estimated to generate approximately 12 gallons of wastewater per minute. Sandblasting is estimated to generate 50 lbs per minute of abrasive.

I-1c(ii) Cleaning of Equipment

The decontamination of equipment will be performed in compliance with 40 CFR 268.45 or will consist of triple rinsing. In addition, a detergent cleaning apparatus will be used, if necessary, to clean the plant components equipment. The cleaning will be performed in a permitted TSDF storage area. Wash water, abrasives and/or other decontamination agents will be collected in the sumps, in the container storage areas, vacuum truck or equivalent.

I-1c(iii) Cleaning Concrete and Asphalt Surfaces

The decontamination of the concrete and asphalt surfaces will be performed in compliance with the extraction technologies specified in 40 CFR 268.45 or will consist of triple rinsing. All secondary containment areas, drum storage areas, sumps, loading areas, ramps and roadways will be decontaminated. Any cracks, joints etc. will be sealed prior to cleaning and rinsing concrete and asphalt surface to prevent loss contaminants through the surface. Concrete and asphalt at the EQD site will be cleaned by a three-man crew over the course of one week.

I-1c(iv) Disposal of Decontamination Agents

The decontamination process will cause no escape of hazardous waste or hazardous waste constituents. All wastewaters, abrasives and other decontamination agents will be immediately collected from plant surfaces and sumps.

I-1c(v) Sampling Analysis and Background

Sampling, testing and background will be conducted in compliance with the following documents:

- Part 111, Hazardous Waste Management, of the Michigan Natural Resources Environmental Protection Act, 1994 PA 451, as amended.
- Part 201, Environmental Remediation, of the Michigan Natural Resources Environmental Protection Act, 1994 PA 451, as amended.
- DEQ Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria (S3TM) will be used to determine sampling distance, depth, verification of remediation etc. See the DEQ website for a copy of this reference document at https://www.michigan.gov/documents/deq/deq-erd-stats-s3tm_250015_7.pdf
- DEQ Remediation and Redevelopment Division (RRD) Operation Memo and Michigan Background Soil Survey 2005
- Test Methods for Evaluation Solid Waste: Physical/Chemical Methods SW 846, EPA.

I-1c(vi) Sampling

A soil sampling and testing program will be undertaken. The purpose of this program will be to determine if any contamination that must be addressed in compliance with Part 111 and Part 201. After the contamination is defined, in compliance with the above referenced documents, EQD will provide its selected remedy to address the contamination for review and approval to the DEQ prior to implementation.

After decontamination of EQD, initial soil samples will be collected. Soil samples will be collected at the following:

1. Any significant cracks in the concrete or asphalt
2. Secondary containment trenches and sumps
3. Unloading/loading areas, waste handling areas
4. Any areas of suspect contamination
5. Any areas where the integrity of the pad may be questionable.

Sampling will be conducted in compliance with S3TM which can be referenced at: https://www.michigan.gov/documents/deq/deq-erd-stats-s3tm_250015_7.pdf. For each sampling area listed above, initial sampling will be conducted by taking grab samples from 0” to 6” below the asphalt or concrete surface. If analysis (as detailed in the next section) verifies that no contamination exists, then no further sampling will be required. If the initial samples show contamination, further sampling will be required to define the extent of the contamination horizontally and vertically. Note if new, relevant, guidance replaces S3TM, the replacement will be used in lieu of S3TM.

If the laboratory results indicate contaminants are present in the soils beneath the concrete pad, the following activities will be completed to delineate the impacted soil.

1. Soil samples will be collected at the location of the impacted soil to determine the vertical extent of the soil contamination

2. Soil samples will be collected in each direction form the original boring to determine the horizontal extent of the contamination.
3. If perched groundwater is encountered, a water sample will also be collected.
4. Samples will be analyzed for the contaminant of concern identified in the initial sample results. Laboratory analysis of the delineation samples will be completed in accordance with the methods and method detection limits listed in MDEQ RRD OP Memo #2 or the appropriate guidance at the time of the closure.
5. The above process will be repeated at each initial sample location that exceeds the Generic Industrial Cleanup Criteria.

I-1c(vii) Analysis

As the samples are collected, each sample will be sealed in jar containers, packed in ice and transported to an analytical laboratory for chemical analysis. If sample analysis shows that the sample is contaminated, further samples will be taken and analyzed.

