

MODULE IX
POST-CLOSURE CARE

TABLE OF CONTENTS

IX.A APPLICABILITY 1
IX.B GENERAL LANDFILL POST-CLOSURE CARE CONDITIONS 2
IX.C SECURITY 2
IX.D INSPECTIONS 3
IX.E LEACHATE MANAGEMENT 4
IX.F DOCUMENTS TO BE MAINTAINED AT THE FACILITY..... 5
IX.G RECORDKEEPING AND REPORTING 5
IX.H POST-CLOSURE NOTICES..... 5
IX.I REQUIRED SUBMISSIONS UNDER THIS MODULE 5
IX.J FINANCIAL ASSURANCE 6
IX.K TERMINATION OF POST-CLOSURE 6

LIST OF TABLES

Table IX. 1 7
Table IX. 2 8

ATTACHMENTS

- Attachment IX-A: Post-Closure Inspection Plan
- Attachment IX-B: Inspection Forms

MODULE IX - POST-CLOSURE CARE

IX.A APPLICABILITY

1. Clean Harbors Grassy Mountain (CHGM) shall monitor the closed hazardous waste management units in accordance with the conditions of this module. This module shall remain in effect for all landfill cells after closure of CHGM. Upon closure, any further disposal of hazardous waste in any closed unit is prohibited.
2. The post-closure period shall include monitoring, reporting, and maintenance of waste containment systems in accordance with the requirements of Utah Administrative Code (UAC) R315-264-117 and this permit.
3. This module shall not apply to the surface impoundment if the unit is clean-closed in accordance with UAC R315-264-110.
4. CHGM shall provide post-closure care of:
5. Hazardous Waste Landfill Cells 1, 2, 3, 4 and 5, which have been closed.
6. Industrial Waste Landfill Cells 1 and 2, which have been closed to RCRA standards. Hazardous Waste Landfill Cell 7.
7. RCRA/TSCA Cells B/6 and 8.
8. Cells 9, 10, 11, 12, and 13, which have been permitted but not constructed. Any future hazardous waste landfill cells constructed and used to dispose of RCRA and TSCA waste streams.
9. The Director of the Division of Waste Management and Radiation Control (Director) shall extend the post-closure period applicable to a hazardous waste management unit, or the facility, if they find that the extended period is necessary to protect human health and the environment.
10. The post-closure permit will consist of the applicable sections of Modules I, II, IV, VI, VII, VIII, and Module IX in its entirety. Upon final closure of the facility, a Class 3 permit modification request shall be submitted to the Director that shall include the applicable portions of the permit for the post-closure period.
11. When the permit is reissued in accordance with I.G of Module 1, the Director may, at their discretion, extend the post-closure period.

IX.B GENERAL LANDFILL POST-CLOSURE CARE CONDITIONS

1. CHGM shall conduct all post-closure care activities in accordance with the Closure Plan (Module II Attachment II-7) and this permit.
2. CHGM shall provide post-closure care for each landfill cell for a period of at least 30 years following final closure of the facility. Table IX-1 lists the dates that the closed cells were certified closed by the Division.
3. Closed landfill cells shall have a final cover that:
 - a. Minimizes the migration of liquids through the landfill cell.
 - b. Functions with minimum maintenance.
 - c. Minimizes the intrusion by burrowing animals.
 - d. Promotes drainage and minimizes erosion or abrasion of the cover.
 - e. Accommodates settling and subsidence so that the cover's integrity is maintained.
 - f. Has a permeability less than or equal to the permeability of the landfill cell's bottom liner system.
4. CHGM shall:
 - a. Maintain the integrity and effectiveness of the final cover.
 - b. Continue to operate the leachate collection and removal system until the termination of the post-closure period.
 - c. Maintain and monitor the groundwater monitoring system as described in Module VII and its attachments.
 - d. Prevent run-on and run-off from damaging the final cover.
 - e. Protect and maintain surveyed benchmarks.

