

CHAPTER 65-80

SOLID WASTE MANAGEMENT REGULATIONS

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Chapter Authority: 1 CMC §§ 2646-2649; 1 CMC § 2650; 2 CMC §§ 3101-3135; 2 CMC §§ 3511-3521.

Chapter History: Amdts Adopted 47 Com. Reg. 52148 (June 15, 2025); Amdts Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Amdts Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Amdts Proposed 43 Com. Reg. 47500 (Aug. 28, 2021); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Commission Comment: For a complete history of the authority of the Division of Environmental Quality (DEQ), see the commission comment to NMIAC chapter 65-10.

PL 6-30 (effective May 23, 1989), the “Commonwealth Solid Waste Management Act of 1989,” codified as amended at 2 CMC §§ 3511-3521, specifically addresses the collection, disposal and management of solid waste in the Commonwealth. 2 CMC § 3515 empowers DEQ to issue permits for the collection and disposal of solid waste and to establish rules and regulations to enforce DEQ’s powers under the act.

Executive Order No. 2013-24, promulgated at 35 Com. Reg. 34596 (Nov. 28, 2013), established a new Bureau of Environmental and Coastal Quality. This Order reorganized the Division of Environmental Quality as a division of the Bureau of Environmental and Coastal Quality, and provided that “all rules, orders, contracts, and agreements relating to the assigned functions lawfully adopted prior to the effective date of this Executive Order shall continue to be effective until revised, amended, repealed or terminated.”

Part 001 - General Provisions

§ 65-80-001 Applicability

(a) The regulations in this chapter have been promulgated by the Division of Environmental Quality under the authority of Commonwealth Solid Waste Management Act, 1989, 2 CMC §§ 3511 to 3521; the Commonwealth Environmental Protection Act (CEPA), 1982, 2 CMC §§ 3101 to 3134, and the Commonwealth Environmental Amendments Act (CEAA), 1999, PL 11-103. The regulations in this chapter shall have the force and effect of law and shall be binding on all persons and other legal entities subject to the jurisdiction of the Commonwealth of the Northern Mariana Islands.

(b) The regulations in this chapter are applicable to all persons involved in the management of solid waste.

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History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-005 Purpose & Prohibitions

(a) The purpose of the regulations in this chapter is to establish the requirements and criteria for new and existing solid waste management activities and solid waste management facilities (SWMFs) including, but not limited to, municipal solid waste landfills and other landfilling operations, incineration, solid waste collection and transfer, materials processing, recycling, composting, and salvage. These requirements and criteria ensure the protection of human health and the environment.

(b) All new and existing solid waste management activities and SWMFs failing to comply with the regulations and criteria in this chapter are prohibited. Facilities for the disposal of solid waste that fail to satisfy the requirements of this chapter are considered open dumps, and the use of open dumps is prohibited.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-010 Definitions

(a) Definitions from federal regulations incorporated by reference are included in the appendices to this chapter.

(b) The following are additional definitions included for clarity as they pertain to the CNMI Solid Waste Management Regulations, codified in this chapter:

- (1) “Acts” mean the CEPA, SWMA, and the CEAA unless otherwise stated.
- (2) “Bioconversion” means the processing of the organic fraction of the waste stream through biological or chemical means to perform composting or to generate products, including, but not limited to, fertilizers, feeds, methane, alcohols, tars, and other products. This term includes, but is not limited to, biogassification, acid hydrolysis, pyrolysis, and fermentation. This term does not include any form of incineration or methane gas extraction from a MSWLF.
- (3) “CEAA” means Commonwealth Environmental Amendments Act, 1999, PL 11-103.
- (4) “CEPA” means Commonwealth Environmental Protection Act, 1982, 2 CMC §§ 3101 to 3134.
- (5) “CESQG wastes” means hazardous wastes from a conditionally exempt small quantity generator as defined in 40 CFR 261.5 (2021).
- (6) “CFR” means the United States Code of Federal Regulations, 2021.
- (7) “Closure” means those actions taken by the owner or operator of a solid waste management facility to cease disposal operations and to ensure that closure is in conformance with applicable requirements as described in part 200.
- (8) “CNMI” or “Commonwealth” means the Commonwealth of the Northern Mariana Islands.

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- (9) “Collection” means the removal of solid waste from a generation or transfer point and the subsequent transport of the solid waste to a site/facility for further processing, additional transfer, or disposal.
- (10) “Composting” means a process in which organic solid wastes, such as biosolids (sewage sludge), vegetative waste materials, manures, and non-treated wood chips and shavings, are biologically decomposed and stabilized under controlled conditions to produce a stable humus-like mulch or soil amendment. This term includes the processing of organic and non-treated wood waste materials for the generation of wood chips or other materials that can be used as soil amendment, planting mixes, mulches for horticultural and agricultural applications, landfill cover, and land reclamation.
- (11) “Construction and demolition waste” means concrete, rock, brick, bituminous concrete, and masonry resulting from the demolition or razing of buildings or other structures. Construction and demolition waste does not include wood, composition roofing and roofing paper, steel, plaster, copper and other metals, friable asbestos, hazardous substances, or materials contaminated with waste paints, solvents, sealers, adhesives, or similar materials.
- (12) “Convenience center” means waste handling facilities performing limited transfer station operations and receiving less than five tons per day of exclusively household/residential waste.
- (13) “Cover material” means soil or other suitable material that has been approved by the Director of DEQ for use as cover material for solid waste at a MSWLF.
- (14) “DEQ” means the CNMI Division of Environmental Quality.
- (15) “Director” means the Director of the CNMI Division of Environmental Quality or person designated to act by the Director unless otherwise specified.
- (16) “DPW” means the CNMI Department of Public Works unless otherwise specified.
- (17) “Hazardous waste” means any waste defined as “hazardous waste” under 40 CFR 261.3 (2021).
- (18) “Incineration” means the destruction of solid waste by combustion in a furnace designed for such purposes where solid waste essentially is reduced to ash, carbon dioxide and water vapor.
- (19) “Municipal Small Communities Exemption Landfill” (SCEL) means any MSWLF that disposes of less than 20 tons of municipal solid waste daily, based on an annual average, and the MSWLF unit either
- (i) serves a small community where surface transportation is interrupted for at least three consecutive months in a row each year, preventing access to a regional waste management facility, or
 - (ii) has no practical waste management alternative and the landfill is located in an area that receives no more than 25 inches of precipitation per year.
- (20) “Nuisance” means an act or an omission of an act which annoys, injures, or endangers the comfort, health, or safety of others, offends decency, or unlawfully interferes with, or obstructs or tends to obstruct, any public park, square, street, or highway, or in any way renders other persons insecure in life, or in the use of property.
- (21) “Permit” means any authorization, license, or equivalent control document issued under the authority of DEQ that regulates the management of solid waste including location, design, construction, operation, groundwater monitoring, corrective action,

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closure, post-closure care, and financial assurance elements applicable to solid waste management activities and SWMFs.

(22) “Permit by rule” means an abbreviated procedure by which those solid waste management facilities considered by the Director of DEQ to have limited impact to the community and the environment may begin operations in accordance with § 65-80-108 of this chapter.

(23) “Person” means an individual, firm association, co-partnership, political subdivision, government agency, municipality, industry, public or private corporation, or any other entity whatsoever.

(24) “Post-closure” means the requirements placed upon landfill disposal sites after closure to enable their environmental safety for a thirty-year period.

(25) “Premises” means tract or parcel of land with or without buildings.

(26) “Processing” means an operation to convert solid waste or recyclable materials into a useful product or prepare such materials for disposal.

(27) “Pyrolysis” means the process in which solid waste is heated in an enclosed device in the absence of oxygen to vaporize the waste, producing a hydrocarbon-rich gas capable of being burned for recovery or energy.

(28) “RCRA” means the federal Resource Conservation and Recovery Act, 1976, as amended to 2021, 42 USC §§ 6901 to 6992.

(29) “Recoverable materials” means materials that can be diverted from disposal for recycling or bioconversion. This term does not include batteries, pesticides, mercury-containing equipment, lamps and aerosol cans subject to regulation as “universal waste” under 40 CFR Part 273 (2021).

(30) “Recycling” means the collection, separation, processing, recovery, and sale or reuse of recoverable materials that would otherwise be disposed of as solid waste, including but not limited to cardboard, newspaper, office paper, glass, aluminum containers, plastics, tires, and metal scraps, and is an integral part of a manufacturing process aimed at producing a marketable product made of postconsumer material.

(31) “Recycling drop-off facility” means a manned or unmanned structure or site for collection, manual segregation, and temporary storage of recoverable materials.

(32) “Recycling processing or materials recovery facility” means a structure or site that performs any or all of the activities required to process or recover recoverable materials for recycling, including collection, manual segregation, separation, sorting, baling, shredding, crushing, melting, temporary storage, and/or transportation of recoverable materials.

(33) “Reserved” means a section having no requirements and which is set aside for future possible rulemaking as a note to the regulated community.

(34) “Salvage” means the incidental removal of solid waste for reuse under the control of the facility owner or operator.

(35) “Solid waste” means any waste defined as “solid waste” under 40 CFR 261.2 (2021).

(36) “Solid waste disposal facility” means any facility which receives solid waste for ultimate disposal through landfilling or incineration. This term does not include recycling drop-off facilities, recycling processing or materials recovery facilities, or bioconversion facilities.

(37) “Solid waste management activity” means any activity that provides for the systematic administration of the collection, source separation, storage, transportation, transfer, transformation, processing, treatment, and disposal of solid waste.

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(38) “Solid waste management facility” (SWMF) means any site at which solid wastes are aggregated for storage, transfer, transformation, processing, or disposal, including but not limited to municipal solid waste landfills (MSWLFs), (as defined under 40 CFR part 258 (2021) adopted by reference under part 200 of this chapter), non-municipal, non-hazardous waste disposal units that receive conditionally exempt small quantity generator (CESQG) waste (as defined under 40 CFR part 257 (2021) adopted by reference under part 300 of this chapter), transfer stations, recycling operations, or incinerators, but not including sites where a single person has collected his/her own solid wastes for a brief period prior to removal to a solid waste management facility, unless such person has created thereby a public nuisance or health hazard.

(39) “Solid waste management permit” means a permit issued by DEQ to a public or private entity that is involved in the collection and disposal of solid waste.

(40) “Source separation” means separation of solid waste into some or all of its component parts at the point of generation of the solid waste.

(41) “Storage” means the holding of solid waste materials for any temporary period.

(42) “Stream” means the point at which any confined freshwater body of surface water reaches a mean annual flow rate of twenty feet per cubic second.

(43) “Surface water” means all lakes, rivers, ponds, streams, inland waters, salt waters and water courses within the jurisdiction of the CNMI.

(44) “SWMA” means Solid Waste Management Act, 1986, 2 CMC §§ 3511 to 3521.

(45) “Transfer station” means a site to which solid wastes are brought from their point of generation or previous transfer and where such wastes are temporarily stored prior to transfer to a site of additional transfer or separation, recycling, storage, processing, or disposal.

(46) “Treatment” means the physical, chemical or biological processing of solid waste to make such solid waste safer for storage or disposal, amenable for energy or material source recovery, or reduced in volume.

(47) “Used oil transporter” means a person licensed or certified under local, state, or federal requirements to transport used oil.

(48) “White goods” means electrical and mechanical appliances made primarily of metal parts such as refrigerators, clothes washers and dryers, microwaves, and televisions.

(49) “Zero Waste” means designing and managing products, packaging and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve, reuse, and recover all resources and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water, or air that are a threat to planetary, human, animal, or plant health.

Modified, 1 CMC § 3806(a).

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Part 100 - General Permit Requirements - Solid Waste Management Activities/Facilities

§ 65-80-101 Applicability

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- (a) It shall be unlawful for any person to perform solid waste management activities or own or operate a SWMF except in accordance with a permit issued under this chapter. All permit applications shall be submitted to DEQ, and all permits will be issued by DEQ. DEQ shall have the authority to impose requirements on all solid waste management activities and SWMFs to ensure compliance with these and all applicable regulations.
- (b) Permits issued by DEQ shall be valid for five years following the date of issuance.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-102 Exemption

The following are exempted from requirements of this part. These exemptions do not apply to facilities regulated under 40 CFR parts 257 and 258 (1999).

- (a) A single family or multiple residence composting only green or vegetative solid wastes generated on its premises.
- (b) Minor facilities/activities not involving the disposal of municipal solid waste, as determined in writing by DEQ.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-104 Application for Permit

An application for a permit shall be completed on forms furnished by DEQ and shall include, but not be limited to the following:

- (a) Name, address, and telephone number of the applicant;
- (b) Type of application (new, revision, or renewal);
- (c) A description of how the proposed solid waste management facility/activities complies with applicable regulations; certification of compliance with local ordinances and zoning requirements;
- (d) A written description of the proposed solid waste management facility/activities, including information such as general plan of operation of the solid waste management facility/activities (e.g., collection, segregation, disposal, etc.); proposed method and length of operation; area/population to be served; characteristics, quantity, and source material to be managed; the use and distribution of processed materials; method of processed residue disposal; type of equipment to be used; number of solid waste management personnel and the responsibilities of personnel; source and type of cover material (if applicable);

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emergency operating procedures; frequency and proposed routes of transportation to be used for the solid waste management facility/activities;

(e) Detailed description of plans and specifications for the solid waste management facility/activities and a detailed map showing the location of the solid waste management facility/activities. Final design specifications shall comply with all applicable regulations and criteria including those found in parts 200 and 300 of this chapter and be submitted to DEQ for approval prior to commencement of operations/activities;

(f) For MSWLF and non-municipal non-hazardous waste disposal units receiving CESQG wastes, a description of the plans for ground-water monitoring and corrective action as required in parts 200 and 300 of this chapter;

(g) For MSWLF, description of the plans for the closure and post-closure as required in part 200 of this chapter;

(h) For MSWLF, description of the how the facility will meet the financial assurance requirements as required in part 200 of this chapter;

(i) Other specific requirements as stated for each facility/activity.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-106 Fees

(a) Every applicant for a permit shall pay a permit application fee in accordance with the following fee schedule:

Recycling Drop-Off Facility — \$250

Automotive, Scrap Metal, and White Goods Salvage Facilities — \$250

Recycling Processing or Recovery Facility — \$500

Transfer Station — \$500

Bioconversion Facility — \$500

Construction and Demolition Waste Landfill — \$1000

Solid Waste Disposal Facility — \$1000

(b) Permit application fees shall be paid by check made payable to the CNMI Treasury.

(c) Government agencies applying for a permit are exempt from the requirement to pay an application fee.

(d) Payment of the permit application fee is due upon submission of an initial application and for each renewal application.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-108 Permit by Rule

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(a) Notwithstanding any other provision of these rules, the following types of facilities shall be deemed to have a permit if all applicable conditions are met:

- (1) Recycling drop-off facilities that store less than one ton of recoverable materials at any one time.
- (2) Composting facilities that store less than one ton of organic solid wastes at any one time.
- (3) Automobile salvage facilities that store fewer than 10 automobiles at any one time.
- (4) White goods salvage facilities that store fewer than 10 automobiles at any one time.

(b) General Conditions.

- (1) At least thirty (30) days prior to commencing the activities covered under a permit by rule, written notification of such activity must be made to DEQ. The notification shall be accompanied by a \$50 administrative fee. Persons failing to notify DEQ of such activities shall be deemed to be operating without a permit.
- (2) No regulated hazardous waste in accordance with 40 C.F.R. Part 261 may be collected, transported, or disposed at any of the facilities.
- (3) Suitable means shall be employed to prevent solid wastes from scattering and to control litter, odors, and vectors such as rodents and insects.
- (4) Suitable means shall be employed to prevent and control fires, including an emergency response plan when appropriate.
- (5) It is the responsibility of the facility owner and/or operator to comply with all the local rules, regulations, and ordinances, and DEQ may add additional conditions deemed appropriate.
- (6) Each facility shall be supervised, secured, and have a permanent sign identifying the facility, hours and days of operations, materials accepted or not accepted, the name and contact information for the facility owner and/or operator, and other pertinent information.

(c) Conditions for Recycling Drop-Off Facilities.

- (1) Scavenging at the facility by the general public is prohibited.
- (2) An annual report shall be prepared and submitted to DEQ reposting the weights and types of recoverable materials received and distributed (including all materials sold, disposed, or otherwise shipped offsite) between July 1-June 30. The report is due on July 31 of each year.

(d) Conditions for Composting Facilities.

- (1) The finished compost must be sufficiently stable that it can be stored or applied on land without producing a nuisance.
- (2) An annual report shall be prepared and submitted to DEQ reporting the tonnage between July 1-June 30 of solid waste accepted, composted tonnage produced, and disposed (including all waste removed from the facility for disposal). The report is due on July 31 of each year.
- (3) No used cooking oil, treated lumber, stained or painted wood, or biosolids (sewage sludge) may be accepted or processed for composting.

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History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-110 Regulatory Agency Review

(a) DEQ may require any additional information necessary to issue permits that are adequate to ensure compliance with the local and federal regulations and to ensure protection of public health and the environment of the CNMI.

(b) DEQ shall within a reasonable amount of time from the date the application is received and the payment of the application fee, notify the applicant in writing if any additional information or items are required. Within 180 days of the receipt of a complete application DEQ will notify the applicant of approval or disapproval.

(c) The 180 days time period will be tolled for any requests for additional information and for the public comment period.

(d) Within one hundred eighty days of receiving a complete application, and after consideration of public comments in accordance with § 65-80-112, DEQ shall:

(1) Approve an application for a permit if the application and the supporting information clearly show that the issuance thereof does not pose a threat to the environment, public health, or welfare, and that the solid waste management activity or SWMF is designed, built, and equipped to operate without causing a violation of applicable rules and regulations;

(2) Deny an application for a permit if the application and supporting information clearly show that the issuance, thereof, poses a threat to the environment, public health, or welfare, or that solid waste management activity or SWMF is not designed, built, and equipped to operate in compliance with applicable rules and regulations.

(3) With the exception of all federally-approved and delegated programs, if no determination on a permit application has been made one hundred eighty days after receipt of a complete application, the application shall be considered approved provided that the applicant acts consistently with the application and all plans, specifications, and other information contained therein. The permittee shall be subject to all applicable or relevant and appropriate federal and CNMI laws and regulations.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-112 Public Notice, Public Comment Period, and Public Hearing

(a) Before issuing a permit for a MSWLF, and before issuing any other permits covered by this chapter which DEQ determines warrant public participation, representatives of DEQ shall conduct a public hearing pursuant to 2 CMC § 3122(d) regarding DEQ's intention to issue such a permit and give public notice providing for a forty-five day public review and comment period on the permit application documents and on the proposed action. The contents of the public notice shall include at least the following:

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- (1) Name, address, and phone number of DEQ and applicant;
- (2) Brief description of each applicant's activities or operations;
- (3) A short description of the location of the MSWLF, or other solid waste management activity or SWMF indicating whether such MSWLF, or solid waste management activity or SWMF is new or existing;
- (4) Address and phone numbers of premises at which interested persons may obtain further information and inspect a copy of the application and supporting documents.

(b) A public hearing shall be held no less than twenty-one days from the start of the public comment period. DEQ shall address public comments at the hearing. Comments received at the public hearing and during the public comment period shall be considered in making a decision and DEQ shall prepare written responses to all significant comments. The response to comments shall be made available to the public upon request.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-114 Public Notification of Permit Determination

Pursuant to CEPA, DEQ shall make known to the public through public notice its determinations regarding any MSWLF permit, or other any other solid waste management activity or SWMF permit which DEQ has determined warrants public participation under § 65-80-112, within thirty days of such a determination.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-116 Effect of the Permit

(a) Written acceptance of any and all permit conditions by the applicant shall be necessary prior to any commencement of facility construction/operation or prior to commencement of any activities for which the permit is required;

(b) The owner or operator must notify DEQ that construction, operations, or activities have been completed in accordance with the approved plans and specifications;

(c) Prior to commencement of the permitted facility, operation, or activity, an inspection will be conducted by DEQ to confirm that the facility, operations, or activities are ready to commence in compliance with applicable requirements.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-118 Modification of Existing Permits

(a) DEQ may, on its own motion or the application of any person, modify a permit if, after affording the applicant an opportunity for a hearing, the Director determines that:

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- (1) Any condition of the permit has been violated or due to change in any condition requiring either a temporary or permanent reduction or elimination of the permitted activity or facility.
- (2) There is a change in the applicable laws or regulations governing solid waste management.
- (3) Such an action is in the public interest.

(b) DEQ shall develop a schedule to revisit and reissue all existing permits affected by the change in the law or regulations at the time of the change. Modification of the permit shall become final ten days after service of notice of the final decision to modify the permit.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-120 Suspension of Permit

- (a) DEQ may, on its own motion or based on the application of any person, suspend a permit if, after affording the applicant an opportunity for a hearing, DEQ determines that:
- (1) Any condition of the permit has been violated;
 - (2) Any statute or regulation of the local or federal government has been violated; or
 - (3) Or such an action is in the public interest.

(b) The permit shall be suspended until all conditions of the permit are met or all violations have been properly corrected. Suspension of a permit shall become final ten days after service of notice of the final decision to suspend on the holder of the permit.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-122 Revocation of Permit

- (a) DEQ may on his own motion or the application of any person, revoke any permit if, after affording the applicant an opportunity for a hearing, DEQ determines that:
- (1) There is a violation of any condition of the permit;
 - (2) The permit was obtained by misrepresentation, or failure to disclose fully all relevant facts;
 - (3) There is change in any condition that requires either a temporary or permanent reduction or elimination of the permitted disposal; or
 - (4) Such an action is in the public interest.