Each soil and/or water sample will be tested for metals, VOCS, Semi-Volatiles, pesticides, herbicides, cyanides, mercury and PCB's. The laboratory analysis of the samples will be conducted in accordance with MDEQ RRD OP Memo #2 and associated target detection levels to allow comparison to the cleanup criteria established pursuant to Part 201. Any monitoring parameters, not exceeding the Generic Industrial Cleanup Criteria at a particular sample location, will be removed from further consideration at that location.

I-1c(viii) Background Analysis for Native Soils

Background levels for metals in native soils may be established in according to the methods outline in S3TM. The data from each of the background metals samples will be compared to the default background metals concentrations listed in DEQ RRD OP Memo #1 or the appropriate guidance document at the time of closure.

I-1c(ix) Disposal of Concrete, Asphalt Soil and or/Water

Any concrete, asphalt soil and/or water removed from EQD will be treated and/or disposed of at a properly licensed facility.

I-1d Notification and Time of Closure

(R 299.9613 and 40 CFR 264.112(d) and 264.113(a) and (b))

Final closure activities will be initiated within 90 days after receipt of the final volume of hazardous wastes and completed within 180 days of receipt of the final volume of waste. The tasks and estimated time required for partial closure shall follow the schedule specified in Section I-1c. The Director will be notified by EQD facility 60 days before final closure begins. Final closure will be certified by both EQD facility and an independent, qualified, registered professional engineer of the State of Michigan.

I-1d(i) Extensions for Closure Time

(R 299.9613 and 40 CFR 264.113(a) and (b))

In the event that an extension for closure for the facility or any unit is necessary, the EQD facility will request an extension in accordance with the requirements of 40 CFR 264.113(a).

I-1e Unit Specific Closure Procedures

I-1e(i) Closure of Container Storage Areas

This section describes the procedures for closure of Container Storage Areas at EQ Detroit facility. The general closure requirement and specific closure procedures are discussed below.

At closure, all hazardous waste and hazardous waste residues will be removed from the containment system. Remaining containers, liners, bases and soil containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed.

Specific procedures for inventory management, and inspection, decontamination, sampling and analysis, and additional waste management are discussed below.

This closure procedure has been developed for the various container storage/staging, loading/unloading and other secondary containment areas. These units include:

- Rail Container Storage Area
- North Drum Storage Area
- North Drum Staging Area
- Corrosive Drum Pad
- Chemical Precipitation Drum Pad
- North Container Storage Pad
- Chemical Fixation Container Storage Area
- Lab Pack De-pack Area

Closure procedures for these units have been divided into the following phases

- Inventory and Remedial Waste Management procedures
- Inspection
- Decontamination
- Secondary containment structure characterization, and
- Secondary containment system removal and soil remediation

Inventory and Remedial Waste Management Procedures

For the purpose of developing the closure cost estimate, it is assumed that a third party will complete the closure and that the hazardous waste inventory would be removed for treatment and/or disposal at permitted off-site facilities. During any planned or partial or final closure, the containerized hazardous waste inventory of any container storage area schedule for closure would be processed on-site to the extent possible prior to initiating closure procedures.

Inspection

After removal of any hazardous waste inventory, the drum/container storage/staging area will be thoroughly inspected for evidence of spills, stains and significant cracks, and/or expansion joints. A visual assessment of all miscellaneous building structures that will be subject to closure and all evidence of dust collection and/or staining will be noted. If no stains, significant cracks, or expansion joints are observed, the decontamination can proceed. If evidence of possible spill/leakage exist, the area will be sealed prior to proceeding with decontamination. Subsequently sampling of the underlying soils will be conducted in according with the Sampling described in **Section I-1c(vi)** above.

Decontamination

The concrete or bituminous floor surface and walls (as appropriate), up to a height of 4 feet above the floor surface elevation, will be dry swept and the materials collected and containerized in 55-gallon steel drums for characterization and off-site disposal.

After sweeping the floor surface and walls, these surfaces will be high power pressure washed using a detergent and hot water. Subsequently the floor surface and walls will be high pressure triple rinsed and visually inspected to ensure that all contamination has been removed from solid surfaces and coated concrete containment systems.

Wastewater (wash water) will be containerized in a temporary storage tank or 55-gallon drum(s) for characterization and subsequent disposal at an off-site permitted facility, if determined to be hazardous. If the wash water is determined to be non-hazardous, it will be transported off-site for treatment and disposal. A sample of the final wash waters will be collected and analyzed for the disposal characterization parameters, as necessary to determine the appropriate disposition mode. The disposition of wash water will be documented in the Closure Certification Report.