IX.C SECURITY

1. CHGM shall comply with the following security conditions:
 - a. The fence with locking gates surrounding the closed facility on all sides, which prevents unauthorized entry, shall be maintained throughout the post-closure care period.
 - b. Signs written in English that read "DANGER, UNAUTHORIZED PERSONNEL KEEP OUT" shall be posted on the gates and the fence line of the facility perimeter at intervals of no more than 120 feet between signs. These shall be maintained throughout the post-closure care period. The signs shall be legible from a distance of at least 25 feet.

- c. All security equipment shall be routinely inspected throughout the post-closure care period. These inspections (e.g.: fence, signs of vandalism, etc.) are included in all Attachments to Module IX.

IX.D INSPECTIONS

1. Inspections shall be conducted during the post-closure care period in accordance with all Attachments to Module IX. All records of inspections and remedial actions shall be retained in the Operating Record.
 - a. Problems found during the periodic inspections conducted under this module shall be corrected within 72-hours. If the remedy requires more time, CHGM shall submit to the Director, before the expiration of the 72-hour period, a proposed time schedule for correcting the problem. All corrective actions shall be completed in a timely manner.
 - b. Damaged security equipment shall be noted in the inspection record. Any problem shall be corrected as soon as possible after the problem is discovered.
2. CHGM shall maintain an inspection checklist that follows the outline, narrative, and schedule found in the inspection procedures of all Attachments IX.
3. CHGM shall comply with Attachment II-2 Security Plan.
4. CHGM shall report any spill of hazardous waste, contaminated media, or material which, when spilled, becomes waste, to the Director in accordance with UAC R315-263-30.
5. CHGM shall inspect the closed portions of the facility within 24 hours after a storm event and document it in the inspection log as a storm event inspection. For the purposes of inspections, a storm event shall be defined as precipitation of more than 0.5 inches in 24 hours.
6. CHGM shall install and maintain, on their premises, the appropriate equipment to measure rainfall for the purpose of determining storm events.
7. CHGM shall inspect and incorporate as part of the inspection checklist required by Condition IX.D.2., all groundwater monitoring wells as outlined in Attachments IX-A on a quarterly basis, as specified below:
 - a. Inspect for damage to the casing and cover security.
 - b. Inspect for tampering of lock or monitoring well cap.
 - c. Ensure that the wells are accessible and visible to all appropriate personnel.

IX.E LEACHATE MANAGEMENT

1. Leachate and leak detection pumps and piping shall be maintained throughout the post-closure period.
2. Leachate shall be managed as hazardous waste (F039).
3. Leachate shall be pumped according to the following schedule, which is progressive in nature. For example, prior to the implementation of IX.E.3.c, the requirements of both Conditions IX.E.3.a. and IX.E.3.b must have been fulfilled in sequence. The pumping frequency for a cell shall be based on the leachate riser that has the highest pumping rate.
 - a. Leachate shall be pumped weekly during the first year of post-closure for each cell covered by this permit. If during this period no leachate is recovered for eight consecutive weeks, the pumping may be conducted every other week.
 - b. Leachate shall continue to be pumped on a bi-weekly basis until no leachate is recovered for eight consecutive pumping events. The leachate pumping may then be conducted monthly.
 - c. Leachate shall continue to be pumped monthly until no leachate is recovered for three consecutive months. The leachate pumping may then be conducted every other month.
 - d. Leachate shall continue to be pumped every other month until no leachate is recovered for three consecutive pumping events. The leachate pumping schedule may then be conducted quarterly.
 - e. Leachate shall continue to be pumped on a quarterly basis until no leachate is recovered for four consecutive pumping events. The leachate pumping schedule may then be conducted on a semi-annual basis.
 - f. Leachate shall be pumped semi-annually until no leachate is recovered for four consecutive pumping events. The leachate pumping may then be conducted on an annual basis and continue annually until the termination of the post-closure period.
4. Should leachate generation rates increase, CHGM shall return to the previous pumping frequency. For example, if while pumping on a quarterly basis leachate production rises, the leachate risers for the cell shall be pumped monthly.
5. Leachate Collection/Removal Volume reports shall be submitted to the Director 15 days after the end of the second and fourth quarters of each calendar year until all cells are being pumped annually, after which the reports will be submitted within 15 days after the end of the fourth quarter. They shall be provided more frequently when requested by the Director.