(b) Revocation of a permit shall become final ten days after service of notice of the final decision to revoke on the holder of the permit.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-124 Permit Renewal

The permittee must apply for renewal of the permit sixty days before the permit expires. At the time of renewal of a solid waste management permit, the facility is reevaluated and the permit conditions updated to reflect changes to the current operational procedures. The criteria for permit renewal determination is the same as for the initial application and shall be in accordance with §§ 65-80-104 through 65-80-116 of this chapter.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-126 Transfer of Permit

A permit shall not be transferable, whether by operation of law or otherwise, either from one location to another, from one SWMF to another or from one person to another, without the written approval of DEQ. A transfer shall not be approved by the Director unless he determines that all applicable laws and regulations have been and will continue to be complied with after the transfer and only if the transferee provides a written assurance that it will so comply.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-128 Reporting Termination

Sixty days prior to closure any person issued a permit shall report the permanent termination of the solid waste management activity or SWMF for which the permit has been issued to DEQ and within the thirty days after the closure shall surrender the permit to DEQ. DEQ may approve immediate closure of any SWMF if the facility poses a major threat to human health and the environment.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-130 Posting of a Permit

Upon granting an approval for a permit, DEQ shall issue to the applicant a permit that shall be posted in a conspicuous place at or near the operation site for which the permit was issued.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-132 Falsifying or Altering a Permit

No person shall knowingly deface, alter, forge, counterfeit, or falsify a permit. If the permit holder, his agents or employees, are found responsible for any such activity it shall bring about immediate revocation of the permit.

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History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-134 Annual Reporting

The permittee shall submit an annual report to DEQ with information including the total volume and types of solid waste collected and the average number of individual residences or households and businesses serviced by the permittee on a weekly basis. The annual reports also shall be submitted with the application for a MSWLF permit renewal.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-136 Conformance with Other CNMI and Federal Regulations

The owner or operator of a solid waste management activity or a SWMF must comply with any other applicable Commonwealth or federal rules, laws, regulations, or other requirements. Compliance with the regulations in this chapter does not exempt the owner or operator of a solid waste management activity or a SWMF from complying with such applicable Commonwealth or federal requirements.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-138 Inspection

(a) Representatives of DEQ, in accordance with the law, may enter and inspect a facility for the purpose of conducting inspections adequate to determine compliance with the solid waste management regulations including the terms of a permit. The inspections may be made with or without advance notice, with good purpose, and at the discretion of the Director of DEQ. The authority to inspect shall include the ability:

- (1) To obtain any and all information, including records and reports, from an owner/operator of a solid waste management activity or SWMF necessary to determine whether the owner/operator is in compliance with the solid waste management regulations.
- (2) To inspect any equipment.
- (3) To collect samples of waste, and conduct monitoring or testing to ensure that the owner/operator is in compliance with the solid waste management regulations in this chapter.
- (4) To observe operations involving the use or disposal of waste.

(b) Rights to Entry

In accordance with 2 CMC § 3132(a), for purposes of enforcing the provisions of the Commonwealth of the Northern Mariana Islands Solid Waste Management Regulations, codified in this chapter, the Director of DEQ or his authorized representative is authorized:

- (1) To enter, at reasonable times, any establishment, site, premise subject or other place subject to the permit program or where solid waste is disposed, stored for transfer, or

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processed; including where records relevant to the operation of regulated facilities or activities are kept.

(2) To enter any premises at any time if there is substantial reason to believe that any waste disposed or stored, or otherwise present on such premises is, through accident, carelessness, or other circumstance, producing adverse effects on human health or the environment, for the purpose of taking such action as may be necessary to prevent or mitigate further adverse effects.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-140 Variances

[Reserved.]

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-142 Existing Facilities

All owners or operators of existing solid waste management activities or SWMF shall file immediately an application for a permit to continue to operate. Permit applications for existing facilities will be reviewed according to part 100 of this chapter.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Part 200 - Municipal Solid Waste Landfill Criteria

§ 65-80-201 Municipal Solid Waste Landfill Criteria

(a) Municipal Solid Waste Landfill (MSWLF): 50 CFR part 258 (1999) is hereby adopted by reference in its entirety and is attached as appendix I to this chapter. All municipal solid waste landfills shall comply with the provisions of 40 CFR part 258 (1999).

(b) Municipal Small Communities Exemption Landfill (SCEL): All municipal small communities exemption landfills shall comply with the provisions of 40 CFR 258.1(f)(1) to (3) (1999) and are thereby exempt from the requirements of 40 CFR 258 subparts D and E, subject to the following:

(1) To qualify for the exemption in 40 CFR 258.1(f), the owner or operator of an SCEL shall:

(i) Identify the proposed site(s) for the anticipated SCEL and provide copies of the land rights – Proof of valid legal interest in the real property, such as land title or lease agreement, shall also be submitted to BECQ for review and approval.

(ii) Identify the proposed well site(s) or groundwater monitoring site(s) for BECQ's review and approval.

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- (iii) Meet with BECQ to discuss the locations to collect groundwater samples at the proposed SCEL site.
 - (iv) Sample for constituents listed in 40 CFR 258 Appendix – Constituents for detection monitoring and Appendix II – Lists of hazardous inorganic and organic hazardous constituents.
 - (v) Demonstrate that there is no migration of hazardous constituents from the unit into the groundwater and provide results to BECQ for review and approval.
 - (vi) Demonstrate baseline sample from up-gradient and down-gradient neighboring well(s).
 - (vii) Sample testing and assessment for (iv), (v), and (vi) above is to be performed by a qualified and certified environmental specialist(s) either in-house or outsourced. Results must be provided to BECQ for review and approval.
 - (viii) Submit a Solid Waste Management permit application with an indication of “Other Solid Waste Disposal Facility” on the permit application with all required supporting documents to BECQ for review and approval.
- (2) The SCEL permit may be valid for a certain period as approved by BECQ, but no more than three years after its approval.
- (3) Under a schedule approved by BECQ, but no more than three years after a SCEL fail to meet the standard established limits set in 40 CFR 258.1(f)(1), the SCEL must meet the requirements of 40 CFR 258 subparts D and E.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Part 300 - Classification of Solid Waste Disposal Facilities and Standards for Non-municipal Non-hazardous Waste Disposal Facilities That Receive CESQG Waste

§ 65-80-301 Adoption of Federal Standards

40 CFR part 257 (1999) is hereby adopted by reference in its entirety and is attached as appendix II to this chapter.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-305 Applicability in the CNMI

All non-municipal, non-hazardous waste disposal facilities that receive CESQG waste shall comply with the provisions of 40 CFR part 257, subpart B (1999).

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Part 400 - Transfer Stations

[Reserved.]

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History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Part 500 - Convenience Centers

[Reserved.]

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Part 600 - Recycling and Materials Recovery Facilities

§ 65-80-601 Applicability

(a) This Part regulates the construction and operation of recycling processing or materials recovery facilities.

(b) The following facilities are exempt from regulation under this Part:

- (1) Recycling drop-off facilities permitted by rule; and
- (2) Transfer stations and solid waste disposal facilities already permitted by DEQ, provided that the recycling processing or materials recovery operations are addressed by the facility's permit.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-605 Permit Required

(a) A permit is required to construct and operate a recycling processing or materials recovery facility.

(b) Recycling processing or materials recovery facilities that are in operation as of the effective date of this regulation shall submit a complete application for a permit within one year after the effective date of this regulation.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021).

§ 65-80-610 Application for Permit

The permit application shall be completed on forms furnished by DEQ and shall include, but not be limited to, the following:

(a) Land rights. Proof of valid legal interest in the real property such as a land title or lease agreement shall be submitted.

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(b) Site analysis. A site analysis shall be submitted and shall include at least a site plan, a process flow diagram, and a description of siting of equipment, machinery, public access, and turnaround areas. The site analysis shall identify any flood hazards, wetland areas, potable water supply wells, and fault areas. The site analysis shall include surrounding land uses and, where determined necessary by DEQ, describe mitigating measures taken to reduce the impact of the facility upon neighboring properties.

(c) Design requirements.

(1) Drainage. Each recycling processing or materials recovery facility shall be designed to provide adequate drainage to prevent standing water and to control “run-on” and “run-off” of rainwater.

(2) Nuisance, health, and safety control. Each recycling processing or materials recovery facility shall be designed to include methods to control litter, insects, odors, and vectors.

(3) Leachate. Waste or material storage areas and the active processing areas must be located on surfaces capable of minimizing leachate release into the groundwater under the site and the surrounding land surface.

(d) Operations plan. An operations plan shall be submitted to DEQ detailing the following:

(1) A description of the recoverable material proposed to be processed or recovered at the facility including the current management of the recoverable materials;

(2) A means of weighing or measuring all materials accepted at the facility as well as all residue, waste, and recovered materials;

(3) A plan for disposal of all residues and wastes, including intended disposal measures and capacities for temporary storage of residue and waste generated during processing or recovery;

and

(4) A plan to prevent and minimize fire hazards.

(e) Closure plan. A closure plan shall be submitted to DEQ detailing what steps the facility will take upon facility closure to ensure no adverse environmental impacts.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021).

§ 65-80-615 Operating Conditions

The recycling processing or materials recovery facility must be operated in accordance with the approved operating plan.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021).

§ 65-80-620 Recordkeeping and Reporting Requirement

(a) The facility shall maintain daily operating records including:

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- (1) The type and quantity, by weight or volume of recoverable material received by the facility;
- (2) The quantity, by weight or volume, of recyclable materials recovered and of residue or waste disposed (including all waste removed from the facility for disposal); and
- (3) A summary of all monitoring performed at the facility.
- (4) Any major deviations from the operating plan.

(b) An annual report shall be prepared and submitted to DEQ summarizing for the period from July 1-June 30 the information reflected in the daily operating records. The report is due on July 31 of each year.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021).

Part 700 - Collection: Requirements for Commercial Waste Haulers

§ 65-80-701 Registration Required

It shall be unlawful for any person to initiate or continue the commercial collection of municipal solid waste without first registering the waste hauling vehicle with the DEQ. The annual registration fee for each vehicle shall be \$50, and may be revised, in writing, by the Director of DEQ.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-705 Information Required for Registration

All applicants shall complete and submit their registration on forms furnished by the DEQ and provide the following information for approval determination:

- (a) A copy of their current business license.
- (b) A list of all trucks and other equipment involved in the operation.
- (c) The location of any vehicle or equipment storage facility.
- (d) A copy of the insurance card for each vehicle.
- (e) A copy of the CNMI Department of Public Safety (DPS) vehicle registration.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-710 Applicant Responsible for Operation

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Each registration form shall contain the original signature of the owner and applicant and shall constitute acknowledgment that the applicant will assume responsibility for operation of the collection business in accordance with the rules and regulations in this chapter and any conditions made a part of registration.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-715 Approval of Registration

Registration applications containing all required information shall be considered approved 30 days following submittal, unless specific action is taken by DEQ. Commercial waste hauler registrations shall be renewed annually. The annual fee shall be \$25 initially, and may be revised in writing, by the Director of DEQ.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-720 Modification, Suspension, Revocation or Transfer

The registration may not be modified or transferred (including change of business address) without approval from the Director of DEQ. The Director, as specified under §§ 65-80-118, 65-80-120, or 65-80-122 of this chapter, may modify, suspend or revoke any commercial waste hauler's registration, if the Director determines any of the standard conditions or any of the provisions of 2 CMC §§ 3511 to 3521 or 2 CMC §§ 3101 to 3135 have been violated, or that such modification, suspension, or revocation is in the public interest. Modifications, suspensions, or revocations shall become final 10 days after service of the notice of final decision on the holder of the registration.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-725 Standard Conditions

- (a) All employees shall have received proper safety training as required by OSHA.
- (b) All loads shall be covered or otherwise managed to prevent windblown debris.
- (c) The company name, vehicle identification number, and volumetric capacity shall be printed on both the left and right doors of all vehicles.
- (d) The operator shall have in place management standards to minimize public nuisances such as odors and vectors (i.e. flies and rodents) or leaking loads.
- (e) All refuse shall be managed in such a manner as to prevent any impact on public health and safety.
- (f) All employees shall be made aware of any DEQ or DSWM disposal restrictions.

(g) All employees shall strictly follow any instructions given by DSWM personnel at the solid waste management facility.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Part 800 - Miscellaneous Facilities/Activities

§ 65-80-801 Applicability

(a) This Part regulates the construction and operation of the following types of facilities:

- (1) Facilities that perform any or all of the activities required for composting, including chipping, chopping, mixing, blending, spraying, spreading, curing and/or processing;
- (2) Construction and demolition waste landfills; and
- (3) Salvage facilities, including but not limited to automotive salvage facilities (including automobile dismantlers and junkyards), scrap metal salvage facilities, and white goods salvage facilities.

(b) The following facilities are exempt from regulation under this Part:

- (1) Facilities permitted by rule; and
- (2) Transfer stations and solid waste disposal facilities already permitted by DEQ, provided that the composting, construction and demolition waste landfill, and salvage operations are addressed by the facility's permit.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-805 Permit Required

(a) A permit is required to construct and operate a facility subject to § 65-80-801.

(b) Such facilities that are in operation as of the effective date of this regulation shall submit a complete application for a permit within one year after the effective date of this regulation.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021).

§ 65-80-810 Application for Permit — General Requirements

The permit application shall be completed on forms furnished by DEQ and shall include, but not be limited to, the following:

(a) Land rights. Proof of valid legal interest in the real property such as land title or lease agreement shall be submitted.

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(b) Site analysis. A site analysis shall be submitted and shall include at least a site plan and description of siting of equipment, machinery, public access, and turnaround areas. The site analysis shall identify any flood hazards, wetland areas, potable water supply wells, and fault areas. The site analysis shall include surrounding land uses and, where determined necessary by DEQ, describe mitigating measures taken to reduce the impact of the facility upon neighboring properties.

(c) Design requirements.

(1) Drainage. Each facility shall be designed to provide adequate drainage to prevent standing water and to control “run-on” and “run-off” of rainwater.

(2) Nuisance, health, and safety control. Each facility shall be designed to include methods to control litter, insects, odors, and vectors.

(3) Leachate. Waste or material storage areas and the active processing areas must be located on surfaces capable of minimizing leachate release into the groundwater under the site and the surrounding land surface. Solid waste disposal areas must be located on compacted soil liners consisting of a minimum of a two foot thick layer of soil with a maximum permeability of a 1×10^{-5} cm/sec, or an alternative design approved by DEQ.

(d) Operations plan. An operations plan shall be submitted to DEQ detailing the following:

(1) A detailed description of the source, quality and quantity of the solid waste to be collected;

(2) A means of weighing or measuring all materials accepted at the facility as well as all residue, waste, and salvaged or composted material produced;

(3) A plan for disposal of all residues and wastes, including intended disposal measures and capacities for temporary storage of residue and waste generated during processing or recovery;

and

(4) A plan to prevent and minimize fire hazards.

(e) Closure plan. A closure plan shall be submitted to DEQ detailing what steps the facility will take upon facility closure to ensure no adverse environmental impacts.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021).

§ 65-80-815 Application for Permit — Specific Requirements by Facility Type

In addition to the application material required by § 65-80-810, the operations plan submitted with the facility application shall include the following additional information as applicable:

(a) Composting facilities

(1) A detailed description of the type and expected quantity of any bulking agent to be used;

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- (2) The method by which organic solid waste that possess a pathogen concern will be composted to meet the criteria for reducing pathogens. Acceptable methods are:
 - (i) The windrow composting method, in which the solid waste is maintained under aerobic conditions during the composting process, and is turned a minimum of five times during a period of fifteen consecutive days with the temperature of the mixture being fifty-five degrees Celsius or greater within six to eight inches below the surface of the pile;
 - (ii) The aerated static pile composting method, in which the compost pile must be insulated and a temperature of not less than fifty-five degrees Celsius or greater must be maintained throughout the compost pile for at least three consecutive days;
 - (iii) The enclosed vessel composting method, in which the mixture must be placed in an enclosed vessel and maintained at a temperature of not less than fifty-five degrees Celsius or greater throughout the mixture for at least three consecutive days; and
 - (iv) Other methods approved by DEQ on a case-by-case basis;
 - (3) A monitoring plan, including the location of monitoring points and frequency of monitoring, to ensure that the composting facility has sufficient temperature monitoring to ensure that the pathogen reduction criteria are met. For a windrow and aerated static pile process, this may include monitoring six to eight inches below the pile surface; for an aerated static pile process, this may include monitoring six to eight inches from the outlet of the aeration pipe; and for an enclosed vessel system, this may include monitoring six to eight inches inside the vessel wall and six to eight inches from the aeration piping (when operating in the positive aeration mode). Temperature monitoring must occur, at a minimum, on a daily basis: and
 - (4) A plan to ensure that the finished compost from composting operations shall be nonpathogenic, free of offensive odors, biologically and chemically stable, free of injurious components or particles, and able to sustain plant growth, together with a description of the ultimate use for the finished compost and the method of removal from the site.
- (b) Construction and demolition solid waste landfills
- (1) A waste exclusion plan to ensure that the landfill will not accept hazardous waste: electrical transformers with oil or polychlorinated biphenyls (PCB) or when generated from other than demolition projects; pesticide containers, unless they meet applicable requirements for household waste; liquids; or friable asbestos containing material, unless it complies with 40 C.F.R. Part 61, National Emission Standards for Hazardous Air Pollutants;
 - (2) A groundwater monitoring plan including
 - (i) The location of monitoring wells (with a minimum of one upgradient and one downgradient monitoring wells, plus any additional wells required by DEQ) and a detailed description of the monitoring well construction;
 - (ii) A sampling plan including tests to be performed, methods to be used, and frequency of sampling (including sampling and testing of the monitoring wells prior to starting operations to establish baseline data), for the following chemicals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, chemical oxygen demand, total organic carbon, total petroleum hydrocarbon, and cyanide; and
 - (iii) Corrective action requirements should the results of testing show exceedances of water quality standards and/or elevated concentrations above baseline.

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- (c) No additional application requirements apply for salvage facilities.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021).

§ 65-80-820 Operating Conditions

- (a) Each facility subject to this Part 800 must be operated in accordance with the approved operating plan.

- (b) The owner and/or operator of each facility subject to this Part 800 must notify any potential purchaser of the property that the property has been used for regulated solid waste management activity.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021).

§ 65-80-825 Recordkeeping and Reporting Requirement

- (a) The facility shall maintain daily operating records including:
- (1) The type and quantity, by weight or volume of waste received by the facility;
 - (2) The quantity, by weight or volume, of compost produced and/or material salvaged, as applicable, and of residue or waste disposed (including all waste removed from the facility for disposal);
 - (3) A summary of all monitoring performed at the facility; and
 - (4) Any major deviations from the operating plan.
- (b) An annual report shall be prepared and submitted to DEQ summarizing for the period from July 1-June 30 the information reflected in the daily operating records. The report is due on July 31 of each year.

Modified: 1 CMC § 3806(a).

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 43 Com. Reg. 47660 (Oct. 28, 2021); Proposed 43 Com. Reg. 47500 (Aug. 28, 2021).

Part 900 - Financial Assurance for Non-MSWLF Facilities/Operations/Activities

[Reserved.]

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Part 1000 - Enforcement Authority and Procedures

§ 65-80-1001 Remedies for Violations

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The Director of DEQ is authorized to impose the following remedies for violation of the CNMI Solid Waste Management Regulations, codified in this chapter.

(a) Pursuant to 2 CMC § 3131(a) and (c), and 2 CMC § 3519(a) and in accordance with § 65-80-1020, the Director may issue any order necessary to enforce the Acts, the regulations in this chapter, and any term of any permit issued under these regulations including but not limited to:

(1) An order to cease and desist, immediately or within a stated period of time, any violation of the Acts, the regulations in this chapter or any term of any permit issued under these regulations.

(2) An order to cease and desist immediately any activity which may endanger or cause damage to human health or the environment.

(3) An order to take such mitigating measures as may be necessary to reverse or reduce any significant adverse effects of a violation of the Acts, the regulations in this chapter, or any term of any permit issued under these regulations.

(4) An order to pay any civil penalties authorized by law for violations of the regulations in this chapter, any order issued under these regulations and any term of a permit granted pursuant to these regulations.

(5) An order to pay a penalty for any amount expended by DEQ in taking necessary action to reverse or reduce any significant adverse effect of a violation of the regulations in this chapter, any order issued under these regulations, any term of a permit granted pursuant to these regulations.

(b) Pursuant to 2 CMC § 3131(b), the Director, through the CNMI Attorney General, may institute a civil action in the Commonwealth Superior Court to take any action authorized by law, including but not limited to the following:

(1) Enjoin any threatened or continuing activity that violates the Acts, the regulations in this chapter, any order issued under these regulations and any term of a permit granted pursuant to these regulations.