Miscellaneous building structures that will be subject to closure will be dry vacuumed to remove accumulations of dust with appropriate containerization, characterization and disposal. Any visible staining will be addressed through cleaning in the same manner as the storage areas.

Secondary Containment Structure Characterization

The Secondary Containment structure will be visually inspected for evidence of spills, stains and cracks and/or expansion joints. If no stains, cracks or expansion joints are observed, the structure will be pressure washed and then the structure and surrounding soils will be determined to be clean and no decontamination or confirmatory sampling will be performed beyond those proposed locations associated with existing sumps as defined in the Sampling described in **Section I-1c(vi)** above.

In the event that staining is observed, the secondary containment area will be pressure washed. Prior to pressure washing, cracks or expansion joints will be sealed with grout or cement. The wash waters will be collected and disposed as described in the decontamination paragraph above. Concrete chip samples will then be collected from the concrete surface as described in **Section I-1c(vi)** above.

In the event that stains and cracks/expansion joints are observed to be present in the secondary containment pad, samples of the soils underlying the structure will be collected as described in **Section I-1c(vi)**.

Secondary Containment System Removal and Soil Remediation

In the event that the secondary containment structure and/or the soils underlying the structure are determined to be impacted at final closure, the structure will be demolished, removed and soils may potentially be excavated.

The secondary containment structure will be demolished using a hydraulic jack-hammer. Concrete debris will be transferred from the area to a lined roll-off box using an excavator. A representative concrete chip sample will be collected from the concrete rubble prior to loading the concrete into a roll-off box. The composite chip sample will be collected as a five point composite sample from five visually impacted rubble locations. The lined roll-off box(es) will be covered when full.

Impacted soils (if any) will be excavated and loaded into lined roll-off boxes. Depending on the visual extent of soil impacted, EQD may elect to conduct additional sampling to define the extent of soil contamination prior to excavating contaminated soils. Delineation sampling will consist of a grid sampling strategy over the impacted area including “step out” samples in all four directions from the areas of visual impact. The size of the sampling grid and the grid interval will be determined based on visual extent of impact. Samples will be collected from a variety of depth intervals based on the visual extent of the impact. Addition delineation (vertical or in one or more horizontal directions) may be required based on the results of the initial delineation sampling or, if no delineation sampling was done, by visual evidence of impact. Soil samples to verify remediation will be collected according to the sampling strategy described in Section 1.2.1 of the MDEQ Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria

(2002). A five point composite sample will be collected from each roll-off box loaded with impacted soils for the purpose of waste characterization for disposal (see Section I-1c(vi) for sampling details).

Once verified clean, the excavation will be backfilled and compacted with clean certified fill material from a local source. The clean fill source and associated analytical data will be documented in the final closure certification.

I-1e(ii) Closure Procedure for Storage Tanks

This section describes the procedures for closure of T-201, T-202, T0203, T-204, T-205, T-206, T-207, T-208, t-301, T-302, T-303, T-304, T-305 and T-306. The general closure requirement and specific closure procedures are discussed below.

I-1e(ii)1 Above Ground Storage Tanks

At closure of the tank system, EQ Detroit facility will remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless 40 CFR 264.3(d) applies. If the EQD facility demonstrates that not all contaminated soils can be practically removed or decontaminated, then the tank system will be managed in accordance with the closure and post closure care requirements that apply to landfills.

Specific closure procedures for above ground storage tanks have been divided into the following phases:

- Inventory and Remedial Waste Management Procedures
- Inspection
- Preparation
- Decontamination
- Secondary containment structure characterization
- Secondary containment structure removal and remediation (if necessary)

Inventory and Remedial Waste Management Procedures

For the purpose of developing a cost estimate, it is assumed that a third party will complete the closure and that the hazardous waste inventory would be removed for treatment and/or disposal at permitted off-site facilities. During any planned partial or final closure, the hazardous waste inventory of any unit scheduled for closure would be processed on-site to the extent possible prior to initiating closure procedures.

Inspection

The manway cover/access point of each tank will be removed and the air present in the tank will be tested for potentially explosive levels of vapors, oxygen content and organic vapors. Piping and ancillary equipment will be

identified and marked. Piping and ancillary equipment will be inspected for any evidence of release. Each tank will be visually inspected for sludge. If sludge is present, tank entry will be conducted as necessary if adequate cleaning cannot be conducted from outside the tank. Tank entry, if necessary, will be performed using facility confined space entry procedures.

