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Closure of Municipal Solid Waste Landfills (MSWLFs)

BACKGROUND:

On October 9, 1991, the U.S. Environmental Protection Agency (EPA) promulgated revisions to the Criteria for the Classification of Solid Waste Disposal Facilities [40 CFR 257] and developed revised minimum Federal criteria for municipal solid waste landfills (MSWLFs) [40 CFR 258]. These regulations were promulgated pursuant to Section 4010 of the Resource Conservation and Recovery Act (RCRA) (added with passage of the Hazardous and Solid Waste Amendments of 1984), which directed EPA to revise the RCRA criteria for facilities that receive hazardous waste generated by households or small quantity industrial generators. The MSWLF regulations [40 CFR 258] were also promulgated pursuant to Section 405 of the Clean Water Act, which required EPA to establish standards for sewage sludge that is codisposed with municipal solid waste.

These regulations are effective on October 3, 1993. MSWLFs that stop receiving waste by this date are exempt from these requirements, except for the final cover requirement. States are responsible for implementing and enforcing the new MSWLF criteria. They are required to incorporate the new Federal standards into existing waste permitting programs. EPA is currently developing regulations to approve State programs. In the event that a State's program is not approved, EPA can enforce the Federal standards.

STATUTES:

The Resource Conservation and Recovery Act (RCRA), Section 4010 and the Clean Water Act, Section 405.

REGULATIONS:

40 CFR 258, 40 CFR 257.

REFERENCES:

1. Solid Waste Disposal Facility Criteria, 40 CFR Parts 257 and 258 (56 FR 50978 *et seq.*; October 9, 1991).
2. Solid Waste Disposal Facility Criteria, Final Rule Corrections, 40 CFR Parts 257 and 258 (57 FR 28626 *et seq.*; June 26, 1992).
3. Environmental Guidance Regulatory Bulletin, Solid Waste Disposal Facility Criteria, Office of Environmental Guidance, RCRA/CERCLA Division (EH-231), May 14, 1992.

What is an MSWLF?

An MSWLF is a landfill that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile (as these terms are defined in 40 CFR 257.2). Household waste is defined as solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households [40 CFR 258.2]. Households are defined to include single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas [40 CFR 258.2].

An MSWLF may be publicly or privately owned and receive other types of waste besides household waste including commercial solid waste, nonhazardous sludge, small quantity generator hazardous waste, and industrial solid waste [40 CFR 258.2]. Regulated MSWLFs are those that received waste after October 9, 1991 [40 CFR 258.1(c)].

Are sanitary landfills on Federal Facility sites MSWLFs?

Sleeping quarters or dormitories on Federal Facility sites are considered households. Consequently, any sanitary landfill at a DOE facility that received any amount of garbage, trash, or sanitary waste from an onsite employee dormitory after October 9, 1991, is an MSWLF and subject to the 40 CFR 258 criteria.

What types of MSWLF requirements do the 40 CFR 258 regulations contain?

The MSWLF regulations contain provisions pertaining to location restrictions, operating criteria, design criteria, ground-water monitoring, corrective action, closure and post-closure care, and financial assurance. These requirements are described in a Regulatory

Bulletin entitled "Solid Waste Disposal Facility Criteria," published by the Office of Environmental Guidance on May 14, 1992.

MSWLF units that received waste after October 9, 1991, but stopped receiving waste before October 9, 1993, are exempt from all of the Part 258 requirements except the final cover requirement (§258.60(a)) as long as the final cover is installed within 6 months of the last receipt of waste [40 CFR 268.1(d)].

What is the final cover requirement?

The owner/operator must install a final cover system designed to minimize infiltration and erosion [40 CFR 258.60(a)]. Specifically, the cover system must (1) have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or no greater than 1×10^{-4} cm/sec, whichever is less [40 CFR 258.60(a)(1)]; (2) minimize infiltration through the closed MSWLF by the use of an infiltration layer containing a minimum 18-inches of earthen material [40 CFR 258.60(a)(2)]; and (3) minimize erosion of the final cover by the use of an erosion layer containing a minimum 6-inches of earthen material that is capable of sustaining native plant growth [40 CFR 258.60(a)(3)].

The regulator may approve an alternative cover design if it can achieve erosion and infiltration protection equivalent to the cover system described above [40 CFR 258.60(b)].

Are there additional closure requirements?

Yes. The following additional closure requirements apply to MSWLFs that do not stop receiving waste by October 9, 1993.