(2) Recover civil penalties for violations of the Acts, the regulations in this chapter, any order issued under these regulations and any term of a permit granted pursuant to these regulations.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-1005 Right to Intervene

In accordance with 2 CMC § 3131(i), any citizen having an interest that is or may be adversely affected, shall be allowed to intervene as a right in any civil action to obtain the remedies specified in § 65-80-1001.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-1010 Suspension, Revocation, Modification of Permits

If appropriate, and consistent with §§ 65-80-118, 65-80-120, and 65-80-122 and 65-80-1025 of this chapter, the Director may suspend, revoke, or modify any permit, license, or certification issued by DEQ for violation of the Acts, the regulations in this chapter and any permit or license issued pursuant to these regulations.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-1015 Knowing and Willful Violations

Any person who knowingly and willfully commits any criminal act in violation of the Acts, the regulations in this chapter, and any permit, or order issued under this chapter, and who is found guilty by a court of competent jurisdiction may be punished by a fine and/or imprisonment in accordance with the law. Any other penalties or remedies provided by this chapter, the law and/or ordered by the Director shall also remain in effect.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-1020 Procedures for Administrative Orders

(a) Any person who is subject to civil penalties, revocation, or suspension may be served with a notice of violation and administrative order and may, upon written request, seek a hearing before the Director or designee. Request for a hearing may be served upon the Division within seven calendar days from receipt of the administrative order. Failure to request an appeal within seven calendar days shall result in the person's waiving the right to any appeal or hearing.

(b) The written request for a hearing shall serve as the answer to the complaint. The request for hearing or "answer" shall clearly and directly admit, deny, or explain each of the factual allegations contained in the complaint with regard to which the alleged violator (respondent) has any knowledge. Where respondent has no knowledge of a particular factual allegation and so states, the allegation is deemed denied. The answer shall also state

- (1) The circumstances or arguments which are alleged to constitute the grounds of defense,
- (2) The facts which respondent intends to place at issue, and
- (3) Whether a hearing is requested.
- (4) Failure to admit, deny, or explain any material factual allegation contained in the complaint constitutes an admission of the allegations. An oral answer may also be given at the time of hearing should a hearing be requested.

(c) The respondent may also request an informal settlement conference. An informal settlement conference shall not affect the respondents obligation to file a timely request for hearing. If a settlement is reached the parties shall forward a proposed consent order for the approval by the Director.

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(d) If a hearing is conducted the Director or his designee will preside over the hearing. The Director shall control the taking of testimony and evidence and shall cause to be made an audio, audio-video, or stenographic record of the hearing. The type of record made shall be at the discretion of the Director. Evidence presented at such a hearing need not conform with the prescribed rules of evidence, but may be limited by the Director in any manner the Director reasonably determines to be just and efficient and promote the ends of justice. The Director shall issue a final written decision within 15 working days of the close of the enforcement hearing. The decision shall include written findings of fact and conclusions of law. The standard of proof for such a hearing and decisions shall be the preponderance of the evidence.

(e) An appeal from the final enforcement decision shall be to the Commonwealth Superior Court within thirty calendar days following service of the final agency decision.

(f) For filing deadline purposes counting of the days shall start on the day after issuance or receipt (whichever is specified). If any filing date falls on a Saturday, Sunday, or Commonwealth holiday, the filing date shall be extended to the next working day.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-1025 Director's Responsibility

The Director shall have the responsibility to prepare, issue, modify, revoke and enforce orders for compliance with any of the provisions of this chapter or of any rules and regulations issued pursuant thereto and requiring the taking of such remedial measures as may be necessary or appropriate to implement or effectuate the provisions and purposes of this chapter.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-1030 Civil Actions

The Director may initiate civil actions through the Commonwealth courts which shall be transmitted through and with the approval of the Office of the Governor and the Attorney General as necessary to enforce the regulations in this chapter. The Attorney General will institute legal actions to enjoin a violation, continuing violation, or threatened violation of this chapter.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

§ 65-80-1035 Search Orders or Warrants

If the Director has probable cause to believe there has been a violation of the regulations in this chapter, upon receipt of an order or warrant from the Commonwealth Trial Court or

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the District Court, DEQ may enter upon and search any property, take necessary samples or readings therefrom, seize evidence found therein and examine or impound any book or record found therein or specified in such order or warrant.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Commission Comment: The “Commonwealth Judicial Reorganization Act,” PL 6-25 (effective May 2, 1989), renamed the Commonwealth Trial Court and directed that references to the Commonwealth Trial Court in the Commonwealth Code be interpreted to refer to the new Commonwealth Superior Court. See 1 CMC § 3201 and the commission comment thereto.

§ 65-80-1040 Searches Without Warrants

The Director or his authorized representative may enter property for purposes specified in § 65-80-138 without a warrant if: a violation has occurred or is imminent; the violation poses a serious, substantial, and immediate threat to public health or welfare; or the process of obtaining a warrant or order would prolong or increase the threat, impair discovery of evidence of a violation, or impair mitigation of the threat.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Part 1100 - Miscellaneous Provisions

§ 65-80-1101 Severability

Should any part, section, paragraph, sentence, clause, phrase, or application of the rules and regulations in this chapter be declared unconstitutional or invalid for any reason by competent authority, the remainder or any other application of these rules and regulations shall not be affected in any way thereby.

History: Adopted 47 Com. Reg. 52148 (June 15, 2025); Proposed 47 Com. Reg. 51992 (Mar. 15, 2025); Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Appendix I
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Adopted by reference, in its entirety, at § 65-80-201 of this chapter

PART 258—CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS

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APPENDIX I TO PART 258—CONSTITUENTS FOR DETECTION MONITORING

APPENDIX II TO PART 258—LIST OF HAZARDOUS AND ORGANIC CONSTITUENTS

AUTHORITY: 33 U.S.C. 1345(d) and (e); 42 U.S.C. 6902(a), 6907, 6912(a), 6944, 6945(c) and 6949a(c).

SOURCE: 56 FR 51016, Oct. 9, 1991, unless otherwise noted.

Subpart A—General

§258.1 Purpose, scope, and applicability.

(a) The purpose of this part is to establish minimum national criteria under the Resource Conservation and Recovery Act (RCRA or the Act), as amended, for all municipal solid waste landfill (MSWLF) units and under the Clean Water Act, as amended, for municipal solid waste landfills that are used to dispose of sewage sludge. These minimum national criteria ensure the protection of human health and the environment.

(b) These Criteria apply to owners and operators of new MSWLF units, existing MSWLF units, and lateral expansions, except as otherwise specifically provided in this part; all other solid waste disposal facilities and practices that are not regulated under subtitle C of RCRA are subject to the criteria contained in part 257 of this chapter.

(c) These Criteria do not apply to municipal solid waste landfill units that do not receive waste after October 9, 1991.

(d)(1) MSWLF units that meet the conditions of §258.1(e)(2) and receive waste after October 9, 1991 but stop receiving waste before April 9, 1994, are exempt from all the requirements of this part 258, except the final cover requirement specified in §258.60(a). The final cover must be installed by October 9, 1994. Owners or operators of MSWLF units described in this paragraph that fail to complete cover installation by October 9, 1994 will be

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subject to all the requirements of this part 258, unless otherwise specified.

(2) MSWLF units that meet the conditions of § 258.1(e)(3) and receive waste after October 9, 1991 but stop receiving waste before the date designated by the state pursuant to § 258.1(e)(3), are exempt from all the requirements of this part 258, except the final cover requirement specified in § 258.60(a). The final cover must be installed within one year after the date designated by the state pursuant to § 258.1(e)(3). Owners or operators of MSWLF units described in this paragraph that fail to complete cover installation within one year after the date designated by the state pursuant to § 258.1(e)(3) will be subject to all the requirements of this part 258, unless otherwise specified.

(3) MSWLF units that meet the conditions of paragraph (f)(1) of this section and receive waste after October 9, 1991 but stop receiving waste before October 9, 1997, are exempt from all the requirements of this part 258, except the final cover requirement specified in § 258.60(a). The final cover must be installed by October 9, 1998. Owners or operators of MSWLF units described in this paragraph that fail to complete cover installation by October 9, 1998 will be subject to all the requirements of this part 258, unless otherwise specified.

(4) MSWLF units that do not meet the conditions of § 258.1 (e)(2), (e)(3), or (f) and receive waste after October 9, 1991 but stop receiving waste before October 9, 1993, are exempt from all the requirements of this part 258, except the final cover requirement specified in § 258.60(a). The final cover must be installed by October 9, 1994. Owners or operators of MSWLF units described in this paragraph that fail to complete cover installation by October 9, 1994 will be subject to all the requirements of this part 258, unless otherwise specified.

(e)(1) The compliance date for all requirements of this part 258, unless otherwise specified, is October 9, 1993 for all MSWLF units that receive waste on or after October 9, 1993, except those units that qualify for an extension under (e)(2), (3), or (4) of this section.

(2) The compliance date for all requirements of this part 258, unless oth-

erwise specified, is April 9, 1994 for an existing MSWLF unit or a lateral expansion of an existing MSWLF unit that meets the following conditions:

(i) The MSWLF unit disposed of 100 tons per day or less of solid waste during a representative period prior to October 9, 1993;

(ii) The unit does not dispose of more than an average of 100 TPD of solid waste each month between October 9, 1993 and April 9, 1994;

(iii) The MSWLF unit is located in a state that has submitted an application for permit program approval to EPA by October 9, 1993, is located in the state of Iowa, or is located on Indian Lands or Indian Country; and

(iv) The MSWLF unit is not on the National Priorities List (NPL) as found in appendix B to 40 CFR part 300.

(3) The compliance date for all requirements of this part 258, unless otherwise specified, for an existing MSWLF unit or lateral expansion of an existing MSWLF unit receiving flood-related waste from federally-designated areas within the major disasters declared for the states of Iowa, Illinois, Minnesota, Wisconsin, Missouri, Nebraska, Kansas, North Dakota, and South Dakota by the President during the summer of 1993 pursuant to 42 U.S.C. 5121 *et seq.*, shall be designated by the state in which the MSWLF unit is located in accordance with the following:

(i) The MSWLF unit may continue to accept waste up to April 9, 1994 without being subject to part 258, if the state in which the MSWLF unit is located determines that the MSWLF unit is needed to receive flood-related waste from a federally-designated disaster area as specified in (e)(3) of this section.

(ii) The MSWLF unit that receives an extension under paragraph (e)(3)(i) of this section may continue to accept waste up to an additional six months beyond April 9, 1994 without being subject to part 258, if the state in which the MSWLF unit is located determines that the MSWLF unit is needed to receive flood-related waste from a federally-designated disaster area specified in (e)(3) of this section.

(iii) In no case shall a MSWLF unit receiving an extension under paragraph (e)(3) (i) or (ii) of this section accept

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waste beyond October 9, 1994 without being subject to part 258.

(4) For a MSWLF unit that meets the conditions for the exemption in paragraph (f)(1) of this section, the compliance date for all applicable requirements of part 258, unless otherwise specified, is October 9, 1997.

(f)(1) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions that dispose of less than twenty (20) tons of municipal solid waste daily, based on an annual average, are exempt from subparts D and E of this part, so long as there is no evidence of ground-water contamination from the MSWLF unit, and the MSWLF unit serves:

(i) A community that experiences an annual interruption of at least three consecutive months of surface transportation that prevents access to a regional waste management facility, or

(ii) 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.

(2) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions that meet the criteria in paragraph (f)(1)(i) or (f)(1)(ii) of this section must place in the operating record information demonstrating this.

(3) If the owner or operator of a new MSWLF unit, existing MSWLF unit, or lateral expansion has knowledge of ground-water contamination resulting from the unit that has asserted the exemption in paragraph (f)(1)(i) or (f)(1)(ii) of this section, the owner or operator must notify the state Director of such contamination and, thereafter, comply with subparts D and E of this part.

(g) Municipal solid waste landfill units failing to satisfy these criteria are considered open dumps for purposes of State solid waste management planning under RCRA.

(h) Municipal solid waste landfill units failing to satisfy these criteria constitute open dumps, which are prohibited under section 4005 of RCRA.

(i) Municipal solid waste landfill units containing sewage sludge and failing to satisfy these Criteria violate

sections 309 and 405(e) of the Clean Water Act.

(j) Subpart G of this part is effective April 9, 1995, except for MSWLF units meeting the requirements of paragraph (f)(1) of this section, in which case the effective date of subpart G is October 9, 1995.

[56 FR 51016, Oct. 9, 1991, as amended at 58 FR 51546, Oct. 1, 1993; 60 FR 52342, Oct. 6, 1995; 61 FR 50413, Sept. 25, 1996]

§ 258.2 Definitions.

Unless otherwise noted, all terms contained in this part are defined by their plain meaning. This section contains definitions for terms that appear throughout this part; additional definitions appear in the specific sections to which they apply.

Active life means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with § 258.60 of this part.

Active portion means that part of a facility or unit that has received or is receiving wastes and that has not been closed in accordance with § 258.60 of this part.

Aquifer means a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of ground water to wells or springs.

Commercial solid waste means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

Director of an Approved State means the chief administrative officer of a state agency responsible for implementing the state permit program that is deemed to be adequate by EPA under regulations published pursuant to sections 2002 and 4005 of RCRA.

Existing MSWLF unit means any municipal solid waste landfill unit that is receiving solid waste as of the appropriate dates specified in § 258.1(e). Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management.

Facility means all contiguous land and structures, other appurtenances,

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and improvements on the land used for the disposal of solid waste.

Ground water means water below the land surface in a zone of saturation.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

Indian lands or Indian country means:

(1) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running throughout the reservation;

(2) All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of the State; and

(3) All Indian allotments, the Indian titles to which have not been extinguished, including rights of way running through the same.

Indian Tribe or Tribe means any Indian tribe, band, nation, or community recognized by the Secretary of the Interior and exercising substantial governmental duties and powers on Indian lands.

Industrial solid waste means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSWLF unit.

Leachate means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

Municipal solid waste landfill unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under §257.2. A MSWLF unit also may receive other types of RCRA subtitle D wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste and industrial solid waste. Such a landfill may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion.

New MSWLF unit means any municipal solid waste landfill unit that has not received waste prior to October 9, 1993, or prior to October 9, 1997 if the MSWLF unit meets the conditions of §258.1(f)(1).

Open burning means the combustion of solid waste without:

(1) Control of combustion air to maintain adequate temperature for efficient combustion.

(2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(3) Control of the emission of the combustion products.

Operator means the person(s) responsible for the overall operation of a facility or part of a facility.

Owner means the person(s) who owns a facility or part of a facility.

Run-off means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

Run-on means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

Saturated zone means that part of the earth's crust in which all voids are filled with water.

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Sludge means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

Solid waste means any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. 1342, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

State means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

State Director means the chief administrative officer of the lead state agency responsible for implementing the state permit program for 40 CFR part 257, subpart B and 40 CFR part 258 regulated facilities.

Uppermost aquifer means the geologic formation nearest the natural ground surface that is an aquifer, as well as, lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

Waste management unit boundary means a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

[56 FR 51016, Oct. 9, 1991; 57 FR 28627, June 26, 1992, as amended at 58 FR 51547, Oct. 1, 1993; 60 FR 52342, Oct. 6, 1995; 63 FR 57044, Oct. 23, 1998]

§ 258.3 Consideration of other Federal laws.

The owner or operator of a municipal solid waste landfill unit must comply

with any other applicable Federal rules, laws, regulations, or other requirements.

§§ 258.4-258.9 [Reserved]

Subpart B—Location Restrictions

§ 258.10 Airport safety.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions that are located within 10,000 feet (3,048 meters) of any airport runway end used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway end used by only piston-type aircraft must demonstrate that the units are designed and operated so that the MSWLF unit does not pose a bird hazard to aircraft.

(b) Owners or operators proposing to site new MSWLF units and lateral expansions within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).

(c) The owner or operator must place the demonstration in paragraph (a) of this section in the operating record and notify the State Director that it has been placed in the operating record.

(d) For purposes of this section:

(1) *Airport* means public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.

(2) *Bird hazard* means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

§ 258.11 Floodplains.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record.

(b) For purposes of this section:

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(1) *Floodplain* means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(2) *100-year flood* means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(3) *Washout* means the carrying away of solid waste by waters of the base flood.

§ 258.12 Wetlands.

(a) New MSWLF units and lateral expansions shall not be located in wetlands, unless the owner or operator can make the following demonstrations to the Director of an approved State:

(1) Where applicable under section 404 of the Clean Water Act or applicable State wetlands laws, the presumption that practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted;

(2) The construction and operation of the MSWLF unit will not:

(i) Cause or contribute to violations of any applicable State water quality standard,

(ii) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act,

(iii) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973, and

(iv) Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary;

(3) The MSWLF unit will not cause or contribute to significant degradation of wetlands. The owner or operator must demonstrate the integrity of the MSWLF unit and its ability to protect ecological resources by addressing the following factors:

(i) Erosion, stability, and migration potential of native wetland soils, muds and deposits used to support the MSWLF unit;

(ii) Erosion, stability, and migration potential of dredged and fill materials used to support the MSWLF unit;

(iii) The volume and chemical nature of the waste managed in the MSWLF unit;

(iv) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;

(v) The potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(vi) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under section 404 of the Clean Water Act or applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by paragraph (a)(1) of this section, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and

(5) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

(b) For purposes of this section, *wetlands* means those areas that are defined in 40 CFR 232.2(r).

§ 258.13 Fault areas.

(a) New MSWLF units and lateral expansions shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the Director of an approved State that an alternative setback distance of less than 200 feet (60 meters) will prevent damage to the structural integrity of the MSWLF unit and will be protective of human health and the environment.

(b) For the purposes of this section:

(1) *Fault* means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.

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(2) *Displacement* means the relative movement of any two sides of a fault measured in any direction.

(3) *Holocene* means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.

§ 258.14 Seismic impact zones.

(a) New MSWLF units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Director of an approved State/Tribe that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record.

(b) For the purposes of this section:

(1) *Seismic impact zone* means an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 250 years.

(2) *Maximum horizontal acceleration in lithified earth material* means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(3) *Lithified earth material* means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface.

[56 FR 51016, Oct. 9, 1991; 57 FR 28627, June 26, 1992]

§ 258.15 Unstable areas.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in an unstable area must demonstrate that engineering measures have been incorporated into the MSWLF unit's design to ensure that the integrity of the structural components of the MSWLF unit will not be disrupted. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

(1) On-site or local soil conditions that may result in significant differential settling;

(2) On-site or local geologic or geomorphologic features; and

(3) On-site or local human-made features or events (both surface and subsurface).

(b) For purposes of this section:

(1) *Unstable area* means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and Karst terranes.

(2) *Structural components* means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the MSWLF that is necessary for protection of human health and the environment.

(3) *Poor foundation conditions* means those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of an MSWLF unit.

(4) *Areas susceptible to mass movement* means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the MSWLF unit, because of natural or man-induced events, results in the downslope transport of soil and rock

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material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.

(5) *Karst terranes* means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terranes include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.

§ 258.16 Closure of existing municipal solid waste landfill units.

(a) Existing MSWLF units that cannot make the demonstration specified in § 258.10(a), pertaining to airports, § 258.11(a), pertaining to floodplains, or § 258.15(a), pertaining to unstable areas, must close by October 9, 1996, in accordance with § 258.60 of this part and conduct post-closure activities in accordance with § 258.61 of this part.

(b) The deadline for closure required by paragraph (a) of this section may be extended up to two years if the owner or operator demonstrates to the Director of an approved State that:

(1) There is no available alternative disposal capacity;

(2) There is no immediate threat to human health and the environment.

NOTE TO SUBPART B: Owners or operators of MSWLFs should be aware that a State in which their landfill is located or is to be located, may have adopted a state wellhead protection program in accordance with section 1428 of the Safe Drinking Water Act. Such state wellhead protection programs may impose additional requirements on owners or operators of MSWLFs than those set forth in this part.

§§ 258.17-258.19 [Reserved]

Subpart C—Operating Criteria

§ 258.20 Procedures for excluding the receipt of hazardous waste.

(a) Owners or operators of all MSWLF units must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes as defined in part 261

of this chapter and polychlorinated biphenyls (PCB) wastes as defined in part 761 of this chapter. This program must include, at a minimum:

(1) Random inspections of incoming loads unless the owner or operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes;

(2) Records of any inspections;

(3) Training of facility personnel to recognize regulated hazardous waste and PCB wastes; and

(4) Notification of State Director of authorized States under Subtitle C of RCRA or the EPA Regional Administrator if in an unauthorized State if a regulated hazardous waste or PCB waste is discovered at the facility.

(b) For purposes of this section, *regulated hazardous waste* means a solid waste that is a hazardous waste, as defined in 40 CFR 261.3, that is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b) or was not generated by a conditionally exempt small quantity generator as defined in § 261.5 of this chapter.

§ 258.21 Cover material requirements.

(a) Except as provided in paragraph

(b) of this section, the owners or operators of all MSWLF units must cover disposed solid waste with six inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

(b) Alternative materials of an alternative thickness (other than at least six inches of earthen material) may be approved by the Director of an approved State if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.

(c) The Director of an approved State may grant a temporary waiver from the requirement of paragraph (a) and (b) of this section if the owner or operator demonstrates that there are extreme seasonal climatic conditions that make meeting such requirements impractical.

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(d) The Director of an Approved State may establish alternative frequencies for cover requirements in paragraphs (a) and (b) of this section, after public review and comment, for any owners or operators of MSWLFs that dispose of 20 tons of municipal solid waste per day or less, based on an annual average. Any alternative requirements established under this paragraph must:

- (1) Consider the unique characteristics of small communities;
- (2) Take into account climatic and hydrogeologic conditions; and
- (3) Be protective of human health and the environment.