Preparation

Prior to removal of each tank, all waste and waste residues will be removed from the tank and ancillary piping. Pumps, valves, and level indicators will be de-energized and disconnected. Prior to pumping, the approximate volume of waste will be determined and appropriate storage containers (i.e. tanker truck, 55-gallon drums) staged in the vicinity of the tank. Liquids will be pumped into a tanker truck or 55-gallon drums, pending characterization and off-site disposal. Ancillary equipment which can not be readily decontaminated will be characterized and disposed of at an off-site facility. Open ends of piping and associated ancillary equipment will be plugged prior to moving. Piping will be disconnected and removed at all tank openings.

All piping, pumps, valves, flowmeters, pressure indicators and level indicators will be stored in a designated covered area on plastic sheeting (6-mil polyethylene or equivalent) within one of the process buildings, staging areas or within a plastic lined roll-off box. The lined roll-off box would be covered.

Spill control equipment consisting of absorbent, brooms and shovels will be readily available near the tank in the event of inadvertent spills occurring during decontamination activities.

Decontamination

To remove potentially hazardous constituents which still may remain inside the tank, a hot water high pressure steam cleaner will be used. An industrial detergent/cleaning agent will be used to aid in decontaminating the tanks. Tanks will be triple rinsed and visually inspected to verify that all contamination has been removed from tanks surfaces and piping. The tanks will be cleaned in place, if possible, and/or after removal. Wash waters will be removed by pumping and containerized at the facility in appropriate shipping containers or another storage tank. Wash waters will be characterized and transported off-site for disposal at a permitted facility, if they are determined to be hazardous. The wash water, if determined to be non-hazardous, will be transported off-site for treatment and disposal. If clean closure criteria cannot be achieved, or if EQD determines that cleaning the tank is not practical, the tanks(s) and ancillary equipment will be transported and disposed of at a permitted disposal facility with an appropriate waste characterization. The visually cleaned tanks will be removed whole and staged, pending re-use or scrapping or may be cut up in place if removal is difficult.

Secondary Containment Structure Characterization

Secondary containment structure characterization for above ground-storage tanks is identical to that described in the section above for Container Storage Areas.

Secondary Containment System Removal and Soil Remediation

Secondary containment system removal and soil remediation for above ground-storage tanks is identical to that described in the section above for Container Storage Areas.

I-1e(ii)2 Steel-Lined Concrete Vaults

This section describes the procedures for closure of T-701, T-702, T-703, T-704, T-705, T-706 and T-901. The general closure requirement and specific closure procedures are discussed below.

At closure of the vault system, EQ Detroit facility will remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless 40 CFR 264.3(d) applies. If the EQD facility demonstrates that not all contaminated soils can be practically removed or decontaminated, then the tank system will be managed in accordance with the closure and post closure care requirements that apply to landfills.

Specific closure procedures for Steel-Lined Concrete Vaults have been divided into the following phases:

- Inventory and Remedial Waste Management Procedures,
- Inspection,
- Preparation,
- Decontamination
- Steel lining inspection/characterization, and
- Secondary containment structure removal and remediation (if necessary).

Inventory and Remedial Waste Management Procedures

For the purpose of developing a cost estimate, it is assumed that a third party will complete the closure and that the hazardous waste inventory would be removed for treatment and/or disposal at permitted off-site facilities. During any planned partial or final closure, the hazardous waste inventory of any unit scheduled for closure would be processed on-site to the extent possible prior to initiating closure procedures.

Inspection

Piping and ancillary equipment associated with each vault will be identified and marked. Piping and ancillary equipment will be inspected for any evidence of release. Each vault will be visually inspected for sludge. If sludge is present, cleaning will be conducted from the ground level. If cleaning cannot be conducted from the ground level, vault entry will be conducted.

Vault entry, if necessary, will be performed using facility confined space entry procedures.

Preparation

Prior to closure of each vault, all waste and waste residues will be removed from the vault and ancillary piping. Prior to pumping the approximate volume of waste will be determined and appropriate storage containers (i.e. tanker truck, 55-gallon drums) staged in the vicinity of the vault. Liquids will be pumped into a tanker truck or 55-gallon drums pending characterization and off-site disposal. Ancillary equipment will be characterized and disposed of at an off-site facility and will not be decontaminated as this is not practical.