- ☐ **Closure Plan.** The owner/operator must prepare a written closure plan that describes the steps necessary to close all MSWLF units at any point during their active life in accordance with the cover design requirements described above [40 CFR 258.60(c)]. At a minimum, the closure plan must include the following information: (1) a description of the final cover and the methods used to install the final cover, (2) an estimate of the largest area of each MSWLF unit that could ever require a final cover during its active life, (3) an estimate of the maximum inventory of wastes ever on-site over the active life of the MSWLF facility, and (4) a schedule for completing all activities necessary to satisfy the closure criteria [40 CFR 258.60(c)(1)-(4)].
- ☐ **Closure Plan Notification.** The owner/operator must notify the regulator that a closure plan has been placed in the operating record no later than October 9, 1993, or by the initial receipt of waste, whichever is later [40 CFR 258.60(d)].
- ☐ **Notification of Closure.** Prior to beginning closure of each MSWLF unit, the owner/operator must notify the regulator that a notice of intent to close the unit has been placed in the operating record [40 CFR 258.60(e)].
- ☐ **Closure.** The owner/operator must begin closure activities for each MSWLF unit no later than 30 days after the date on which the unit receives the known final receipt of wastes, or no later than 1 year after the most recent receipt of wastes. The regulator may grant extensions to the 1-year deadline if the owner/operator demonstrates that the MSWLF unit has the capacity to receive additional wastes and that all steps necessary to prevent threats to human health and the environment from the unclosed unit have been taken [40 CFR 258.60(f)]. The owner/operator must complete closure of each MSWLF unit in accordance with the closure plan within 180 days of the commencement of closure activities. The regulator may grant extensions to the closure period if the owner/operator demonstrates that closure will take longer than 180 days and that all steps necessary to prevent threats to human health and the environment for the unclosed MSWLF unit have been taken [40 CFR 258.60(g)].
- ☐ **Certification.** The owner/operator must notify the regulator that a certification, signed by an independent registered professional engineer, to verify that closure has been completed in accordance with the closure plan, has been placed in the operating record, following the closure of each MSWLF unit [40 CFR 258.60(h)].
- ☐ **Notation on Deed.** The owner/operator must record a notation on the deed to the landfill facility property and notify the regulator that the notation was recorded and placed in the facility's operating record. The notation on the deed must alert any potential purchaser of the property that the land has been used as a landfill facility and its use is restricted to activities that will not disturb the integrity of the final cover, liner, or any other components of the containment system, or the function of the monitoring system [40 CFR 258.60(i)].

Which MSWLF units are exempt from the MSWLF criteria?

Only MSWLFs that stopped receiving waste by October 9, 1991, are exempt from all of these criteria. MSWLFs that did not receive waste after October 9, 1991, and other types of solid waste disposal facilities, are regulated under 40 CFR 257 [40 CFR 258.1(b)].

What other exemptions do the MSWLF criteria contain?

- ☐ MSWLF units that received waste after October 9, 1991, but stopped receiving waste before October 9, 1993, are exempt from all of the Part 258 requirements except the final cover requirement (§258.60(a)) as long as the final cover is installed within 6 months of the last receipt of waste [40 CFR 268.1(d)].
- ☐ MSWLF units that dispose of fewer than 20 tons of municipal solid waste daily, on an annual average, are exempt from the design, ground-water monitoring, and corrective action criteria as long as there is no evidence of existing ground-water contamination from the unit, and the unit serves (1) a community experiencing an annual interruption of at least 3 consecutive months of surface transportation that prevents access to a regional waste management facility, or (2) a community that has no practicable waste management alternative and the landfill unit is located in an area that annually receives less than or equal to 25 inches of precipitation [40 CFR 258.1(f)(1) and (3)]. Information placed in the operating record must demonstrate that MSWLF units taking advantage of this exemption meet the criteria described above [40 CFR 258.1(f)(2)].
- ☐ MSWLF units owned or operated by State or Federal government entities are exempt from the financial assurance criteria [40 CFR 258.70]. This exemption is applicable to all DOE MSWLFs.
- ☐ Existing MSWLF units (MSWLF units that received waste prior to October 9, 1993) are not subject to the design criteria [40 CFR 258.40(a) and 40 CFR 258.2].

What should be considered in deciding whether to close existing MSWLF units that have not yet reached their capacity?

In deciding whether to close existing MSWLF units before they reach their capacity, MSWLF unit owners/operators should consider the ability of existing units to comply with applicable State and Federal regulatory requirements, and the feasibility and costs of alternative solid waste management options.

Owners/operators of existing units should evaluate whether these units meet the location restrictions pertaining to airports, floodplains, and unstable areas. MSWLF units that cannot meet these restrictions must close by October 9, 1996. (Owners/operators of such units may want to stop receiving waste by October 9, 1993, close within 6 months of the final receipt of waste, and meet the final cover requirement. By doing so, they will not have to develop closure and post-closure plans or perform post-closure care. The performance of post-closure care involves maintaining the effectiveness and integrity of the final cover, maintaining and operating the leachate collection system, monitoring the ground water and maintaining the ground-water monitoring system, and maintaining and operating the gas monitoring system, typically for a 30-year period [40 CFR 258.61].)

Questions of policy or questions requiring policy decisions will not be addressed within EH-231 Information Briefs unless that policy has already been established through appropriate documentation. Please refer any questions concerning the subject matter covered in this Information Brief to Mark Petts, RCRA/CERCLA Division, EH-231, 202-586-2609.

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