

Section 11: Closure and Post-Closure

11.1 Introduction

Regulatory reference

Minimum requirements for closure plans and post-closure plans for MSW landfills are specified in the Department's Financial Assurance Rule, OAR 340-94-100 through 145. The closure and post-closure requirements for Subtitle D landfills differ from those of non-Subtitle D MSW landfills (i.e., closing facilities).

Types of plans

There are two separate categories of closure and post-closure plans:

Subtitle D ("worst case") Closure and Post-closure Plans are based on a hypothetical "worst case" scenario for closure and post-closure costs. This scenario establishes a conservative basis for estimating financial assurance funding requirements.

The Final Engineered Site Closure and Post-closure Plans are linked to the Closure Permit which must be obtained at least 5 years prior to anticipated final closure. The Final Engineered plans reflect the intended closure design. The Final Engineered plans contain all the elements of and replace the Subtitle D plans.

How to respond: Subtitle D facilities

Landfills subject to Subtitle D should:

- prepare a "Worst-case" (Subtitle D) Closure Plan and a "Worst-case" (Subtitle D) Post-closure Plan for determining appropriate costs for financial assurance planning. Place the plans in the facility operating record and notify the Director of that action
 - prepare a Final Engineered Closure Plan and a Final Engineered Post-closure Plan and submit them to the Department five years before the anticipated final closure date
 - revise financial assurance cost estimates based on the final engineered plans
-

**How to respond:
Closing facilities**

Non-Subtitle D facilities (closing facilities) are within the five-year final closure window and therefore should:

- prepare a Final Engineered Closure Plan and a Final Engineered Post-closure Plan and submit the plans to the Department at the date specified in the permittee's closure permit
 - determine closure and post-closure costs for financial assurance planning, based on the Final Engineered Closure and Post-closure Plans
-

Approval

The Final Engineered Site Closure Plan and Final Engineered Site Post-Closure Plan must be submitted to the Department for review and written approval.

In this section

This section describes the contents of the closure and post-closure plans.

11.2 Closure Plans

Subtitle D “Worst-Case” Closure Plan

The Subtitle D “Worst-Case” Closure Plan should include all elements specified in 40 CFR 258.60:

- a description of the steps necessary to close all landfill cells at any point during their active life
 - a description of the final cover system
 - an estimate of the largest area of the landfill ever requiring a final cover
 - an estimate of the maximum inventory of wastes ever on site over the active life of the landfill
 - a schedule for completing all activities necessary to satisfy the closure criteria in 40 CFR 258.60
-

Final Engineered Site Closure Plan

The Final Engineered Site Closure Plan should supplement all the elements of the "Worst Case" Closure Plan by adding the following:

- detailed design plans and specifications for the closure improvements, including final cover system, gas control system, runoff/run-on control system, leachate treatment and disposal system
 - an updated final grading (topographic) plan for the site
 - an end use plan
 - a landscaping plan
 - an assessment of long-term settlement and its potential effects on the integrity of the closure
 - a detailed description of the design, function, and operation of all environmental control systems
 - a description (plan) of how and when the facility will be closed (i.e., the procedures that will be used to ensure that facility operations are compatible with closure objectives and requirements)
 - a detailed description of the environmental monitoring system;
 - a schedule for implementing the closure plan
 - a detailed closure cost estimate, and
 - other information requested in the closure permit or otherwise required to comply with all applicable DEQ and federal regulations
-

Previously submitted information

If some of the required information has been previously submitted, review and updated it to reflect current conditions and any proposed changes in the closure program.



11.3 Post-Closure Plans

"Subtitle D" Post-closure Plans

The "Subtitle D" Post-closure Plan should identify and describe the post-closure activities required to properly monitor and maintain the closed landfill site. This post-closure plan should address all elements specified in 40 CFR 258.61 and include procedures for the following:

- maintaining the integrity and effectiveness of the final cover system
 - maintaining and operating the leachate collection, treatment, and disposal systems
 - maintaining and operating the environmental monitoring systems
 - conducting Environmental quality monitoring (groundwater, surface water, landfill gas, leachate, air, etc.)
 - maintaining and operating the landfill gas control system
 - maintaining and operating the surface water runoff/run-on control systems
 - providing overall, site-wide monitoring and security, and
 - establishing appropriate uses of the property during the post-closure care period
-

Final Engineered Post-closure Plan

Incorporate in the Final Engineered Post-closure plan all elements of the "Subtitle D" post-closure plan, along with detailed closure design information. Include the following:

- a detailed schedule for post-closure monitoring, inspection, and maintenance and repairs
 - detailed operation and maintenance procedures for all environmental monitoring and control systems that will be in active use during the post-closure period, and
 - any other information required to comply with DEQ and federal regulations
-

Previously submitted information

Review and update any previously submitted post-closure information to reflect current conditions and any proposed changes in closure or post-closure activities.

11.4 Additional Resources

References

Technical Manual for Solid Waste Disposal Criteria - 40 CFR Part 258, Subpart F (Chapter 6). U.S. EPA, November 1993.