[56 FR 51016, Oct. 9, 1991, as amended at 62 FR 40713, July 29, 1997]

§ 258.22 Disease vector control.

(a) Owners or operators of all MSWLF units must prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment.

(b) For purposes of this section, *disease vectors* means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

§ 258.23 Explosive gases control.

(a) Owners or operators of all MSWLF units must ensure that:

(1) The concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components); and

(2) The concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary.

(b) Owners or operators of all MSWLF units must implement a routine methane monitoring program to ensure that the standards of paragraph (a) of this section are met.

(1) The type and frequency of monitoring must be determined based on the following factors:

- (i) Soil conditions;
- (ii) The hydrogeologic conditions surrounding the facility;
- (iii) The hydraulic conditions surrounding the facility; and

(iv) The location of facility structures and property boundaries.

(2) The minimum frequency of monitoring shall be quarterly.

(c) If methane gas levels exceeding the limits specified in paragraph (a) of this section are detected, the owner or operator must:

(1) Immediately take all necessary steps to ensure protection of human health and notify the State Director;

(2) Within seven days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and

(3) Within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the State Director that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.

(4) The Director of an approved State may establish alternative schedules for demonstrating compliance with paragraphs (c) (2) and (3) of this section.

(d) For purposes of this section, *lower explosive limit* means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25° C and atmospheric pressure.

(e) The Director of an approved State may establish alternative frequencies for the monitoring requirement of paragraph (b)(2) of this section, after public review and comment, for any owners or operators of MSWLFs that dispose of 20 tons of municipal solid waste per day or less, based on an annual average. Any alternative monitoring frequencies established under this paragraph must:

(1) Consider the unique characteristics of small communities;

(2) Take into account climatic and hydrogeologic conditions; and

(3) Be protective of human health and the environment.

[56 FR 51016, Oct. 9, 1991, as amended at 62 FR 40713, July 29, 1997]

§ 258.24 Air criteria.

(a) Owners or operators of all MSWLFs must ensure that the units

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not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to section 110 of the Clean Air Act, as amended.

(b) Open burning of solid waste, except for the infrequent burning of agricultural wastes, silvicultural wastes, landclearing debris, diseased trees, or debris from emergency cleanup operations, is prohibited at all MSWLF units.

§ 258.25 Access requirements.

Owners or operators of all MSWLF units must control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment.

§ 258.26 Run-on/run-off control systems.

(a) Owners or operators of all MSWLF units must design, construct, and maintain:

(1) A run-on control system to prevent flow onto the active portion of the landfill during the peak discharge from a 25-year storm;

(2) A run-off control system from the active portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(b) Run-off from the active portion of the landfill unit must be handled in accordance with § 258.27(a) of this part.

[56 FR 51016, Oct. 9, 1991; 57 FR 28627, June 26, 1992]

§ 258.27 Surface water requirements.

MSWLF units shall not:

(a) Cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to section 402.

(b) Cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or State-wide water quality man-

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agement plan that has been approved under section 208 or 319 of the Clean Water Act, as amended.

§ 258.28 Liquids restrictions.

(a) Bulk or noncontainerized liquid waste may not be placed in MSWLF units unless:

(1) The waste is household waste other than septic waste; or

(2) The waste is leachate or gas condensate derived from the MSWLF unit and the MSWLF unit, whether it is a new or existing MSWLF, or lateral expansion, is designed with a composite liner and leachate collection system as described in § 258.40(a)(2) of this part. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record.

(b) Containers holding liquid waste may not be placed in a MSWLF unit unless:

(1) The container is a small container similar in size to that normally found in household waste;

(2) The container is designed to hold liquids for use other than storage; or

(3) The waste is household waste.

(c) For purposes of this section:

(1) *Liquid waste* means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

(2) *Gas condensate* means the liquid generated as a result of gas recovery process(es) at the MSWLF unit.

§ 258.29 Recordkeeping requirements.

(a) The owner or operator of a MSWLF unit must record and retain near the facility in an operating record or in an alternative location approved by the Director of an approved State the following information as it becomes available:

(1) Any location restriction demonstration required under subpart B of this part;

(2) Inspection records, training procedures, and notification procedures required in § 258.20 of this part;

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(3) Gas monitoring results from monitoring and any remediation plans required by § 258.23 of this part;

(4) Any MSWLF unit design documentation for placement of leachate or gas condensate in a MSWLF unit as required under § 258.28(a)(2) of this part;

(5) Any demonstration, certification, finding, monitoring, testing, or analytical data required by subpart E of this part;

(6) Closure and post-closure care plans and any monitoring, testing, or analytical data as required by §§ 258.60 and 258.61 of this part; and

(7) Any cost estimates and financial assurance documentation required by subpart G of this part.

(8) Any information demonstrating compliance with small community exemption as required by § 258.1(f)(2).

(b) The owner/operator must notify the State Director when the documents from paragraph (a) of this section have been placed or added to the operating record, and all information contained in the operating record must be furnished upon request to the State Director or be made available at all reasonable times for inspection by the State Director.

(c) The Director of an approved State can set alternative schedules for recordkeeping and notification requirements as specified in paragraphs (a) and (b) of this section, except for the notification requirements in § 258.10(b) and § 258.55(g)(1)(iii).

§§ 258.30-258.39 [Reserved]

Subpart D—Design Criteria

§ 258.40 Design criteria.

(a) New MSWLF units and lateral expansions shall be constructed:

(1) In accordance with a design approved by the Director of an approved State or as specified in § 258.40(e) for unapproved States. The design must ensure that the concentration values listed in Table 1 of this section will not be exceeded in the uppermost aquifer at the relevant point of compliance, as specified by the Director of an approved State under paragraph (d) of this section, or

(2) With a composite liner, as defined in paragraph (b) of this section and a

leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner.

(b) For purposes of this section, *composite liner* means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

(c) When approving a design that complies with paragraph (a)(1) of this section, the Director of an approved State shall consider at least the following factors:

(1) The hydrogeologic characteristics of the facility and surrounding land;

(2) The climatic factors of the area; and

(3) The volume and physical and chemical characteristics of the leachate.

(d) The relevant point of compliance specified by the Director of an approved State shall be no more than 150 meters from the waste management unit boundary and shall be located on land owned by the owner of the MSWLF unit. In determining the relevant point of compliance State Director shall consider at least the following factors:

(1) The hydrogeologic characteristics of the facility and surrounding land;

(2) The volume and physical and chemical characteristics of the leachate;

(3) The quantity, quality, and direction, of flow of ground water;

(4) The proximity and withdrawal rate of the ground-water users;

(5) The availability of alternative drinking water supplies;

(6) The existing quality of the ground water, including other sources of contamination and their cumulative impacts on the ground water, and whether the ground water is currently used or reasonably expected to be used for drinking water;

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(7) Public health, safety, and welfare effects; and

(8) Practicable capability of the owner or operator.

(e) If EPA does not promulgate a rule establishing the procedures and requirements for State compliance with RCRA section 4005(c)(1)(B) by October 9, 1993, owners and operators in unapproved States may utilize a design meeting the performance standard in §258.40(a)(1) if the following conditions are met:

(1) The State determines the design meets the performance standard in §258.40(a)(1);

(2) The State petitions EPA to review its determination; and

(3) EPA approves the State determination or does not disapprove the determination within 30 days.

NOTE TO SUBPART D: 40 CFR part 239 is reserved to establish the procedures and requirements for State compliance with RCRA section 4005(c)(1)(B).

TABLE 1

Chemical	MCL (mg/l)
Arsenic	0.05
Barium	1.0
Benzene	0.005
Cadmium	0.01
Carbon tetrachloride	0.005
Chromium (hexavalent)	0.05
2,4-Dichlorophenoxy acetic acid	0.1
1,4-Dichlorobenzene	0.075
1,2-Dichloroethane	0.005
1,1-Dichloroethylene	0.007
Endrin	0.0002
Fluoride	4
Lindane	0.004
Lead	0.05
Mercury	0.002
Methoxychlor	0.1
Nitrate	10
Selenium	0.01
Silver	0.05
Toxaphene	0.005
1,1,1-Trichloromethane	0.2
Trichloroethylene	0.005
2,4,5-Trichlorophenoxy acetic acid	0.01
Vinyl Chloride	0.002

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Subpart E—Ground-Water Monitoring and Corrective Action

§ 258.50 Applicability.

(a) The requirements in this part apply to MSWLF units, except as provided in paragraph (b) of this section.

(b) Ground-water monitoring requirements under §258.51 through §258.55 of this part may be suspended by the Director of an approved State for a MSWLF unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that MSWLF unit to the uppermost aquifer (as defined in §258.2) during the active life of the unit and the post-closure care period. This demonstration must be certified by a qualified ground-water scientist and approved by the Director of an approved State, and must be based upon:

(1) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport, and

(2) Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and environment.

(c) Owners and operators of MSWLF units, except those meeting the conditions of §258.1(f), must comply with the ground-water monitoring requirements of this part according to the following schedule unless an alternative schedule is specified under paragraph (d) of this section:

(1) Existing MSWLF units and lateral expansions less than one mile from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§258.51-258.55 by October 9, 1994;

(2) Existing MSWLF units and lateral expansions greater than one mile but less than two miles from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§258.51-258.55 by October 9, 1995;

(3) Existing MSWLF units and lateral expansions greater than two miles from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§258.51-258.55 by October 9, 1996.

(4) New MSWLF units must be in compliance with the ground-water monitoring requirements specified in §§258.51-258.55 before waste can be placed in the unit.

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(d) The Director of an approved State may specify an alternative schedule for the owners or operators of existing MSWLF units and lateral expansions to comply with the ground-water monitoring requirements specified in §§ 258.51-258.55. This schedule must ensure that 50 percent of all existing MSWLF units are in compliance by October 9, 1994 and all existing MSWLF units are in compliance by October 9, 1996. In setting the compliance schedule, the Director of an approved State must consider potential risks posed by the unit to human health and the environment. The following factors should be considered in determining potential risk:

- (1) Proximity of human and environmental receptors;
- (2) Design of the MSWLF unit;
- (3) Age of the MSWLF unit;
- (4) The size of the MSWLF unit; and
- (5) Types and quantities of wastes disposed including sewage sludge; and
- (6) Resource value of the underlying aquifer, including:
 - (i) Current and future uses;
 - (ii) Proximity and withdrawal rate of users; and
 - (iii) Ground-water quality and quantity.

(e) Owners and operators of all MSWLF units that meet the conditions of § 258.1(f)(1) must comply with all applicable ground-water monitoring requirements of this part by October 9, 1997.

(f) Once established at a MSWLF unit, ground-water monitoring shall be conducted throughout the active life and post-closure care period of that MSWLF unit as specified in § 258.61.

(g) For the purposes of this subpart, a *qualified ground-water scientist* is a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by State registration, professional Certifications, or completion of accredited university programs that enable that individual to make sound professional judgements regarding ground-water monitoring, contaminant fate and transport, and corrective-action.

(h) The Director of an approved State may establish alternative schedules for demonstrating compliance with § 258.51(d)(2), pertaining to notification of placement of certification in operating record; § 258.54(c)(1), pertaining to notification that statistically significant increase (SSI) notice is in operating record; § 258.54(c)(2) and (3), pertaining to an assessment monitoring program; § 258.55(b), pertaining to sampling and analyzing appendix II constituents; § 258.55(d)(1), pertaining to placement of notice (appendix II constituents detected) in record and notification of notice in record; § 258.55(d)(2), pertaining to sampling for appendix I and II to this part; § 258.55(g), pertaining to notification (and placement of notice in record) of SSI above ground-water protection standard; §§ 258.55(g)(1)(iv) and 258.56(a), pertaining to assessment of corrective measures; § 258.57(a), pertaining to selection of remedy and notification of placement in record; § 258.58(c)(4), pertaining to notification of placement in record (alternative corrective action measures); and § 258.58(f), pertaining to notification of placement in record (certification of remedy completed).

[56 FR 51016, Oct. 9, 1991; 57 FR 28628, June 26, 1992, as amended at 58 FR 51547, Oct. 1, 1993; 60 FR 52342, Oct. 6, 1995]

§ 258.51 Ground-water monitoring systems.

(a) A ground-water monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield ground-water samples from the uppermost aquifer (as defined in § 258.2) that:

(1) Represent the quality of background ground water that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(i) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; or

(ii) Sampling at other wells will provide an indication of background ground-water quality that is as representative or more representative

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than that provided by the upgradient wells; and

(2) Represent the quality of ground water passing the relevant point of compliance specified by Director of an approved State under §258.40(d) or at the waste management unit boundary in unapproved States. The down-gradient monitoring system must be installed at the relevant point of compliance specified by the Director of an approved State under §258.40(d) or at the waste management unit boundary in unapproved States that ensures detection of ground-water contamination in the uppermost aquifer. When physical obstacles preclude installation of ground-water monitoring wells at the relevant point of compliance at existing units, the down-gradient monitoring system may be installed at the closest practicable distance hydraulically down-gradient from the relevant point of compliance specified by the Director of an approved State under §258.40 that ensure detection of groundwater contamination in the uppermost aquifer.

(b) The Director of an approved State may approve a multiunit ground-water monitoring system instead of separate ground-water monitoring systems for each MSWLF unit when the facility has several units, provided the multiunit ground-water monitoring system meets the requirement of §258.51(a) and will be as protective of human health and the environment as individual monitoring systems for each MSWLF unit, based on the following factors:

- (1) Number, spacing, and orientation of the MSWLF units;
- (2) Hydrogeologic setting;
- (3) Site history;
- (4) Engineering design of the MSWLF units, and
- (5) Type of waste accepted at the MSWLF units.

(c) Monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent

contamination of samples and the ground water.

(1) The owner or operator must notify the State Director that the design, installation, development, and decommission of any monitoring wells, piezometers and other measurement, sampling, and analytical devices documentation has been placed in the operating record; and

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

(d) The number, spacing, and depths of monitoring systems shall be:

(1) Determined based upon site-specific technical information that must include thorough characterization of:

(i) Aquifer thickness, ground-water flow rate, ground-water flow direction including seasonal and temporal fluctuations in ground-water flow; and

(ii) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to: Thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

(2) Certified by a qualified ground-water scientist or approved by the Director of an approved State. Within 14 days of this certification, the owner or operator must notify the State Director that the certification has been placed in the operating record.

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§ 258.53 Ground-water sampling and analysis requirements.

(a) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of ground-water quality at the background and downgradient wells installed in compliance with §258.51(a) of this part. The owner or operator must

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notify the State Director that the sampling and analysis program documentation has been placed in the operating record and the program must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures;
- (4) Chain of custody control; and
- (5) Quality assurance and quality control.

(b) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents and other monitoring parameters in ground-water samples. Ground-water samples shall not be field-filtered prior to laboratory analysis.

(c) The sampling procedures and frequency must be protective of human health and the environment.

(d) Ground-water elevations must be measured in each well immediately prior to purging, each time ground water is sampled. The owner or operator must determine the rate and direction of ground-water flow each time ground water is sampled. Ground-water elevations in wells which monitor the same waste management area must be measured within a period of time short enough to avoid temporal variations in ground-water flow which could preclude accurate determination of ground-water flow rate and direction.

(e) The owner or operator must establish background ground-water quality in a hydraulically upgradient or background well(s) for each of the monitoring parameters or constituents required in the particular ground-water monitoring program that applies to the MSWLF unit, as determined under § 258.54(a) or § 258.55(a) of this part. Background ground-water quality may be established at wells that are not located hydraulically upgradient from the MSWLF unit if it meets the requirements of § 258.51(a)(1).

(f) The number of samples collected to establish ground-water quality data must be consistent with the appropriate statistical procedures determined pursuant to paragraph (g) of this section. The sampling procedures shall be those specified under § 258.54(b) for

detection monitoring, § 258.55 (b) and (d) for assessment monitoring, and § 258.56(b) of corrective action.

(g) The owner or operator must specify in the operating record one of the following statistical methods to be used in evaluating ground-water monitoring data for each hazardous constituent. The statistical test chosen shall be conducted separately for each hazardous constituent in each well.

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method that meets the performance standards of § 258.53(h). The owner or operator must place a justification for this alternative in the operating record and notify the State Director of the use of this alternative test. The justification must demonstrate that the alternative method meets the performance standards of § 258.53(h).

(h) Any statistical method chosen under § 258.53(g) shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate ground-water monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution

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of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) If a control chart approach is used to evaluate ground-water monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(4) If a tolerance interval or a predictional interval is used to evaluate ground-water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be

the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(i) The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the particular ground-water monitoring program that applies to the MSWLF unit, as determined under §§ 258.54(a) or 258.55(a) of this part.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the ground-water quality of each parameter or constituent at each monitoring well designated pursuant to § 258.51(a)(2) to the background value of that constituent, according to the statistical procedures and performance standards specified under paragraphs (g) and (h) of this section.

(2) Within a reasonable period of time after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background at each monitoring well.

§ 258.54 Detection monitoring program.

(a) Detection monitoring is required at MSWLF units at all ground-water monitoring wells defined under §§ 258.51(a)(1) and (a)(2) of this part. At a minimum, a detection monitoring program must include the monitoring for the constituents listed in appendix I to this part.

(1) The Director of an approved State may delete any of the appendix I monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit.

(2) The Director of an approved State may establish an alternative list of inorganic indicator parameters for a MSWLF unit, in lieu of some or all of the heavy metals (constituents 1-15 in

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appendix I to this part), if the alternative parameters provide a reliable indication of inorganic releases from the MSWLF unit to the ground water. In determining alternative parameters, the Director shall consider the following factors:

(i) The types, quantities, and concentrations of constituents in wastes managed at the MSWLF unit;

(ii) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the MSWLF unit;

(iii) The detectability of indicator parameters, waste constituents, and reaction products in the ground water; and

(iv) The concentration or values and coefficients of variation of monitoring parameters or constituents in the groundwater background.

(b) The monitoring frequency for all constituents listed in appendix I to this part, or in the alternative list approved in accordance with paragraph (a)(2) of this section, shall be at least semiannual during the active life of the facility (including closure) and the post-closure period. A minimum of four independent samples from each well (background and downgradient) must be collected and analyzed for the appendix I constituents, or the alternative list approved in accordance with paragraph (a)(2) of this section, during the first semiannual sampling event. At least one sample from each well (background and downgradient) must be collected and analyzed during subsequent semiannual sampling events. The Director of an approved State may specify an appropriate alternative frequency for repeated sampling and analysis for appendix I constituents, or the alternative list approved in accordance with paragraph (a)(2) of this section, during the active life (including closure) and the post-closure care period. The alternative frequency during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the following factors:

(1) Lithology of the aquifer and unsaturated zone;

(2) Hydraulic conductivity of the aquifer and unsaturated zone;

(3) Ground-water flow rates;

(4) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring well screen (minimum distance of travel); and

(5) Resource value of the aquifer.

(c) If the owner or operator determines, pursuant to §258.53(g) of this part, that there is a statistically significant increase over background for one or more of the constituents listed in appendix I to this part or in the alternative list approved in accordance with paragraph (a)(2) of this section, at any monitoring well at the boundary specified under § 258.51(a)(2), the owner or operator:

(1) Must, within 14 days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels, and notify the State director that this notice was placed in the operating record; and

(2) Must establish an assessment monitoring program meeting the requirements of §258.55 of this part within 90 days except as provided for in paragraph (c)(3) of this section.

(3) The owner/operator may demonstrate that a source other than a MSWLF unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Director of an approved State and be placed in the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this section. If, after 90 days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in § 258.55.

§ 258.55 Assessment monitoring program.

(a) Assessment monitoring is required whenever a statistically significant increase over background has been detected for one or more of the constituents listed in the appendix I to

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this part or in the alternative list approved in accordance with §258.54(a)(2).

(b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the ground water for all constituents identified in appendix II to this part. A minimum of one sample from each downgradient well must be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as a result of the complete appendix II analysis, a minimum of four independent samples from each well (background and downgradient) must be collected and analyzed to establish background for the constituents. The Director of an approved State may specify an appropriate subset of wells to be sampled and analyzed for appendix II constituents during assessment monitoring. The Director of an approved State may delete any of the appendix II monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit.

(c) The Director of an approved State may specify an appropriate alternate frequency for repeated sampling and analysis for the full set of appendix II constituents required by §258.55(b) of this part, during the active life (including closure) and post-closure care of the unit considering the following factors:

(1) Lithology of the aquifer and unsaturated zone;

(2) Hydraulic conductivity of the aquifer and unsaturated zone;

(3) Ground-water flow rates;

(4) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring well screen (minimum distance of travel);

(5) Resource value of the aquifer; and

(6) Nature (fate and transport) of any constituents detected in response to this section.

(d) After obtaining the results from the initial or subsequent sampling events required in paragraph (b) of this section, the owner or operator must:

(1) Within 14 days, place a notice in the operating record identifying the appendix II constituents that have

been detected and notify the State Director that this notice has been placed in the operating record;

(2) Within 90 days, and on at least a semiannual basis thereafter, resample all wells specified by §258.51(a), conduct analyses for all constituents in appendix I to this part or in the alternative list approved in accordance with §258.54(a)(2), and for those constituents in appendix II to this part that are detected in response to paragraph (b) of this section, and record their concentrations in the facility operating record. At least one sample from each well (background and downgradient) must be collected and analyzed during these sampling events. The Director of an approved State may specify an alternative monitoring frequency during the active life (including closure) and the post-closure period for the constituents referred to in this paragraph. The alternative frequency for appendix I constituents, or the alternative list approved in accordance with §258.54(a)(2), during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in paragraph (c) of this section;

(3) Establish background concentrations for any constituents detected pursuant to paragraph (b) or (d)(2) of this section; and

(4) Establish ground-water protection standards for all constituents detected pursuant to paragraph (b) or (d) of this section. The ground-water protection standards shall be established in accordance with paragraphs (h) or (i) of this section.