Decontamination

To remove potentially hazardous constituents which may still remain in the vault, a hot water high pressure steam cleaner will be used to clean the liner of the vault. An industrial detergent/cleaning agent will be used to aid in decontaminating all vaults. Cleaning will be conducted until the steel lining is visually as clean as practical. After cleaning, vaults will be high pressure triple rinsed and visually inspected to verify that all contamination has been removed from the vault lining.. Wash and rinse waters will be removed by pumping. Wash waters will be containerized at the facility in appropriate shipping containers or in another storage tank. Wash waters will be characterized and transported off-site for disposal at a permitted facility, if they are determined to be hazardous. If the wash water is determined to be non-hazardous, it will be transported off-site for treatment and disposal.

Steel Lining Inspection Characterization

The steel lining of the vaults will be visually inspected for evidence of potential leaks through cracks/joints. A total of three locations will then be selected in proximity to steel joints. At these locations, a two-foot square portion of the steel lining will be cut away and removed for a visual inspection of the underlying concrete secondary containment. If no evidence of leaks are observed, the vault and surrounding concrete secondary containment system will be pressure washed, tripled rinsed and then be determined to be clean and no further decontamination or confirmatory sampling will be performed.

In the event that staining is observed on the concrete behind the steel lining material, the entire steel lining will be removed and the concrete secondary containment structure will be pressure washed and triple rinsed. Prior to pressure washing, cracks or expansion joints will be sealed with grout or cement. The wash and rinse waters will be collected from the concrete surface as described in the decontamination section above. Concrete chip samples will then be collected from the concrete surface as described in the SAP.

Secondary Containment System Removal and Soil Remediation

The secondary containment system removal and soil remediation is identical to the same paragraph found in Container Storage Areas Section above.

I-1e(iii) Closure of Surface Impoundments

EQD facility does not have surface impoundments.

I-1e(iv) Closure of Waste Piles

EQD facility does not have waste piles.

I-1e(v) Closure of Landfills

EQD facility does not have landfills.

I-1e(vi) Closure of Incinerators

EQD facility does not have Incinerators

I-1e(vii) Closure of Miscellaneous Units

This procedure has been developed for the various other hazardous waste management units and associated process equipment. These units/equipment include but are not limited to:

- Chemical fixation roll-offs
- Railcar container
- Silos (H-1, H-2)
- Pugmill
- Screw conveyors
- Shredder
- Drum hopper
- Air emission control equipment
- Filter Press.

At closure of the miscellaneous process equipment, EQ Detroit facility will remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless 40 CFR 264.3(d) applies. If the EQD facility demonstrates that not all contaminated soils can be practically removed or decontaminated, then the tank system will be managed in accordance with the closure and post closure care requirements that apply to landfills.

Specific closure procedures for various miscellaneous process equipment have been divided into the following phases:

- Inventory and Remedial Waste Management Procedures,
- Inspection,

- Preparation,
- Verification, and
- Removal

Inventory and Remedial Waste Management Procedures

For the purpose of developing a cost estimate, it is assumed that a third party will complete the closure and that the hazardous waste inventory would be removed for treatment and/or disposal at permitted off-site facilities. During any planned partial or final closure, the hazardous waste inventory of any unit scheduled for closure would be processed on-site to the extent possible prior to initiating closure procedures.

Inspection

Each piece of equipment that is scheduled for closure will be thoroughly inspected for presence of residual hazardous waste materials or for evidence of spills or leaks. As necessary, any piping, electrical or ancillary equipment will be carefully marked, de-energized and disconnected.

Preparation

All waste and waste residues will be removed from the equipment and ancillary piping. Prior to removal, the approximate volume of waste will be determined and appropriate storage containers (i.e. 55-gallon drums) staged in the vicinity of the equipment. Residuals will be placed (shovel, brush, vacuum) in 55-gallon drums pending characterization and off-site disposal.

Equipment of a portable nature may be moved to a pre-designated temporary containment area prior to decontamination. Such an area will be established with an existing container storage area or other area with suitable secondary containment.

For fixed equipment, precautions will be taken through the placement of polyethylene or other suitable containment material to facilitate the collection of residue and waste material and/or decontamination waters.