6. The leachate from landfill cells that contain both RCRA and TSCA waste streams shall have the leachate from the sumps individually sampled and analyzed for PCBs, pH, specific conductance, and Class 1 volatile and semi-volatile compounds as described in Permit Attachment VII-3.

IX.F DOCUMENTS TO BE MAINTAINED AT THE FACILITY

1. CHGM shall maintain at the Facility for the duration of the post-closure care period the following documents and amendments, revisions, and modifications to these documents. The documents may be maintained in an electronic format compatible with the Division's software capabilities.
2. The permit that contains post-closure care requirements for the landfill cells;
3. The closure plans for the container storage area and landfill cells;
4. Certification of closure for the container storage area and landfill cells;
5. Completed inspection checklists and documentation of any completed corrective actions resulting from those inspections as required by UAC R315-264-15(d);
6. Post-closure monitoring records, to include groundwater monitoring records and analytical results; and,
7. All applicable portions of the Operating Record requirements of UAC R315-264-73.
8. The records identified in IX.F.5 through IX.F.7 shall be provided to the Director, or their representative, upon request.

IX.G RECORDKEEPING AND REPORTING

CHGM shall submit reports as required by Module VII, to the Director documenting post-closure monitoring activities and results from analyses of samples collected in compliance with post-closure monitoring requirements.

IX.H POST-CLOSURE NOTICES

CHGM shall provide the submissions and notifications identified in UAC R315-264-119.

IX.I REQUIRED SUBMISSIONS UNDER THIS MODULE

CHGM shall submit to the Director the documents specified in Table IX.2.

IX.J FINANCIAL ASSURANCE

CHGM shall maintain throughout the post-closure period:

1. Financial assurance as identified in Condition II.Q; and
2. Continuous compliance with the liability requirements, as described in Condition II.R.

IX.K TERMINATION OF POST-CLOSURE

The requirements of Module IX shall remain in effect until the provisions of UAC R315-264-120 have been fulfilled. No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Director, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and a qualified Professional Engineer. Documentation supporting the Professional Engineer's certification must be furnished to the Director upon request until they release the owner or operator from the financial assurance requirements for post-closure care under UAC R315-264-145(i).

Table IX. 1

Post-Closure Start Dates, by Cell Number

Landfill cell number	Date landfill cell began post-closure care
Hazardous Waste Landfill Cell 1	August 21, 1991
Hazardous Waste Landfill Cell 2	August 21, 1991
Hazardous Waste Landfill Cell 3	March 21, 1996
Hazardous Waste Landfill Cell 4	June 3, 2015
Hazardous Waste Landfill Cell 5	June 3, 2015
Hazardous Waste Landfill Cell 7	NA – Active Cell
RCRA/TSCA Landfill Cell B/6	NA – Active Cell
Hazardous Waste Landfill Cell 8	NA – Active Cell
Hazardous Waste Landfill Cell 9	NA – Future Cell
Hazardous Waste Landfill Cell 10	NA – Future Cell
Hazardous Waste Landfill Cell 11	NA – Future Cell
Hazardous Waste Landfill Cell 12	NA – Future Cell
Hazardous Waste Landfill Cell 13	NA – Future Cell
Industrial Waste Landfill Cell 1	January 14, 1998
Industrial Waste Landfill Cell 2	January 14, 1998

Table IX. 2
Required Submissions

Required Submission	Date or event
Post-closure Inspection Log Checklist	Within 30 days following certified closure of a hazardous waste landfill cells.
Subsidence survey measurements	15 days after completion of measurements
Certification of closure	60 days following completion of closure
Survey plat indicating dimensions and location	60 days following completion of closure
Monitoring well completion reports	90 days after well completion
Well plugging and abandonment methods	30 days prior to plugging and abandonment
Analytical results	60 days after completion of analysis
Certification of Completion of Post-Closure Care	60 days, or less, after completion of the established post-closure care
Leachate Collection/Removal Volume Reports	Quarterly, Semi-Annually, or Annually, as required