(e) If the concentrations of all appendix II constituents are shown to be at or below background values, using the statistical procedures in §258.53(g), for two consecutive sampling events, the owner or operator must notify the State Director of this finding and may return to detection monitoring.

(f) If the concentrations of any appendix II constituents are above background values, but all concentrations are below the ground-water protection standard established under paragraphs (h) or (i) of this section, using the statistical procedures in §258.53(g), the owner or operator must

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continue assessment monitoring in accordance with this section.

(g) If one or more appendix II constituents are detected at statistically significant levels above the ground-water protection standard established under paragraphs (h) or (i) of this section in any sampling event, the owner or operator must, within 14 days of this finding, place a notice in the operating record identifying the appendix II constituents that have exceeded the ground-water protection standard and notify the State Director and all appropriate local government officials that the notice has been placed in the operating record. The owner or operator also:

(1)(i) Must characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(ii) Must install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with § 258.55(d)(2);

(iii) Must notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site if indicated by sampling of wells in accordance with § 258.55 (g)(1); and

(iv) Must initiate an assessment of corrective measures as required by § 255.56 of this part within 90 days; or

(2) May demonstrate that a source other than a MSWLF unit caused the contamination, or that the SSI increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Director of an approved State and placed in the operating record. If a successful demonstration is made the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to § 258.55, and may return to detection monitoring if the appendix II constituents are at or below background as specified in § 258.55(e). Until a successful demonstration is made, the owner or operator must comply with

§ 258.55(g) including initiating an assessment of corrective measures.

(h) The owner or operator must establish a ground-water protection standard for each appendix II constituent detected in the ground-water. The ground-water protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been promulgated under section 1412 of the Safe Drinking Water Act (codified) under 40 CFR part 141, the MCL for that constituent;

(2) For constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with § 258.51(a)(1); or

(3) For constituents for which the background level is higher than the MCL identified under paragraph (h)(1) of this section or health based levels identified under § 258.55(i)(1), the background concentration.

(i) The Director of an approved State may establish an alternative ground-water protection standard for constituents for which MCLs have not been established. These ground-water protection standards shall be appropriate health based levels that satisfy the following criteria:

(1) The level is derived in a manner consistent with Agency guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, Sept. 24, 1986):

(2) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR part 792) or equivalent;

(3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) with the 1×10^{-4} to 1×10^{-6} range; and

(4) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this subpart, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.

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(ii) [Reserved]

(j) In establishing ground-water protection standards under paragraph (i) of this section, the Director of an approved State may consider the following:

- (1) Multiple contaminants in the ground water;
- (2) Exposure threats to sensitive environmental receptors; and
- (3) Other site-specific exposure or potential exposure to ground water.

§ 258.56 Assessment of corrective measures.

(a) Within 90 days of finding that any of the constituents listed in appendix II to this part have been detected at a statistically significant level exceeding the ground-water protection standards defined under § 258.55 (h) or (i) of this part, the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time.

(b) The owner or operator must continue to monitor in accordance with the assessment monitoring program as specified in § 258.55.

(c) The assessment shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under § 258.57, addressing at least the following:

- (1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- (2) The time required to begin and complete the remedy;
- (3) The costs of remedy implementation; and
- (4) The institutional requirements such as State or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s).

(d) The owner or operator must discuss the results of the corrective measures assessment, prior to the selection of remedy, in a public meeting with interested and affected parties.

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§ 258.57 Selection of remedy.

(a) Based on the results of the corrective measures assessment conducted under § 258.56, the owner or operator must select a remedy that, at a minimum, meets the standards listed in paragraph (b) of this section. The owner or operator must notify the State Director, within 14 days of selecting a remedy, a report describing the selected remedy has been placed in the operating record and how it meets the standards in paragraph (b) of this section.

(b) Remedies must:

- (1) Be protective of human health and the environment;
- (2) Attain the ground-water protection standard as specified pursuant to §§ 258.55 (h) or (i);
- (3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of appendix II constituents into the environment that may pose a threat to human health or the environment; and
- (4) Comply with standards for management of wastes as specified in § 258.58(d).

(c) In selecting a remedy that meets the standards of § 258.57(b), the owner or operator shall consider the following evaluation factors:

- (1) The long- and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:
 - (i) Magnitude of reduction of existing risks;
 - (ii) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;
 - (iii) The type and degree of long-term management required, including monitoring, operation, and maintenance;
 - (iv) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redispersion of containment;
 - (v) Time until full protection is achieved;

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(vi) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;

(vii) Long-term reliability of the engineering and institutional controls; and

(viii) Potential need for replacement of the remedy.

(2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:

(i) The extent to which containment practices will reduce further releases:

(1) The extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:

(i) Degree of difficulty associated with constructing the technology;

(ii) Expected operational reliability of the technologies;

(iii) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(iv) Availability of necessary equipment and specialists; and

(v) Available capacity and location of needed treatment, storage, and disposal services.

(4) Practicable capability of the owner or operator, including a consideration of the technical and economic capability.

(5) The degree to which community concerns are addressed by a potential remedy(s).

(d) The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into consideration the factors set forth in paragraphs (d) (1)-(8) of this section. The owner or operator must consider the following factors in determining the schedule of remedial activities:

(1) Extent and nature of contamination;

(2) Practical capabilities of remedial technologies in achieving compliance

with ground-water protection standards established under §258.55 (g) or (h) and other objectives of the remedy;

(3) Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;

(4) Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;

(5) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;

(6) Resource value of the aquifer including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users;

(iii) Ground-water quantity and quality;

(iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituent;

(v) The hydrogeologic characteristic of the facility and surrounding land;

(vi) Ground-water removal and treatment costs; and

(vii) The cost and availability of alternative water supplies.

(7) Practicable capability of the owner or operator.

(8) Other relevant factors.

(e) The Director of an approved State may determine that remediation of a release of an appendix II constituent from a MSWLF unit is not necessary if the owner or operator demonstrates to the satisfaction of the Director of the approved State that:

(1) The ground-water is additionally contaminated by substances that have originated from a source other than a MSWLF unit and those substances are present in concentrations such that cleanup of the release from the MSWLF unit would provide no significant reduction in risk to actual or potential receptors; or

(2) The constituent(s) is present in ground water that:

(i) Is not currently or reasonably expected to be a source of drinking water; and

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(ii) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the ground-water protection standards established under § 258.55 (h) or (i); or

(3) Remediation of the release(s) is technically impracticable; or

(4) Remediation results in unacceptable cross-media impacts.

(f) A determination by the Director of an approved State pursuant to paragraph (e) of this section shall not affect the authority of the State to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the ground-water, to prevent exposure to the ground-water, or to remediate the ground-water to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

§ 258.58 Implementation of the corrective action program.

(a) Based on the schedule established under § 258.57(d) for initiation and completion of remedial activities the owner/operator must:

(1) Establish and implement a corrective action ground-water monitoring program that:

(i) At a minimum, meet the requirements of an assessment monitoring program under § 258.55;

(ii) Indicate the effectiveness of the corrective action remedy; and

(iii) Demonstrate compliance with ground-water protection standard pursuant to paragraph (e) of this section.

(2) Implement the corrective action remedy selected under § 258.57; and

(3) Take any interim measures necessary to ensure the protection of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to § 258.57. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

(i) Time required to develop and implement a final remedy;

(ii) Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

(iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(iv) Further degradation of the ground-water that may occur if remedial action is not initiated expeditiously;

(v) Weather conditions that may cause hazardous constituents to migrate or be released;

(vi) Risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

(vii) Other situations that may pose threats to human health and the environment.

(b) An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of § 258.57(b) are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could practicably achieve compliance with the requirements, unless the owner or operator makes the determination under § 258.58(c).

(c) If the owner or operator determines that compliance with requirements under § 258.57(b) cannot be practically achieved with any currently available methods, the owner or operator must:

(1) Obtain certification of a qualified ground-water scientist or approval by the Director of an approved State that compliance with requirements under § 258.57(b) cannot be practically achieved with any currently available methods;

(2) Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

(3) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

(i) Technically practicable; and

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(ii) Consistent with the overall objective of the remedy.

(4) Notify the State Director within 14 days that a report justifying the alternative measures prior to implementing the alternative measures has been placed in the operating record.

(d) All solid wastes that are managed pursuant to a remedy required under § 258.57, or an interim measure required under § 258.58(a)(3), shall be managed in a manner:

(1) That is protective of human health and the environment; and

(2) That complies with applicable RCRA requirements.

(e) Remedies selected pursuant to § 258.57 shall be considered complete when:

(1) The owner or operator complies with the ground-water protection standards established under §§ 258.55(h) or (i) at all points within the plume of contamination that lie beyond the ground-water monitoring well system established under § 258.51(a).

(2) Compliance with the ground-water protection standards established under §§ 258.55(h) or (i) has been achieved by demonstrating that concentrations of appendix II constituents have not exceeded the ground-water protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in § 258.53(g) and (h). The Director of an approved State may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of appendix II constituents have not exceeded the ground-water protection standard(s) taking into consideration:

(i) Extent and concentration of the release(s);

(ii) Behavior characteristics of the hazardous constituents in the ground-water;

(iii) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and

(iv) Characteristics of the ground-water.

(3) All actions required to complete the remedy have been satisfied.

(f) Upon completion of the remedy, the owner or operator must notify the

State Director within 14 days that a certification that the remedy has been completed in compliance with the requirements of § 258.58(e) has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified ground-water scientist or approved by the Director of an approved State.

(g) When, upon completion of the certification, the owner or operator determines that the corrective action remedy has been completed in accordance with the requirements under paragraph (e) of this section, the owner or operator shall be released from the requirements for financial assurance for corrective action under § 258.73.

§ 258.59 [Reserved]

Subpart F—Closure and Post-Closure Care

§ 258.60 Closure criteria.

(a) Owners or operators of all MSWLF units must install a final cover system that is designed to minimize infiltration and erosion. The final cover system must be designed and constructed to:

(1) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-2} cm/sec, whichever is less, and

(2) Minimize infiltration through the closed MSWLF by the use of an infiltration layer that contains a minimum 18-inches of earthen material, and

(3) Minimize erosion of the final cover by the use of an erosion layer that contains a minimum 6-inches of earthen material that is capable of sustaining native plant growth.

(b) The Director of an approved State may approve an alternative final cover design that includes:

(1) An infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in paragraphs (a)(1) and (a)(2) of this section, and

(2) An erosion layer that provides equivalent protection from wind and water erosion as the erosion layer specified in paragraph (a)(3) of this section.

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(3) The Director of an approved State may establish alternative requirements for the infiltration barrier in a paragraph (b)(1) of this section, after public review and comment, for any owners or operators of MSWLFs that dispose of 20 tons of municipal solid waste per day or less, based on an annual average. Any alternative requirements established under this paragraph must:

(i) Consider the unique characteristics of small communities;

(ii) Take into account climatic and hydrogeologic conditions; and

(iii) Be protective of human health and the environment.

(c) The owner or 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 in § 258.60(a) or (b), as applicable. The closure plan, at a minimum, must include the following information:

(1) A description of the final cover, designed in accordance with § 258.60(a) and the methods and procedures to be used to install the cover;

(2) An estimate of the largest area of the MSWLF unit ever requiring a final cover as required under § 258.60(a) at any time during the active life;

(3) An estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility; and

(4) A schedule for completing all activities necessary to satisfy the closure criteria in § 258.60.

(d) The owner or operator must notify the State Director that a closure plan has been prepared and placed in the operating record no later than the effective date of this part, or by the initial receipt of waste, whichever is later.

(e) Prior to beginning closure of each MSWLF unit as specified in § 258.60(f), an owner or operator must notify the State Director that a notice of the intent to close the unit has been placed in the operating record.

(f) The owner or operator must begin closure activities of each MSWLF unit no later than 30 days after the date on which the MSWLF unit receives the known final receipt of wastes or, if the MSWLF unit has remaining capacity

and there is a reasonable likelihood that the MSWLF unit will receive additional wastes, no later than one year after the most recent receipt of wastes. Extensions beyond the one-year deadline for beginning closure may be granted by the Director of an approved State if the owner or operator demonstrates that the MSWLF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed MSWLF unit.

(g) The owner or operator of all MSWLF units must complete closure activities of each MSWLF unit in accordance with the closure plan within 180 days following the beginning of closure as specified in paragraph (f) of this section. Extensions of the closure period may be granted by the Director of an approved State if the owner or operator demonstrates that closure will, of necessity, take longer than 180 days and he has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed MSWLF unit.

(h) Following closure of each MSWLF unit, the owner or operator must notify the State Director that a certification, signed by an independent registered professional engineer or approved by Director of an approved State, verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record.

(i)(1) Following closure of all MSWLF units, the owner or operator must record a notation on the deed to the landfill facility property, or some other instrument that is normally examined during title search, and notify the State Director that the notation has been recorded and a copy has been placed in the operating record.

(2) The notation on the deed must in perpetuity notify any potential purchaser of the property that:

(i) The land has been used as a landfill facility; and

(ii) Its use is restricted under § 258.61(c)(3).

(j) The owner or operator may request permission from the Director of

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an approved State to remove the notation from the deed if all wastes are removed from the facility.

[56 FR 51016, Oct. 9, 1991; 57 FR 28628, June 26, 1992, as amended at 62 FR 40713, July 29, 1997]

§ 258.61 Post-closure care requirements.

(a) Following closure of each MSWLF unit, the owner or operator must conduct post-closure care. Post-closure care must be conducted for 30 years, except as provided under paragraph (b) of this section, and consist of at least the following:

(1) Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and runoff from eroding or otherwise damaging the final cover;

(2) Maintaining and operating the leachate collection system in accordance with the requirements in § 258.40, if applicable. The Director of an approved State may allow the owner or operator to stop managing leachate if the owner or operator demonstrates that leachate no longer poses a threat to human health and the environment;

(3) Monitoring the ground water in accordance with the requirements of subpart E of this part and maintaining the ground-water monitoring system, if applicable; and

(4) Maintaining and operating the gas monitoring system in accordance with the requirements of § 258.23.

(b) The length of the post-closure care period may be:

(1) Decreased by the Director of an approved State if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the Director of an approved State; or

(2) Increased by the Director of an approved State if the Director of an approved State determines that the lengthened period is necessary to protect human health and the environment.

(c) The owner or operator of all MSWLF units must prepare a written post-closure plan that includes, at a minimum, the following information:

(1) A description of the monitoring and maintenance activities required in § 258.61(a) for each MSWLF unit, and the frequency at which these activities will be performed;

(2) Name, address, and telephone number of the person or office to contact about the facility during the post-closure period; and

(3) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this part 258. The Director of an approved State may approve any other disturbance if the owner or operator demonstrates that disturbance of the final cover, liner or other component of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

(d) The owner or operator must notify the State Director that a post-closure plan has been prepared and placed in the operating record no later than the effective date of this part, October 9, 1993, or by the initial receipt of waste, whichever is later.

(e) Following completion of the post-closure care period for each MSWLF unit, the owner or operator must notify the State Director that a certification, signed by an independent registered professional engineer or approved by the Director of an approved State, verifying that post-closure care has been completed in accordance with the post-closure plan, has been placed in the operating record.

[56 FR 51016, Oct. 9, 1991; 57 FR 28628, June 26, 1992]

§§ 258.62–258.69 [Reserved]

Subpart G—Financial Assurance Criteria

SOURCE: 56 FR 51029, Oct. 9, 1991, unless otherwise noted.

§ 258.70 Applicability and effective date.

(a) The requirements of this section apply to owners and operators of all

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MSWLF units, except owners or operators who are State or Federal government entities whose debts and liabilities are the debts and liabilities of a State or the United States.

(b) The requirements of this section are effective April 9, 1997 except for MSWLF units meeting the conditions of § 258.1(f)(1), in which case the effective date is October 9, 1997.

(c) The Director of an approved State may waive the requirements of this section for up to one year until April 9, 1998 for good cause if an owner or operator demonstrates to the Director's satisfaction that the April 9, 1997 effective date for the requirements of this section does not provide sufficient time to comply with these requirements and that such a waiver will not adversely affect human health and the environment.

[56 FR 51029, Oct. 9, 1991, as amended at 60 FR 52342, Oct. 6, 1995; 61 FR 60337, Nov. 27, 1996]

§ 258.71 Financial assurance for closure.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of all MSWLF units ever requiring a final cover as required under § 258.60 at any time during the active life in accordance with the closure plan. The owner or operator must notify the State Director that the estimate has been placed in the operating record.

(1) The cost estimate must equal the cost of closing the largest area of all MSWLF unit ever requiring a final cover at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 258.60(c)(2) of this part).

(2) During the active life of the MSWLF unit, the owner or operator must annually adjust the closure cost estimate for inflation.

(3) The owner or operator must increase the closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes to the closure plan or MSWLF unit conditions increase the maximum cost of closure at any time during the remaining active life.

(4) The owner or operator may reduce the closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the MSWLF unit. The owner or operator must notify the State Director that the justification for the reduction of the closure cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit must establish financial assurance for closure of the MSWLF unit in compliance with § 258.74. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstrating compliance with § 258.60 (h) and (i).

[56 FR 51029, Oct. 9, 1991; 57 FR 28628, June 26, 1992]

§ 258.72 Financial assurance for post-closure care.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the MSWLF unit in compliance with the post-closure plan developed under § 258.61 of this part. The post-closure cost estimate used to demonstrate financial assurance in paragraph (b) of this section must account for the total costs of conducting post-closure care, including annual and periodic costs as described in the post-closure plan over the entire post-closure care period. The owner or operator must notify the State Director that the estimate has been placed in the operating record.

(1) The cost estimate for post-closure care must be based on the most expensive costs of post-closure care during the post-closure care period.

(2) During the active life of the MSWLF unit and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation.

(3) The owner or operator must increase the post-closure care cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes in the post-closure plan or MSWLF unit conditions

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increase the maximum costs of post-closure care.

(4) The owner or operator may reduce the post-closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period. The owner or operator must notify the State Director that the justification for the reduction of the post-closure cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit must establish, in a manner in accordance with §258.74, financial assurance for the costs of post-closure care as required under §258.61 of this part. The owner or operator must provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care by demonstrating compliance with §258.61(e).

§ 258.73 Financial assurance for corrective action.

(a) An owner or operator of a MSWLF unit required to undertake a corrective action program under §258.58 of this part must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under §258.58 of this part. The corrective action cost estimate must account for the total costs of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner or operator must notify the State Director that the estimate has been placed in the operating record.

(1) The owner or operator must annually adjust the estimate for inflation until the corrective action program is completed in accordance with §258.58(f) of this part.

(2) The owner or operator must increase the corrective action cost estimate and the amount of financial assurance provided under paragraph (b) of this section if changes in the corrective action program or MSWLF unit conditions increase the maximum costs of corrective action.

(3) The owner or operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under paragraph (b) of this section if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must notify the State Director that the justification for the reduction of the corrective action cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit required to undertake a corrective action program under §258.58 of this part must establish, in a manner in accordance with §258.74, financial assurance for the most recent corrective action program. The owner or operator must provide continuous coverage for corrective action until released from financial assurance requirements for corrective action by demonstrating compliance with §258.58 (f) and (g).

§ 258.74 Allowable mechanisms.

The mechanisms used to demonstrate financial assurance under this section must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed. Owners and operators must choose from the options specified in paragraphs (a) through (j) of this section.

(a) *Trust Fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a trust fund which conforms to the requirements of this paragraph. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. A copy of the trust agreement must be placed in the facility's operating record.

(2) Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit or over the remaining life of the MSWLF unit, whichever is shorter, in the case of a trust fund for closure or post-closure care, or over one-half of the estimated length of the corrective

action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

(3) For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund must be at least equal to the current cost estimate for closure or post-closure care, except as provided in paragraph (k) of this section, divided by the number of years in the pay-in period as defined in paragraph (a)(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = [CE - CV]/Y$$

where CE is the current cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund must be at least equal to one-half of the current cost estimate for corrective action, except as provided in paragraph (k) of this section, divided by the number of years in the corrective action pay-in period as defined in paragraph (a)(2) of this section. The amount of subsequent payments must be determined by the following formula:

$$\text{Next Payment} = [RB - CV]/Y$$

where RB is the most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(5) The initial payment into the trust fund must be made before the initial receipt of waste or before the effective date of the requirements of this section (April 9, 1997, or October 9, 1997 for MSWLF units meeting the conditions of § 258.1(f)(1)), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58.

(6) If the owner or operator establishes a trust fund after having used

one or more alternate mechanisms specified in this section, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of this paragraph and paragraph (a) of this section, as applicable.

(7) The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures. Requests for reimbursement will be granted by the trustee only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective action, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the State Director that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(8) The trust fund may be terminated by the owner or operator only if the owner or operator substitutes alternate financial assurance as specified in this section or if he is no longer required to demonstrate financial responsibility in accordance with the requirements of §§ 258.71(b), 258.72(b), or 258.73(b).