Decontamination

To remove potentially hazardous constituents which may still remain, a hot water high pressure steam cleaner will be used. The equipment will be cleaned in place and/or after removal to a designated and prepared area. An industrial detergent/cleaning agent will be used in decontaminating the equipment which will then be high pressure triple rinsed and visually inspected to verify that all contamination has been removed. Wash waters will be removed by pumping and containerized at the facility in appropriate shipping containers or in another storage tank. Wash waters will be characterized and transported off-site for disposal at a permitted facility if they are determined to be hazardous. Wash waters determined to be non-hazardous will be transported off-site for treatment and disposal. If clean closure criteria cannot be achieved or if EQD determines that cleaning of the equipment is not

practical, the equipment will be transported and disposed of at a permitted disposal facility with an appropriate waste classification.

Removal

The visually cleaned equipment will be removed whole and staged pending re-use or scrapping, or may be cut up in place if removal is difficult.

Secondary Containment Structure Characterization

Secondary containment structure characterization for miscellaneous process equipment is identical to that described in the section above for Container Storage Areas.

Secondary Containment System Removal and Soil Remediation

Secondary containment system removal and soil remediation for miscellaneous process equipment is identical to that described in the section above for Container Storage Areas.

I-1e(viii) Closure of Boilers and Industrial Furnaces

EQD facility does not have boilers or industrial furnaces.

I-1e(ix) Other Closure Activities

(R299.9504(1)(c), R 299.9508(1)b, R 299.9613(1), 40 CFR 270.14(b)(13) and 264.112(b)(5))

I-1f Certification of Closure

(R 299.9613)

Within 60 days of completion of closure EQD will submit to the Director, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification will be signed by the EQD owner/operator and by an independent, registered professional engineer. Documentation supporting the independent registered engineer's certification will be furnished to the Director in accordance with R 299.9613(3), including:

- The results of all sampling and analysis;
- Sampling and analysis procedures
- A map showing the location where samples were obtained;
- Any statistical evaluations of sampling data;
- A summary of waste types and quantities removed from the site and the destination of these wastes;
- If soil has been excavated, the final depth and elevation of the excavation and a description of the fill material used.

EQD facility will maintain financial assurance for closure until the Director releases EQD from the financial assurance requirements for closure under R 299.9703.

Upon request, EQD will submit to the Director, MDEQ, any documentation not listed in subrule (3) of this rule that supports the professional engineer's certification (rule 613(4)).

The certification will be worded as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information submitted. Based on my inquiry of the person or persons who manage the system, or those person directly responsible for gathering the information, the information submitted is to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I-1g Post Closure Notices Filed

(R 299.9504(1)c, R299.9508(1)(b), and 40 CFR 270.14(b)(14))

EQD will provide documentation that the post-closure notices required under 40 CFR 264.119 have been filed for hazardous waste disposal units that have been closed at the facility.

I-2 Post Closure Care Plan

I-2a Applicability

Not applicable. Hazardous waste will not be left behind at closure. A survey, plat, post closure care, post closure certifications, and other notices are not required.

I-3 Closure Cost Estimate

The closure cost estimate covers closure activities that include removal of waste inventory, decontamination, sampling and analysis, and closure certification for the EQD facility. The date of closure of the hazardous waste management units has not been determined. As such, it is not possible to predict with any high degree of certainty, actual facility conditions or regulatory requirements at time of closure. Therefore, this closure estimate is based on closure of the units within the next six months and includes a contingency estimate to account for media sampling and analysis, and removal based on current conditions.

The estimate assumes closure procedures are completed by a third party at the time of facility closure would be most expensive (for example with a maximum inventory). The cost estimate for disposal assumes wastes will be treated and contaminated equipment disposed rather than recovered or salvaged. The total closure cost for the closure of EQ Detroit, Inc. is estimated at $774,831.32. The closure cost estimate breakdown by unit is provided in **Appendix A-8.**

Additional cost estimate assumptions are listed below.

a. All hazardous waste will be transported off-site to a permitted facility in accordance with all applicable state and federal regulations.

b. Costs are based on current year costs. All labor rates reflect commercial rates and include fringe benefits, payroll burden and taxes.

This closure cost estimate will be maintained at the facility. It will be revised whenever a change in closure plan affects the cost of closure. It will be adjusted annually as required by pertinent regulations or when the types and quantity of wastes received at the facility change.

I-4 Post Closure Cost Estimate

I-4a Applicability

Not applicable. Hazardous waste will not be left behind at closure. A survey, plat, post closure care, post closure certifications, and other notices are not required. EQD does not anticipate post closure costs.