(b) *Surety Bond Guaranteeing Payment or Performance.* (1) An owner or operator may demonstrate financial assurance for closure or post-closure care by obtaining a payment or performance surety bond which conforms to the requirements of this paragraph. An owner or operator may demonstrate financial assurance for corrective action by obtaining a performance bond which conforms to the requirements of this paragraph. The bond must be effective before the initial receipt of waste or before the effective date of the requirements of this section (April 9, 1997, or October 9, 1997 for MSWLF units meeting the conditions of § 258.1(f)(1)), whichever is later, in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58. The owner or operator must notify the State Director that a copy of

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the bond has been placed in the operating record. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The penal sum of the bond must be in an amount at least equal to the current closure, post-closure care or corrective action cost estimate, whichever is applicable, except as provided in § 258.74(k).

(3) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(4) The owner or operator must establish a standby trust fund. The standby trust fund must meet the requirements of § 258.74(a) except the requirements for initial payment and subsequent annual payments specified in § 258.74(a)(2), (3), (4) and (5).

(5) Payments made under the terms of the bond will be deposited by the surety directly into the standby trust fund. Payments from the trust fund must be approved by the trustee.

(6) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner and operator and to the State Director 120 days in advance of cancellation. If the surety cancels the bond, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) The owner or operator may cancel the bond only if alternate financial assurance is substituted as specified in this section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with § 258.71(b), § 258.72(b) or § 258.73(b).

(c) *Letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph. The letter of credit must be effective before the initial receipt of waste or before the effective date of the requirements of this section (April 9, 1997, or October 9, 1997 for MSWLF units meeting the conditions of § 258.1(f)(1)), whichever is later, in the case of closure and post-closure care.

or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58. The owner or operator must notify the State Director that a copy of the letter of credit has been placed in the operating record. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) A letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: Name, and address of the facility, and the amount of funds assured, must be included with the letter of credit in the operating record.

(3) The letter of credit must be irrevocable and issued for a period of at least one year in an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable, except as provided in paragraph (k) of this section. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution has cancelled the letter of credit by sending notice of cancellation by certified mail to the owner and operator and to the State Director 120 days in advance of cancellation. If the letter of credit is cancelled by the issuing institution, the owner or operator must obtain alternate financial assurance.

(4) The owner or operator may cancel the letter of credit only if alternate financial assurance is substituted as specified in this section or if the owner or operator is released from the requirements of this section in accordance with § 258.71(b), § 258.72(b) or § 258.73(b).

(d) *Insurance.* (1) An owner or operator may demonstrate financial assurance for closure and post-closure care by obtaining insurance which conforms to the requirements of this paragraph. The insurance must be effective before the initial receipt of waste or before the effective date of the requirements of this section (April 9, 1997, or October 9, 1997 for MSWLF units meeting the conditions of § 258.1(f)(1)), whichever is later, in the case of closure and post-

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closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States. The owner or operator must notify the State Director that a copy of the insurance policy has been placed in the operating record.

(2) The closure or post-closure care insurance policy must guarantee that funds will be available to close the MSWLF unit whenever final closure occurs or to provide post-closure care for the MSWLF unit whenever the post-closure care period begins, whichever is applicable. The policy must also guarantee that once closure or post-closure care begins, the insurer will be responsible for the paying out of funds to the owner or operator or other person authorized to conduct closure or post-closure care, up to an amount equal to the face amount of the policy.

(3) The insurance policy must be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable, except as provided in paragraph (k) of this section. The term *face amount* means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) An owner or operator, or any other person authorized to conduct closure or post-closure care, may receive reimbursements for closure or post-closure expenditures, whichever is applicable. Requests for reimbursement will be granted by the insurer only if the remaining value of the policy is sufficient to cover the remaining costs of closure or post-closure care, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the State Director that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(5) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided that such consent is not unreasonably refused.

(6) The insurance policy must provide that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner and operator and to the State Director 120 days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance as specified in this section.

(7) For insurance policies providing coverage for post-closure care, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(8) The owner or operator may cancel the insurance policy only if alternate financial assurance is substituted as specified in this section or if the owner or operator, is no longer required to demonstrate financial responsibility in accordance with the requirements of § 258.71(b), § 258.72(b) or § 258.73(b).

(e) *Corporate financial test.* An owner or operator that satisfies the requirements of this paragraph (e) may demonstrate financial assurance up to the amount specified in this paragraph (e):

(1) *Financial component.* (i) The owner or operator must satisfy one of the following three conditions:

(A) A current rating for its senior unsecured debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; or

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(B) A ratio of less than 1.5 comparing total liabilities to net worth; or

(C) A ratio of greater than 0.10 comparing the sum of net income plus depreciation, depletion and amortization, minus \$10 million, to total liabilities.

(ii) The tangible net worth of the owner or operator must be greater than: (A) The sum of the current closure, post-closure care, corrective action cost estimates and any other environmental obligations, including guarantees, covered by a financial test plus \$10 million except as provided in paragraph (e)(1)(ii)(B) of this section.

(B) \$10 million in net worth plus the amount of any guarantees that have not been recognized as liabilities on the financial statements provided all of the current closure, post-closure care, and corrective action costs and any other environmental obligations covered by a financial test are recognized as liabilities on the owner's or operator's audited financial statements, and subject to the approval of the State Director.

(iii) The owner or operator must have assets located in the United States amounting to at least the sum of current closure, post-closure care, corrective action cost estimates and any other environmental obligations covered by a financial test as described in paragraph (e)(3) of this section.

(2) *Recordkeeping and reporting requirements.* (i) The owner or operator must place the following items into the facility's operating record:

(A) A letter signed by the owner's or operator's chief financial officer that:

(f) Lists all the current cost estimates covered by a financial test, including, but not limited to, cost estimates required for municipal solid waste management facilities under this part 258, cost estimates required for UIC facilities under 40 CFR part 144, if applicable, cost estimates required for petroleum underground storage tank facilities under 40 CFR part 280, if applicable, cost estimates required for PCB storage facilities under 40 CFR part 761, if applicable, and cost estimates required for hazardous waste treatment, storage, and disposal facilities under 40 CFR parts 264 and 265, if applicable; and

(g) Provides evidence demonstrating that the firm meets the conditions of either paragraph (e)(1)(i)(A) or (e)(1)(i)(B) or (e)(1)(i)(C) of this section and paragraphs (e)(1)(ii) and (e)(1)(iii) of this section.

(B) A copy of the independent certified public accountant's unqualified opinion of the owner's or operator's financial statements for the latest completed fiscal year. To be eligible to use the financial test, the owner's or operator's financial statements must receive an unqualified opinion from the independent certified public accountant. An adverse opinion, disclaimer of opinion, or other qualified opinion will be cause for disallowance, with the potential exception for qualified opinions provided in the next sentence. The Director of an approved State may evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where the Director deems that the matters which form the basis for the qualification are insufficient to warrant disallowance of the test. If the Director of an approved State does not allow use of the test, the owner or operator must provide alternate financial assurance that meets the requirements of this section.

(C) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that owner or operator satisfies paragraph (e)(1)(i)(B) or (e)(1)(i)(C) of this section that are different from data in the audited financial statements referred to in paragraph (e)(2)(i)(B) of this section or any other audited financial statement or data filed with the SEC, then a special report from the owner's or operator's independent certified public accountant to the owner or operator is required. The special report shall be based upon an agreed upon procedures engagement in accordance with professional auditing standards and shall describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of that comparison, and the reasons for any differences.

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(D) If the chief financial officer's letter provides a demonstration that the firm has assured for environmental obligations as provided in paragraph (e)(1)(ii)(B) of this section, then the letter shall include a report from the independent certified public accountant that verifies that all of the environmental obligations covered by a financial test have been recognized as liabilities on the audited financial statements, how these obligations have been measured and reported, and that the tangible net worth of the firm is at least \$10 million plus the amount of any guarantees provided.

(ii) An owner or operator must place the items specified in paragraph (e)(2)(i) of this section in the operating record and notify the State Director that these items have been placed in the operating record before the initial receipt of waste or before the effective date of the requirements of this section (April 9, 1997 or October 9, 1997 for MSWLF units meeting the conditions of § 258.1(f)(1)), whichever is later in the case of closure, and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58.

(iii) After the initial placement of items specified in paragraph (e)(2)(i) of this section in the operating record, the owner or operator must annually update the information and place updated information in the operating record within 90 days following the close of the owner or operator's fiscal year. The Director of a State may provide up to an additional 45 days for an owner or operator who can demonstrate that 90 days is insufficient time to acquire audited financial statements. The updated information must consist of all items specified in paragraph (e)(2)(i) of this section.

(iv) The owner or operator is no longer required to submit the items specified in this paragraph (e)(2) or comply with the requirements of this paragraph (e) when:

(A) He substitutes alternate financial assurance as specified in this section that is not subject to these record-keeping and reporting requirements; or

(B) He is released from the requirements of this section in accordance with § 258.71(b), § 258.72(b), or § 258.73(b).

(v) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must, within 120 days following the close of the owner or operator's fiscal year, obtain alternative financial assurance that meets the requirements of this section, place the required submissions for that assurance in the operating record, and notify the State Director that the owner or operator no longer meets the criteria of the financial test and that alternate assurance has been obtained.

(vi) The Director of an approved State may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require at any time the owner or operator to provide reports of its financial condition in addition to or including current financial test documentation as specified in paragraph (e)(2) of this section. If the Director of an approved State finds that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance that meets the requirements of this section.

(3) *Calculation of costs to be assured.* When calculating the current cost estimates for closure, post-closure care, corrective action, or the sum of the combination of such costs to be covered, and any other environmental obligations assured by a financial test referred to in this paragraph (e), the owner or operator must include cost estimates required for municipal solid waste management facilities under this part, as well as cost estimates required for the following environmental obligations, if it assures them through a financial test: obligations associated with UIC facilities under 40 CFR part 144, petroleum underground storage tank facilities under 40 CFR part 280, PCB storage facilities under 40 CFR part 761, and hazardous waste treatment, storage, and disposal facilities under 40 CFR parts 264 and 265.

(f) *Local government financial test.* An owner or operator that satisfies the requirements of paragraphs (f)(1) through

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(3) of this section may demonstrate financial assurance up to the amount specified in paragraph (f)(4) of this section:

(1) *Financial component.* (i) The owner or operator must satisfy paragraph (f)(1)(i)(A) or (B) of this section as applicable:

(A) If the owner or operator has outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or other collateral or guarantee, it must have a current rating of Aaa, Aa, A, or Baa, as issued by Moody's, or AAA, AA, A, or BBB, as issued by Standard and Poor's on all such general obligation bonds; or

(B) The owner or operator must satisfy each of the following financial ratios based on the owner or operator's most recent audited annual financial statement:

(f) A ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05; and

(g) A ratio of annual debt service to total expenditures less than or equal to 0.20.

(ii) The owner or operator must prepare its financial statements in conformity with Generally Accepted Accounting Principles for governments and have its financial statements audited by an independent certified public accountant (or appropriate State agency).

(iii) A local government is not eligible to assure its obligations under § 258.74(f) if it:

(A) Is currently in default on any outstanding general obligation bonds; or

(B) Has any outstanding general obligation bonds rated lower than Baa as issued by Moody's or BBB as issued by Standard and Poor's; or

(C) Operated at a deficit equal to five percent or more of total annual revenue in each of the past two fiscal years; or

(D) Receives an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant (or appropriate State agency) auditing its financial statement as required under paragraph (f)(1)(ii) of this section. However, the Director of an approved State may evaluate qualified opinions on a case-

by-case basis and allow use of the financial test in cases where the Director deems the qualification insufficient to warrant disallowance of use of the test.

(iv) The following terms used in this paragraph are defined as follows:

(A) *Deficit* equals total annual revenues minus total annual expenditures;

(B) *Total revenues* include revenues from all taxes and fees but does not include the proceeds from borrowing or asset sales, excluding revenue from funds managed by local government on behalf of a specific third party;

(C) *Total expenditures* include all expenditures excluding capital outlays and debt repayment;

(D) *Cash plus marketable securities* is all the cash plus marketable securities held by the local government on the last day of a fiscal year, excluding cash and marketable securities designated to satisfy past obligations such as pensions; and

(E) *Debt service* is the amount of principal and interest due on a loan in a given time period, typically the current year.

(2) *Public notice component.* The local government owner or operator must place a reference to the closure and post-closure care costs assured through the financial test into its next comprehensive annual financial report (CAFR) after the effective date of this section or prior to the initial receipt of waste at the facility, whichever is later. Disclosure must include the nature and source of closure and post-closure care requirements, the reported liability at the balance sheet date, the estimated total closure and post-closure care cost remaining to be recognized, the percentage of landfill capacity used to date, and the estimated landfill life in years. A reference to corrective action costs must be placed in the CAFR not later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58. For the first year the financial test is used to assure costs at a particular facility, the reference may instead be placed in the operating record until issuance of the next available CAFR if timing does not permit the reference to be incorporated into the most recently issued CAFR or

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budget. For closure and post-closure costs, conformance with Government Accounting Standards Board Statement 18 assures compliance with this public notice component.

(3) *Recordkeeping and reporting requirements.* (i) The local government owner or operator must place the following items in the facility's operating record:

(A) A letter signed by the local government's chief financial officer that:

(1) Lists all the current cost estimates covered by a financial test, as described in paragraph (f)(4) of this section;

(2) Provides evidence and certifies that the local government meets the conditions of paragraphs (f)(1)(i), (f)(1)(ii), and (f)(1)(iii) of this section; and

(3) Certifies that the local government meets the conditions of paragraphs (f)(2) and (f)(4) of this section.

(B) The local government's independently audited year-end financial statements for the latest fiscal year (except for local governments where audits are required every two years where unaudited statements may be used in years when audits are not required), including the unqualified opinion of the auditor who must be an independent, certified public accountant or an appropriate State agency that conducts equivalent comprehensive audits;

(C) A report to the local government from the local government's independent certified public accountant (CPA) or the appropriate State agency based on performing an agreed upon procedures engagement relative to the financial ratios required by paragraph (f)(1)(i)(B) of this section, if applicable, and the requirements of paragraphs (f)(1)(ii) and (f)(1)(iii) (C) and (D) of this section. The CPA or State agency's report should state the procedures performed and the CPA or State agency's findings; and

(D) A copy of the comprehensive annual financial report (CAFR) used to comply with paragraph (f)(2) of this section or certification that the requirements of General Accounting Standards Board Statement 18 have been met.

(ii) The items required in paragraph (f)(3)(i) of this section must be placed

in the facility operating record as follows:

(A) In the case of closure and post-closure care, either before the effective date of this section, which is April 9, 1997, or prior to the initial receipt of waste at the facility, whichever is later, or

(B) In the case of corrective action, not later than 120 days after the corrective action remedy is selected in accordance with the requirements of §258.58.

(iii) After the initial placement of the items in the facility's operating record, the local government owner or operator must update the information and place the updated information in the operating record within 180 days following the close of the owner or operator's fiscal year.

(iv) The local government owner or operator is no longer required to meet the requirements of paragraph (f)(3) of this section when:

(A) The owner or operator substitutes alternate financial assurance as specified in this section; or

(B) The owner or operator is released from the requirements of this section in accordance with §258.71(b), 258.72(b), or 258.73(b).

(v) A local government must satisfy the requirements of the financial test at the close of each fiscal year. If the local government owner or operator no longer meets the requirements of the local government financial test it must, within 210 days following the close of the owner or operator's fiscal year, obtain alternative financial assurance that meets the requirements of this section, place the required submissions for that assurance in the operating record, and notify the State Director that the owner or operator no longer meets the criteria of the financial test and that alternate assurance has been obtained.

(vi) The Director of an approved State, based on a reasonable belief that the local government owner or operator may no longer meet the requirements of the local government financial test, may require additional reports of financial condition from the local government at any time. If the Director of an approved State finds, on

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the basis of such reports or other information, that the owner or operator no longer meets the requirements of the local government financial test, the local government must provide alternate financial assurance in accordance with this section.

(4) *Calculation of costs to be assured.* The portion of the closure, post-closure, and corrective action costs for which an owner or operator can assure under this paragraph is determined as follows:

(i) If the local government owner or operator does not assure other environmental obligations through a financial test, it may assure closure, post-closure, and corrective action costs that equal up to 43 percent of the local government's total annual revenue.

(ii) If the local government assures other environmental obligations through a financial test, including those associated with UIC facilities under 40 CFR 144.62, petroleum underground storage tank facilities under 40 CFR Part 280, PCB storage facilities under 40 CFR Part 761, and hazardous waste treatment, storage, and disposal facilities under 40 CFR Parts 264 and 265, it must add those costs to the closure, post-closure, and corrective action costs it seeks to assure under this paragraph. The total that may be assured must not exceed 43 percent of the local government's total annual revenue.

(iii) The owner or operator must obtain an alternate financial assurance instrument for those costs that exceed the limits set in paragraphs (f)(4) (i) and (ii) of this section.

(g) *Corporate Guarantee.* (1) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraph (e) of this section and must comply with the terms of the guarantee. A certified copy of the guarantee must be placed in the facility's operating record along with copies of

the letter from the guarantor's chief financial officer and accountants' opinions. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter from the guarantor's chief financial officer must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee.

(2) The guarantee must be effective and all required submissions placed in the operating record before the initial receipt of waste or before the effective date of the requirements of this section (April 9, 1997 or October 9, 1997 for MSWLF units meeting the conditions of § 258.1(f)(1), whichever is later, in the case of closure and post-closure care, or in the case of corrective action no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58.

(3) The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform closure, post-closure care, and/or corrective action of a facility covered by the guarantee, the guarantor will:

(A) Perform, or pay a third party to perform, closure, post-closure care, and/or corrective action as required (performance guarantee); or

(B) Establish a fully funded trust fund as specified in paragraph (a) of this section in the name of the owner or operator (payment guarantee).

(ii) The guarantee will remain in force for as long as the owner or operator must comply with the applicable financial assurance requirements of this Subpart unless the guarantor sends prior notice of cancellation by certified mail to the owner or operator and to the State Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the State Director, as evidenced by the return receipts.

(iii) If notice of cancellation is given, the owner or operator must, within 90

days following receipt of the cancellation notice by the owner or operator and the State Director, obtain alternate financial assurance, place evidence of that alternate financial assurance in the facility operating record, and notify the State Director. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within 120 days of the cancellation notice, obtain alternative assurance, place evidence of the alternate assurance in the facility operating record, and notify the State Director.

(4) If a corporate guarantor no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must, within 90 days, obtain alternative assurance, place evidence of the alternate assurance in the facility operating record, and notify the State Director. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within the next 30 days.

(5) The owner or operator is no longer required to meet the requirements of this paragraph (g) when:

(i) The owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The owner or operator is released from the requirements of this section in accordance with § 258.71(b), § 258.72(b), or § 258.73(b).

(h) *Local government guarantee.* An owner or operator may demonstrate financial assurance for closure, post-closure, and corrective action, as required by §§ 258.71, 258.72, and 258.73, by obtaining a written guarantee provided by a local government. The guarantor must meet the requirements of the local government financial test in paragraph (f) of this section, and must comply with the terms of a written guarantee.

(i) *Terms of the written guarantee.* The guarantee must be effective before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure, post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58. The guarantee must provide that:

(i) If the owner or operator fails to perform closure, post-closure care, and/or corrective action of a facility covered by the guarantee, the guarantor will:

(A) Perform, or pay a third party to perform, closure, post-closure care, and/or corrective action as required; or

(B) Establish a fully funded trust fund as specified in paragraph (a) of this section in the name of the owner or operator.

(ii) The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the State Director. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the State Director, as evidenced by the return receipts.

(iii) If a guarantee is cancelled, the owner or operator must, within 90 days following receipt of the cancellation notice by the owner or operator and the State Director, obtain alternate financial assurance, place evidence of that alternate financial assurance in the facility operating record, and notify the State Director. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within 120 days following the guarantor's notice of cancellation, place evidence of the alternate assurance in the facility operating record, and notify the State Director.

(2) *Recordkeeping and reporting.* (i) The owner or operator must place a certified copy of the guarantee along with the items required under paragraph (f)(3) of this section into the facility's operating record before the initial receipt of waste or before the effective date of this section, whichever is later, in the case of closure, post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58.

(ii) The owner or operator is no longer required to maintain the items specified in paragraph (h)(2) of this section when:

(A) The owner or operator substitutes alternate financial assurance as specified in this section; or

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(B) The owner or operator is released from the requirements of this section in accordance with § 258.71(b), 258.72(b), or 258.73(b).

(iii) If a local government guarantor no longer meets the requirements of paragraph (f) of this section, the owner or operator must, within 90 days, obtain alternative assurance, place evidence of the alternate assurance in the facility operating record, and notify the State Director. If the owner or operator fails to obtain alternate financial assurance within that 90-day period, the guarantor must provide that alternate assurance within the next 30 days.

(i) *State-Approved mechanism.* An owner or operator may satisfy the requirements of this section by obtaining any other mechanism that meets the criteria specified in § 258.74(1), and that is approved by the Director of an approved State.

(j) *State assumption of responsibility.* If the State Director either assumes legal responsibility for an owner or operator's compliance with the closure, post-closure care and/or corrective action requirements of this part, or assures that the funds will be available from State sources to cover the requirements, the owner or operator will be in compliance with the requirements of this section. Any State assumption of responsibility must meet the criteria specified in § 258.74(1).

(k) *Use of multiple mechanisms.* An owner or operator may demonstrate financial assurance for closure, post-closure, and corrective action, as required by §§ 258.71, 258.72, and 258.73 by establishing more than one mechanism per facility, except that mechanisms guaranteeing performance rather than payment, may not be combined with other instruments. The mechanisms must be as specified in paragraphs (a), (b), (c), (d), (e), (f), (g), (h), (i), and (j) of this section, except that financial assurance for an amount at least equal to the current cost estimate for closure, post-closure care, and/or corrective action may be provided by a combination of mechanisms rather than a single mechanism.

(l) The language of the mechanisms listed in paragraphs (a), (b), (c), (d), (e), (f), (g), (h), (i), and (j) of this section

must ensure that the instruments satisfy the following criteria:

(1) The financial assurance mechanisms must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed;

(2) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed;

(3) The financial assurance mechanisms must be obtained by the owner or operator by the effective date of these requirements or prior to the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care, and no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of § 258.58, until the owner or operator is released from the financial assurance requirements under §§ 258.71, 258.72 and 258.73.

(4) The financial assurance mechanisms must be legally valid, binding, and enforceable under State and Federal law.

[58 FR 51029, Oct. 9, 1991, as amended at 58 FR 51547, Oct. 1, 1993; 60 FR 40105, Aug. 7, 1995; 60 FR 52342, Oct. 6, 1995; 61 FR 60337, Nov. 27, 1996; 63 FR 17729, Apr. 10, 1998]

§ 258.75 Discounting.

The Director of an approved State may allow discounting of closure cost estimates in § 258.71(a), post-closure cost estimates in § 258.72(a), and/or corrective action costs in § 258.73(a) up to the rate of return for essentially risk free investments, net of inflation, under the following conditions:

(a) The State Director determines that cost estimates are complete and accurate and the owner or operator has submitted a statement from a Registered Professional Engineer so stating:

(b) The State finds the facility in compliance with applicable and appropriate permit conditions:

(c) The State Director determines that the closure date is certain and the owner or operator certifies that there are no foreseeable factors that will change the estimate of site life; and

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(d) Discounted cost estimates must be adjusted annually to reflect inflation and years of remaining life.

[61 FR 60339, Nov. 27, 1996]

APPENDIX I TO PART 258—CONSTITUENTS FOR DETECTION MONITORING¹

Common name ²	CAS RN ³
Inorganic Constituents:	
(1) Antimony	(Total)
(2) Arsenic	(Total)
(3) Barium	(Total)
(4) Beryllium	(Total)
(5) Cadmium	(Total)
(6) Chromium	(Total)
(7) Cobalt	(Total)
(8) Copper	(Total)
(9) Lead	(Total)
(10) Nickel	(Total)
(11) Selenium	(Total)
(12) Silver	(Total)
(13) Thallium	(Total)
(14) Vanadium	(Total)
(15) Zinc	(Total)
Organic Constituents:	
(16) Acetone	67-64-1
(17) Acrylonitrile	107-13-1
(18) Benzene	71-43-2
(19) Bromochloromethane	74-87-5
(20) Bromodichloromethane	75-27-4
(21) Bromoform; Tribromomethane	75-25-2
(22) Carbon disulfide	75-15-0
(23) Carbon tetrachloride	56-23-6
(24) Chlorobenzene	108-90-7
(25) Chloroethane; Ethyl chloride	75-00-3
(26) Chloroform; Trichloromethane	67-66-3
(27) Dibromochloromethane; Chlorodibromomethane	124-48-1
(28) 1,2-Dibromo-3-chloropropane; DBCP	96-12-8
(29) 1,2-Dibromoethane; Ethylene dibromide; EDB	106-93-4
(30) o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1
(31) p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7
(32) trans-1,4-Dichloro-2-butene	110-57-6
(33) 1,1-Dichloroethane; Ethylene chloride	75-34-3
(34) 1,2-Dichloroethane; Ethylene dichloride	107-06-2

Common name ²	CAS RN ³
(35) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	75-35-4
(36) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	156-59-2
(37) trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	155-60-6
(38) 1,2-Dichloropropane; Propylene dichloride	78-87-5
(39) cis-1,3-Dichloropropane	10061-01-5
(40) trans-1,3-Dichloropropane	10061-02-6
(41) Ethylbenzene	100-11-1
(42) 2-Hexanone; Methyl butyl ketone	591-78-6
(43) Methyl bromide; Bromomethane	74-83-9
(44) Methyl chloride; Chloromethane	74-87-3
(45) Methylene bromide; Dibromomethane	74-85-3
(46) Methylene chloride; Dichloromethane	75-09-2
(47) Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
(48) Methyl iodide; Iodomethane	74-88-4
(49) 4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1
(50) Styrene	100-42-5
(51) 1,1,1,2-Tetrachloroethane	630-20-6
(52) 1,1,2,2-Tetrachloroethane	79-34-6
(53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127-18-4
(54) Toluene	108-88-3
(55) 1,1,1-Trichloroethane; Methylchloroform	71-55-8
(56) 1,1,2-Trichloroethane	79-00-6
(57) Trichloroethylene; Trichloroethene	79-01-6
(58) Trichlorofluoromethane; CFC-11	75-69-4
(59) 1,2,3-Trichloropropane	96-18-4
(60) Vinyl acetate	108-05-4
(61) Vinyl chloride	75-01-4
(62) Xylenes	1330-20-7

¹ This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, November 1988, as revised December 1987, includes Method 8260; and 15 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.

² Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

³ Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

APPENDIX II TO PART 258—LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS¹

Common Name ²	CAS RN ³	Chemical abstracts service index name ⁴	Suggested methods ⁵	PQL (µg/L) ⁶
Acenaphthene	63-32-6	Acenaphthylene, 1,2-dihydro-	8100	200
			8270	10
Acenaphthylene	208-96-8	Acenaphthylene	8100	200
			8270	10
Acetone	67-64-1	2-Propanone	8260	100
Acetonitrile; Methyl cyanide	75-05-8	Acetonitrile	8015	100
Acetophenone	98-86-2	Ethanone, 1-phenyl-	8270	10
2-Acetylaminofluorene; 2-AAF	53-96-3	Acetamide, N-(9H-fluoren-2-yl)-	8270	20
Acrolein	107-02-8	2-Propenal	8030	5
			8260	100
Acrylonitrile	107-13-1	2-Propenenitrile	8030	5
			8260	200
Aldrin	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1α,4α,4β,5α,8α,8β)-	8080	0.05
			8270	10
Allyl chloride	107-05-1	1-Propene, 3-chloro-	8010	5
			8260	10
4-Aminobiphenyl	92-67-1	[1,1'-Biphenyl]-4-amine	8270	20

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Common Name ²	CAS RN ³	Chemical abstracts service index name ⁴	Suggested methods ⁵	PQL (µg/L) ⁶
Anthracene	120-12-7	Anthracene	8100 8270	200 10
Antimony	(Total)	Antimony	6010 7040 7041	300 2000 30
Arsenic	(Total)	Arsenic	6010 7060 7061	500 10 20
Barium	(Total)	Barium	6010 7080	20 1000
Benzene	71-43-2	Benzene	8020 8021 8260	2 0.1 5
Benzo[a]anthracene; Benzanthracene	56-55-3	Benzo[a]anthracene	8100 8270	200 10
Benzo[b]fluoranthene	205-99-2	Benzo[b]acephenanthrylene	8100 8270	200 10
Benzo[k]fluoranthene	207-06-9	Benzo[k]fluoranthene	8100 8270	200 10
Benzo[ghi]perylene	191-24-2	Benzo[ghi]perylene	8100 8270	200 10
Benzo[a]pyrene	50-32-8	Benzo[a]pyrene	8100 8270	200 10
Benzyl alcohol	100-51-6	Benzenemethanol	8270	20
Beryllium	(Total)	Beryllium	6010 7090 7091	3 50 2
alpha-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α,2α,3β,4α,5β,6β)-	8080 8270	0.05 10
beta-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α,2β,3α,4β,5α,6β)-	8080 8270	0.05 20
delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α,2α,3α,4β,5α,6β)-	8080 8270	0.1 20
gamma-BHC; Lindane	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1α,2α,3β,4α,5α,6β)-	8080 8270	0.05 20
Bis(2-chloroethoxy)methane	111-81-1	Ethane, 1,1'-(methylenedioxy)bis[2-chloro-	8110 8270	5 10
Bis(2-chloroethyl) ether; Dichloroethyl ether	111-44-4	Ethane, 1,1'-oxybis[2-chloro-	8110 8270	3 10
Bis-(2-chloro-1-methylethyl) ether; 2,2'-Dichlorodisopropyl ether; DCIP; See note 7	108-60-1	Propane, 2,2'-oxybis[1-chloro-	8110 8270	10 10
Bis(2-ethylhexyl) phthalate	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	8060	20
Bromochloromethane; Chlorobromomethane	74-97-5	Methane, bromochloro-	8021 8260	0.1 5
Bromodichloromethane; Dibromochloromethane	75-27-4	Methane, bromodichloro-	8010 8021 8260	1 0.2 5
Bromoform; Tribromomethane	75-25-2	Methane, tribromo-	8010 8021 8260	2 15 5
4-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy-	8110 8270	25 10
Butyl benzyl phthalate; Benzyl butyl phthalate	85-68-7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	8060 8270	5 10
Cadmium	(Total)	Cadmium	6010 7130 7131	40 50 1
Carbon disulfide	75-15-0	Carbon disulfide	8260	100
Carbon tetrachloride	58-23-5	Methane, tetrachloro-	8010 8021 8260	1 0.1 10
Chlordane	See Note 8	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	8080 8270	0.1 50
p-Chloroaniline	106-47-8	Benzenamine, 4-chloro-	8270	20
Chlorobenzene	108-90-7	Benzene, chloro-	8010 8020 8021 8260	2 2 0.1 5

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Common Name ²	CAS RN ³	Chemical abstracts service index name ⁴	Sug- gested methods ⁵	PQL (µ g/L) ⁶
Chlorobenzilate	510-15-6	Benzeneacetic acid, 4-chloro- <i>o</i> -(4-chlorophenyl)- <i>o</i> -hydroxy-, ethyl ester.	8270	10
<i>p</i> -Chloro- <i>m</i> -cresol; 4-Chloro-3-methyl-phenol.	59-50-7	Phenol, 4-chloro-3-methyl-	8040 8270	5 20
Chloroethane; Ethyl chloride	75-00-3	Ethane, chloro-	8010 8021 8260	5 1 10
Chloroform; Trichloromethane	67-66-3	Methane, trichloro-	8010 8021 8260	0.5 0.2 .. 5
2-Chloronaphthalene	91-58-7	Naphthalene, 2-chloro-	8120 8270	10 10
2-Chlorophenol	95-57-8	Phenol, 2-chloro-	8040 8270	5 10
4-Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy-	8110 8270	40 10
Chloroprene	126-99-8	1,3-Butadiene, 2-chloro-	8010 8260	50 20
Chromium	(Total)	Chromium	6010 7190 7191	70 500 10
Chrysene	218-01-9	Chrysene	8100 8270	200 10
Cobalt	(Total)	Cobalt	6010 7200 7201	70 500 10
Copper	(Total)	Copper	6010 7210 7211	60 200 10
<i>m</i> -Cresol; 3-methylphenol	108-38-4	Phenol, 3-methyl-	8270	10
<i>o</i> -Cresol; 2-methylphenol	95-48-7	Phenol, 2-methyl-	8270	10
<i>p</i> -Cresol; 4-methylphenol	108-44-6	Phenol, 4-methyl-	8270	10
Cyranide	57-12-5	Cyranide	9010	200
2,4-D; 2,4-Dichlorophenoxyacetic acid ..	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	8150	10
4,4'-DDD	72-54-8	Benzene 1,1'-(2,2-dichloroethyldene)bis[4-chloro-	8080 8270	0.1 10 ..
4,4'-DDE	72-55-9	Benzene, 1,1'-(dichloroethenyldene)bis[4-chloro-	8080 8270	0.05 10 ..
4,4'-DDT	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethyldene)bis[4-chloro-	8080 8270	0.1 10 ..
Diallate	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-,S-(2,3-dichloro-2-propenyl) ester.	8270	10
Dibenz[<i>a,h</i>]anthracene	53-70-3	Dibenz[<i>a,h</i>]anthracene	8100 8270	200 10
Dibenzofuran	132-84-9	Dibenzofuran	8270	10
Dibromochloromethane; Chlorodibromomethane.	124-48-1	Methane, dibromochloro-	8010 8021 8260	1 0.3 5
1,2-Dibromo-3-chloropropane; DBCP ..	96-12-8	Propane, 1,2-dibromo-3-chloro-	8011 8021 8260	0.1 30 .. 25 ..
1,2-Dibromoethane; Ethylene dibromide; EDB.	106-93-4	Ethane, 1,2-dibromo-	8011 8021 8260	0.1 10 .. 5
Di- <i>n</i> -butyl phthalate	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester.	8060 8270	5 10
<i>o</i> -Dichlorobenzene; 1,2- Dichlorobenzene.	95-50-1	Benzene, 1,2-dichloro-	8010 8020 8021 8120 8260 8270	2 5 0.5 10 .. 5 .. 10 ..
<i>m</i> -Dichlorobenzene; 1,3- Dichlorobenzene.	541-73-1	Benzene, 1,3-Dichloro-	8010 8020 8021 8120 8260 8270	5 5 0.2 10 .. 5 .. 10 ..

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Common Name ¹	CAS RN ²	Chemical abstracts service index name ⁴	Suggested methods ³	PQL (µg/L) ⁵
p-Dichlorobenzene; 1,4-Dichlorobenzene.	106-48-7	Benzene, 1,4-dichloro-	8010 8020 8021 8120 8280 8270	2 5 0.1 15 .. 5 .. 10 ..
3,3'-Dichlorobenzidine	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	8270	20
trans-1,4-Dichloro-2-butene	110-57-6	2-Butene, 1,4-dichloro-, (E)-	8280	100
Dichlorodifluoromethane; CFC 12;	75-71-8	Methane, dichlorodifluoro-	8021 8280	0.5 5
1,1-Dichloroethane; Ethylidene chloride.	75-34-3	Ethane, 1,1-dichloro-	8010 8021 8280	1 0.5 5
1,2-Dichloroethane; Ethylene dichloride	107-06-2	Ethane, 1,1-dichloro-	8010 8021 8280	0.5 0.3 .. 5
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride.	75-35-4	Ethene, 1,1-dichloro-	8010 8021 8280	1 0.5 5
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene.	156-59-2	Ethene, 1,2-dichloro-, (Z)-	8021 8280	0.2 5
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene.	156-60-5	Ethene, 1,2-dichloro-, (E)-	8010 8021 8280	1 0.5 5
2,4-Dichlorophenol	120-83-2	Phenol, 2,4-dichloro-	8040 8270	5 10
2,6-Dichlorophenol	87-85-0	Phenol, 2,6-dichloro-	8270	10
1,2-Dichloropropane; Propylene dichloride.	78-87-5	Propane, 1,2-dichloro-	8010 8021 8280	0.5 0.05 5
1,3-Dichloropropane; Trimethylene dichloride.	142-28-9	Propane, 1,3-dichloro-	8021 8280	0.3 5
2,2-Dichloropropane; Isopropylidene chloride.	504-20-7	Propane, 2,2-dichloro-	8021 8280	0.5 15
1,1-Dichloropropene	563-58-6	1-Propene, 1,1-dichloro-	8021 8280	0.2 5
cis-1,3-Dichloropropene	10061-01-5	1-Propene, 1,3-dichloro-, (Z)-	8010 8280	20 10
trans-1,3-Dichloropropene	10061-02-8	1-Propene, 1,3-dichloro-, (E)-	8010 8280	5 10
Dieldrin	60-57-1	2,7,3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,8,8a,7,7a-octahydro-, (1aα,2β,2αα,3β,6β,6αα,7β,7αα)-	8080 8270	0.05 10 ..
Diethyl phthalate	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester.	8060 8270	5 10
0,0-Diethyl phosphorothioate; Thionazin.	297-97-2	Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester.	8141 8270	5 20
Dimethoate	60-51-5	Phosphorothioic acid, 0,0-dimethyl S-[2-(methylamino)-2-oxoethyl] ester.	8141 8270	3 20
p-(Dimethylamino)azobenzene	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	8270	10
7,12-Dimethylbenz[a]anthracene	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	8270	10
3,3'-Dimethylbenzidine	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	8270	10
2,4-Dimethylphenol; m-Xylenol	105-67-9	Phenol, 2,4-dimethyl-	8040 8270	5 10
Dimethyl phthalate	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester.	8060 8270	5 10
m-Dinitrobenzene	99-65-0	Benzene, 1,3-dinitro-	8270	20
4,6-Dinitro-o-cresol 4,6-Dinitro-2-methylphenol.	534-52-1	Phenol, 2-methyl-4,6-dinitro	8040 8270	150 50
2,4-Dinitrophenol	51-28-5	Phenol, 2,4-dinitro-	8040 8270	150 50
2,4-Dinitrotoluene	121-14-2	Benzene, 1-methyl-2,4-dinitro-	8090 8270	0.2 10 ..
2,6-Dinitrotoluene	606-20-2	Benzene, 2-methyl-1,3-dinitro-	8090 8270	0.1 10 ..
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol.	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	8150 8270	1 20

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Common Name ²	CAS RN ³	Chemical abstracts service index name ⁴	Sug- gested methods ⁵	PQL (µg/L) ⁶
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester.	8080 8270	30 10
Diphenylamine	122-39-4	Benzenamine, N-phenyl	8270	10
Disulfoton	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester.	8140 8141 8270	2 0.5 10 ...
Endosulfan I	959-98-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexa-chloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide.	8080 8270	0.1 20 ...
Endosulfan II	33213-65-9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexa-chloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3a,5aa,6b,9b,9aa)-.	8080 8270	0.05 20 ...
Endosulfan sulfate	1031-07-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexa-chloro-1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide.	8080 8270	0.5 10 ...
Endrin	72-20-8	2,7,3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα, 2β, 2aβ, 3α, 6α, 6aβ, 7β, 7aα)-.	8080 8270	0.1 20 ...
Endrin aldehyde	7421-93-4	1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1α, 2β, 2aβ, 4β, 4aβ, 5β, 6aβ, 6bβ, 7R ⁺)-.	8080 8270	0.2 10 ...
Ethylbenzene	100-41-4	Benzene, ethyl-	8020 8221 8260	2 0.05 5 ...
Ethyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	8015 8260 8270	5 10 10
Ethyl methanesulfonate	62-50-0	Methanesulfonic acid, ethyl ester	8270	20
Famphur	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester.	8270	20
Fluoranthene	206-44-0	Fluoranthene	8100 8270	200 10
Fluorene	86-73-7	9H-Fluorene	8100 8270	200 10
Heptachlor	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aα, 1bβ, 2α, 5α, 5aβ, 6β, 6aα)-.	8080 8270 8080 8270	0.05 10 ... 1 10
Heptachlor epoxide	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirane, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aα, 1bβ, 2α, 5α, 5aβ, 6β, 6aα)-.	8080 8270	1 10
Hexachlorobenzene	118-74-1	Benzene, hexachloro-	8120 8270	0.5 10 ...
Hexachlorobutadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8021 8120 8260 8270	0.5 5 ... 10 ... 10 ...
Hexachlorocyclopentadiene	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	8120 8270	5 10
Hexachloroethane	67-72-1	Ethane, hexachloro-	8120 8260 8270	0.5 10 ... 10 ...
Hexachloropropene	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	8270	10
2-Hexanone; Methyl butyl ketone	591-78-6	2-Hexanone	8260	50
Indeno[1,2,3-cd]pyrene	193-39-5	Indeno[1,2,3-cd]pyrene	8100 8270	200 10
Isobutyl alcohol	78-83-1	1-Propanol, 2-methyl-	8015 8240	50 100
Isodrin	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1α, 4α, 4aβ, 5β, 8β, 8aβ)-.	8270 8260	20 10
Isophorone	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-	8090 8270	60 10
Isosaliclic	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	8270	10
Kapone	142-50-0	1,3,4-Methano-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,5c-decachlorodecahydro-	8270	20

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Common Name ²	CAS RN ³	Chemical abstracts service index name ⁴	Suggested methods ⁵	PCL (µ g/L) ⁶
Lead	(Total)	Lead	6010 7420 7421	400 1000 10
Mercury	(Total)	Mercury	7470	2
Methacrylonitrile	126-98-7	2-Propenenitrile, 2-methyl-	8015 8260	5 100
Methapyrene	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N ¹ -2-pyridinyl-N ¹ /2-thienylmethyl-	8270	100
Methoxychlor	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-	8080 8270	2 10
Methyl bromide; Bromomethane	74-83-9	Methane, bromo-	8010 8021	20 10
Methyl chloride; Chloromethane	74-87-3	Methane, chloro-	8010 8021	1 0.3
3-Methylchoanthrene	56-49-5	Benz[a]aceanthrylene, 1,2-dihydro-3-methyl-	8270	10
Methyl ethyl ketone; MEK; 2-Butanone	78-93-3	2-Butanone	8015 8260	10 100
Methyl iodide; Iodomethane	74-88-4	Methane, iodo-	8010 8260	40 10
Methyl methacrylate	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	8015 8260	2 30
Methyl methanesulfonate	65-27-3	Methanesulfonic acid, methyl ester	8270	10
2-Methylnaphthalene	91-57-6	Naphthalene, 2-methyl-	8270	10
Methyl parathion; Parathion methyl	298-00-0	Phosphorothioic acid, 0,0-dimethyl	8140 8141	0.5 1
4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1	2-Pentanone, 4-methyl-	8270 8015 8260	10 5 100
Methylene bromide; Dibromomethane	74-95-3	Methane, dibromo-	8010 8021	15 20
Methylene chloride; Dichloromethane	75-09-2	Methane, dichloro-	8260 8010 8021	10 5 0.2
Naphthalene	91-20-3	Naphthalene	8260 8021 8100 8260	10 0.5 200 5
1,4-Naphthoquinone	130-15-4	1,4-Naphthalenedione	8270	10
1-Naphthylamine	134-32-7	1-Naphthalenamine	8270	10
2-Naphthylamine	91-59-8	2-Naphthalenamine	8270	10
Nickel	(Total)	Nickel	6010 7520	150 400
o-Nitroaniline; 2-Nitroaniline	88-74-4	Benzenamine, 2-nitro-	8270	50
m-Nitroaniline; 3-Nitroaniline	99-09-2	Benzenamine, 3-nitro-	8270	50
p-Nitroaniline; 4-Nitroaniline	100-01-6	Benzenamine, 4-nitro-	8270	20
Nitrobenzene	98-95-3	Benzene, nitro-	8090 8270	40 10
o-Nitrophenol; 2-Nitrophenol	88-75-5	Phenol, 2-nitro-	8040 8270	5 10
p-Nitrophenol; 4-Nitrophenol	100-02-7	Phenol, 4-nitro-	8040 8270	10 50
N-Nitrosodi-n-butylamine	924-16-3	1-Butanamine, N-butyl-N-nitroso-	8270	10
N-Nitrosodiethylamine	55-18-5	Ethanamine, N-ethyl-N-nitroso-	8270	20
N-Nitrosodimethylamine	62-75-9	Methanamine, N-methyl-N-nitroso-	8070	2
N-Nitrosodiphenylamine	86-30-8	Benzenamine, N-nitroso-N-phenyl-	8070	5
N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine	621-64-7	1-Propanamine, N-nitroso-N-propyl-	8070	10
N-Nitrosomethyl ethylamine	10595-85-8	Ethanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosopiperidine	100-75-4	Piperidine, 1-nitroso-	8270	20
N-Nitrosopyrrolidine	930-55-2	Pyrrolidine, 1-nitroso-	8270	40
5-Nitro-o-toluidine	99-55-8	Benzenamine, 2-methyl-5-nitro-	8270	10
Parathion	56-38-2	Phosphorothioic acid, 0,0-diethyl 0-(4-nitrophenyl) ester	8141 8270	0.5 10
Pentachlorobenzene	608-93-5	Benzene, pentachloro-	8270	10
Pentachloronitrobenzene	82-68-8	Benzene, pentachloronitro-	8270	20
Pentachlorophenol	87-86-5	Phenol, pentachloro-	8040	5
Phenacetin	62-44-2	Acetamide, N-(4-ethoxyphenyl)	8270	50
Phenanthrene	85-01-8	Phenanthrene	8100 8270	200 10

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Common Name ²	CAS RN ³	Chemical abstracts service index name ⁴	Sug- gested methods ⁵	PQL (µg/L) ⁶
Phenol	108-55-2	Phenol	8040	1
p-Phenylenediamine	106-50-3	1,4-Benzenediamine	8270	10
Phorate	298-02-2	Phosphorodithioic acid, 0,0-diethyl S- [[ethylthio)methyl] ester.	8140 8141 8270	2 0.5 10
Polychlorinated biphenyls; PCBs; Aroclors.	See Note 9	1,1'-Biphenyl, chloro derivatives	8080 8270	50 200
Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-di- methyl-2-propenyl)-.	8270	10
Propionitrile; Ethyl cyanide	107-12-0	Propanenitrile	8015 8260	60 150
Pyrene	129-00-0	Pyrene	8100 8270	200 10
Safrole	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	8270	10
Selenium	(Total)	Selenium	8010 7740 7741	750 20 20
Silver	(Total)	Silver	8010 7760 7761	70 100 10
Silvex; 2,4,5-TP	93-72-1	Propanoic acid, 2-(2,4,5- trichlorophenoxy)-.	8150	2
Styrene	100-42-5	Benzene, ethenyl-	8020 8021 8260	1 0.1 10
Sulfide	18496-25-8	Sulfide	9030	4000
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid.	93-76-6	Acetic acid, (2,4,5-trichlorophenoxy)-	8150	2
1,2,4,5-Tetrachlorobenzene	95-94-3	Benzene, 1,2,4,5-tetrachloro-	8270	10
1,1,1,2-Tetrachloroethane	630-20-6	Ethane, 1,1,1,2-tetrachloro-	8010 8021 8260	5 0.05 5
1,1,2,2-Tetrachloroethane	79-34-5	Ethane, 1,1,2,2-tetrachloro-	8010 8021 8260	0.5 0.1 5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene.	127-18-4	Ethene, tetrachloro-	8010 8021 8260	0.5 0.5 5
2,3,4,6-Tetrachlorophenol	58-90-2	Phenol, 2,3,4,6-tetrachloro-	8270	10
Thallium	(Total)	Thallium	8010 7840 7841	400 1000 10
Tin	(Total)	Tin	8010	40
Toluene	108-88-3	Benzene, methyl-	8020 8021 8260	2 0.1 5
o-Toluidine	95-53-4	Benzenamine, 2-methyl-	8270	10
Toxaphene	See Note 10	Toxaphene	8080	2
1,2,4-Trichlorobenzene	120-82-1	Benzene, 1,2,4-trichloro-	8021 8120 8260 8270	0.3 0.5 10 10
1,1,1-Trichloroethane; Methylchloroform	71-55-6	Ethane, 1,1,1-trichloro-	8010 8021 8260	0.3 0.3 5
1,1,2-Trichloroethane	79-00-5	Ethane, 1,1,2-trichloro-	8010 8260	0.2 5
Trichloroethylene; Trichloroethene	79-01-6	Ethene, trichloro-	8010 8021 8260	1 0.2 5
Trichlorofluoromethane; CFC-11	75-89-4	Methane, trichlorofluoro-	8010 8021 8260	10 0.3 5
2,4,5-Trichlorophenol	95-95-4	Phenol, 2,4,5-trichloro-	8270	10
2,4,6-Trichlorophenol	88-06-2	Phenol, 2,4,6-trichloro-	8040 8270	5 10
1,2,3-Trichloropropane	98-18-4	Propane, 1,2,3-trichloro-	8010 8021 8260	10 5 15
0,0,0-Triethyl phosphorothioate	126-68-1	Phosphorothioic acid, 0,0,0-triethyl ester	8270	10
sym-Trinitrobenzene	99-35-4	Benzene, 1,3,5-trinitro-	8270	10

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Common Name ²	CAS RN ³	Chemical abstracts service index name ⁴	Sug- gested methods ⁵	PQL (µ g/L) ⁶
Vanadium	(Total)	Vanadium	8010 7910 7911	80 2000 40
Vinyl acetate	108-05-4	Acetic acid, ethenyl ester	8260	50
Vinyl chloride; Chloroethene	75-01-4	Ethene, chloro-	8010 8021 8260	2 0.4 10 ...
Xylene (total)	See Note 11	Benzene, dimethyl-	8020 8021 8260	5 0.2 5 ...
Zinc	(Total)	Zinc	8010 7950 7951	20 50 0.5

Notes
¹ The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.
² Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.
³ Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.
⁴ CAS index are those used in the 9th Collective Index.
⁵ Suggested Methods refer to analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste", third edition, November 1985, as revised, December 1987. Analytical details can be found in SW-846 and in documentation on file at the agency. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable method(s) for monitoring an analyte under the regulations.
⁶ Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 mL samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.
⁷ This substance is often called Bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2'-oxybis[2-chloro-] (CAS RN 39838-32-9).
⁸ Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6). PQL shown is for technical chlordane. PQLs of specific isomers are about 20 µg/L by method 8270.
⁹ Polychlorinated biphenyls (CAS RN 1335-36-3); this category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor 1221 (CAS RN 11104-28-2), Aroclor 1232 (CAS RN 11141-18-5), Aroclor 1242 (CAS RN 53469-21-8), Aroclor 1248 (CAS RN 12672-29-6), Aroclor 1254 (CAS RN 11097-69-1), and Aroclor 1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.
¹⁰ Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphens.
¹¹ Xylene (total): This entry includes o-xylene (CAS RN 98-47-8), m-xylene (CAS RN 106-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7). PQLs for method 8021 are 0.2 for o-xylene and 0.1 for m- or p-xylene. The PQL for m-xylene is 2.0 µg/L by method 8020 or 8260.

History: Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).

Appendix II
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Adopted by reference, in its entirety, at § 65-80-301 of this chapter

PART 257—CRITERIA FOR CLASSIFICATION OF SOLID WASTE DISPOSAL FACILITIES AND PRACTICES

Subpart A—Classification of Solid Waste Disposal Facilities and Practices

Sec.

- 257.1 Scope and purpose.
- 257.2 Definitions.
- 257.3 Criteria for classification of solid waste disposal facilities and practices.
 - 257.3-1 Floodplains.
 - 257.3-2 Endangered species.
 - 257.3-3 Surface water.
 - 257.3-4 Ground water.
 - 257.3-5 Application to land used for the production of food-chain crops (interim final).
 - 257.3-6 Disease.
 - 257.3-7 Air.
 - 257.3-8 Safety.
- 257.4 Effective date.

Subpart B—Disposal Standards for the Receipt of Conditionally Exempt Small Quantity Generator (CESQG) Wastes at Non-Municipal Non-Hazardous Waste Disposal Units

- 257.5 Disposal standards for owners/operators of non-municipal non-hazardous waste disposal units that receive Conditionally Exempt Small Quantity Generator (CESQG) waste.

LOCATION RESTRICTIONS

- 257.7 [Reserved]
- 257.8 Floodplains.
- 257.9 Wetlands.
- 257.10-257.12 [Reserved]
- 257.13 Deadline for making demonstrations.

GROUND-WATER MONITORING AND CORRECTIVE ACTION

- 257.21 Applicability.
- 257.22 Ground-water monitoring systems.
- 257.23 Ground-water sampling and analysis requirements.
- 257.24 Detection monitoring program.
- 257.25 Assessment monitoring program.
- 257.26 Assessment of corrective measures.
- 257.27 Selection of remedy.
- 257.28 Implementation of the corrective action program.
- 257.29 [Reserved]

RECORDKEEPING REQUIREMENTS

- 257.30 Recordkeeping requirements.
- APPENDIX I TO PART 257—MAXIMUM CONTAMINANT LEVELS (MCLs)
APPENDIX II TO PART 257

AUTHORITY: 42 U.S.C. 6907(a)(3), 6912(a)(1), 6944(a) and 6949(c), 33 U.S.C. 1345 (d) and (e).

SOURCE: 44 FR 53460, Sept. 13, 1979, unless otherwise noted.

Subpart A—Classification of Solid Waste Disposal Facilities and Practices

§257.1 Scope and purpose.

(a) Unless otherwise provided, the criteria in §§257.1 through 257.4 are adopted for determining which solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment under sections 1008(a)(3) and 4004(a) of the Resource Conservation and Recovery Act (The Act). Unless otherwise provided, the criteria in §§257.5 through 257.30 are adopted for purposes of ensuring that non-municipal non-hazardous waste disposal units that receive conditionally exempt small quantity generator (CESQG) waste do not present risks to human health and the environment taking into account the practicable capability of such units in accordance with section 4010(c) of the Act.

(1) Facilities failing to satisfy either the criteria in §§257.1 through 257.4 or §§257.5 through 257.30 are considered open dumps, which are prohibited under section 4005 of the Act.

(2) Practices failing to satisfy either the criteria in §§257.1 through 257.4 or §§257.5 through 257.30 constitute open dumping, which is prohibited under section 4005 of the Act.

(b) These criteria also provide guidelines for the disposal of sewage sludge on the land when the sewage sludge is not used or disposed through a practice regulated in 40 CFR part 503.

(c) These criteria apply to all solid waste disposal facilities and practices with the following exceptions:

(1) The criteria do not apply to agricultural wastes, including manures and crop residues, returned to the soil as fertilizers or soil conditioners.

(2) The criteria do not apply to overburden resulting from mining operations intended for return to the mine site.

(3) The criteria do not apply to the land application of domestic sewage or treated domestic sewage.

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(4) The criteria do not apply to the location and operation of septic tanks. The criteria do, however, apply to the disposal of septic tank pumpings.

(5) The criteria do not apply to solid or dissolved materials in irrigation return flows.

(6) The criteria do not apply to industrial discharges which are point sources subject to permits under section 402 of the Clean Water Act, as amended.

(7) The criteria do not apply to source, special nuclear or byproduct material as defined by the Atomic Energy Act, as amended (68 Stat. 923).

(8) The criteria do not apply to hazardous waste disposal facilities which are subject to regulation under subtitle C of the Act.

(9) The criteria do not apply to disposal of solid waste by underground well injection subject to the regulations (40 CFR part 146) for the Underground Injection Control Program (UICP) under the Safe Drinking Water Act, as amended, 42 U.S.C. 3007 *et seq.*

(10) The criteria of this part do not apply to municipal solid waste landfill units, which are subject to the revised criteria contained in part 258 of this chapter.

(11) The criteria do not apply to the use or disposal sewage sludge on the land when the sewage sludge is used or disposed in accordance with 40 CFR part 503.

[44 FR 53460, Sept. 13, 1979, as amended at 46 FR 47052, Sept. 23, 1981; 56 FR 51016, Oct. 9, 1991; 58 FR 9385, Feb. 19, 1993; 61 FR 34269, July 1, 1996]

§ 257.2 Definitions.

The definitions set forth in section 1004 of the Act apply to this part. Special definitions of general concern to this part are provided below, and definitions especially pertinent to particular sections of this part are provided in those sections.

Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged

into any waters, including ground waters.

Domestic septage is either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant.

Facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste.

Land application unit means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment and disposal.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.

Leachate means liquid that has passed through or emerged from solid waste and contains soluble, suspended or miscible materials removed from such wastes.

Municipal solid waste landfill (MSWLF) unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined in this section. A MSWLF unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, and industrial solid waste. Such a landfill may be publicly or privately owned. An MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion.

Open dump means a facility for the disposal of solid waste which does not comply with this part.

Practice means the act of disposal of solid waste.

Sanitary landfill means a facility for the disposal of solid waste which complies with this part.

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Sewage sludge means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Sludge means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect.

Solid waste means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

State means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Surface impoundment or *impoundment* means a facility or part of a facility that is a natural topographic depression, human-made excavation, or diked area formed primarily of earthen materials (although it may be lined with human-made materials), that is designed to hold an accumulation of liquid wastes or wastes containing free liquids and that is not an injection

well. Examples of surface impoundments are holding storage, settling, and aeration pits, ponds, and lagoons.

Waste pile or *pile* means any non-containerized accumulation of solid, nonflowing waste that is used for treatment or storage.

[44 FR 53460, Sept. 13, 1979; 44 FR 58910, Oct. 12, 1979; 56 FR 51016, Oct. 9, 1991; 58 FR 9385, Feb. 19, 1993]

§ 257.3 Criteria for classification of solid waste disposal facilities and practices.

Solid waste disposal facilities or practices which violate any of the following criteria pose a reasonable probability of adverse effects on health or the environment:

§ 257.3-1 Floodplains.

(a) Facilities or practices in floodplains shall not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste, so as to pose a hazard to human life, wildlife, or land or water resources.

(b) As used in this section:

(1) *Based flood* means a flood that has a 1 percent or greater chance of recurring in any year or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(2) *Floodplain* means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, which are inundated by the base flood.

(3) *Washout* means the carrying away of solid waste by waters of the base flood.

[44 FR 53460, Sept. 13, 1979; 44 FR 54708, Sept. 21, 1979]

§ 257.3-2 Endangered species.

(a) Facilities or practices shall not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife.

(b) The facility or practice shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species as identified in 50 CFR part 17.

(c) As used in this section:

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(1) *Endangered or threatened species* means any species listed as such pursuant to section 4 of the Endangered Species Act.

(2) *Destruction or adverse modification* means a direct or indirect alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(3) *Taking* means harassing, harming, pursuing, hunting, wounding, killing, trapping, capturing, or collecting or attempting to engage in such conduct.

§ 257.3-3 Surface water.

(a) For purposes of section 4004(a) of the Act, a facility shall not cause a discharge of pollutants into waters of the United States that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES) under section 402 of the Clean Water Act, as amended.

(b) For purposes of section 4004(a) of the Act, a facility shall not cause a discharge of dredged material or fill material to waters of the United States that is in violation of the requirements under section 404 of the Clean Water Act, as amended.

(c) A facility or practice shall not cause non-point source pollution of waters of the United States that violates applicable legal requirements implementing an areawide or Statewide water quality management plan that has been approved by the Administrator under section 208 of the Clean Water Act, as amended.

(d) Definitions of the terms *Discharge of dredged material*, *Point source*, *Pollutant*, *Waters of the United States*, and *Wetlands* can be found in the Clean Water Act, as amended, 33 U.S.C. 1251 *et seq.*, and implementing regulations, specifically 33 CFR part 323 (42 FR 37122, July 19, 1977).

[44 FR 53460, Sept. 13, 1979, as amended at 46 FR 47052, Sept. 23, 1981]

§ 257.3-4 Ground water.

(a) A facility or practice shall not contaminate an underground drinking water source beyond the solid waste boundary or beyond an alternative boundary specified in accordance with paragraph (b) of this section.

(b)(1) For purposes of section 1008(a)(3) of the Act or section 405(d) of the CWA, a party charged with open dumping or a violation of section 405(e) with respect to sewage sludge that is not used or disposed through a practice regulated in 40 CFR part 503 may demonstrate that compliance should be determined at an alternative boundary in lieu of the solid waste boundary. The court shall establish an alternative boundary only if it finds that such a change would not result in contamination of ground water which may be needed or used for human consumption. This finding shall be based on analysis and consideration of all of the following factors that are relevant:

(i) The hydrogeological characteristics of the facility and surrounding land, including any natural attenuation and dilution characteristics of the aquifer;

(ii) The volume and physical and chemical characteristics of the leachate;

(iii) The quantity, quality, and direction of flow of ground water underlying the facility;

(iv) The proximity and withdrawal rates of ground-water users;

(v) The availability of alternative drinking water supplies;

(vi) The existing quality of the ground water, including other sources of contamination and their cumulative impacts on the ground water;

(vii) Public health, safety, and welfare effects.

(2) For purposes of sections 4004(a) and 1008(a)(3), the State may establish an alternative boundary for a facility to be used in lieu of the solid waste boundary only if it finds that such a change would not result in the contamination of ground water which may be needed or used for human consumption. Such a finding shall be based on an analysis and consideration of all of the factors identified in paragraph (b)(1) of this section that are relevant.

(c) As used in this section:

(1) *Aquifer* means a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of ground water to wells or springs.

(2) *Contaminate* means introduce a substance that would cause:

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(i) The concentration of that substance in the ground water to exceed the maximum contaminant level specified in appendix I, or

(ii) An increase in the concentration of that substance in the ground water where the existing concentration of that substance exceeds the maximum contaminant level specified in appendix I.

(3) *Ground water* means water below the land surface in the zone of saturation.

(4) *Underground drinking water source* means:

(i) An aquifer supplying drinking water for human consumption, or

(ii) An aquifer in which the ground water contains less than 10,000 mg/l total dissolved solids.

(5) *Solid waste boundary* means the outermost perimeter of the solid waste (projected in the horizontal plane) as it would exist at completion of the disposal activity.

[44 FR 53460, Sept. 13, 1979, as amended at 46 FR 47052, Sept. 23, 1981; 58 FR 9386, Feb. 19, 1993]

§ 257.3-5 Application to land used for the production of food-chain crops (interim final).

(a) *Cadmium.* A facility or practice concerning application of solid waste to within one meter (three feet) of the surface of land used for the production of food-chain crops shall not exist or occur, unless in compliance with all requirements of paragraphs (a)(1) (i) through (iii) of this section or all requirements of paragraphs (a)(2) (i) through (iv) of this section.

(1)(i) The pH of the solid waste and soil mixture is 6.5 or greater at the time of each solid waste application, except for solid waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less.

(ii) The annual application of cadmium from solid waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables or root crops grown for human consumption. For other food-chain crops, the annual cadmium application rate does not exceed:

Time period	Annual Cd application rate (kg/ha)
Present to June 30, 1984	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

(iii) The cumulative application of cadmium from solid waste does not exceed the levels in either paragraph (a)(1)(iii)(A) or (B) of this section.

(A)

Soil cation exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)	
	Background soil pH less than 6.5	Background soil pH more than 6.5
Less than 5	5	5
5 to 15	5	10
More than 15	5	20

(B) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: *Provided*, That the pH of the solid waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food-chain crops are grown.

Soil cation exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
Less than 5	5
5 to 15	10
More than 15	20

(2)(i) The only food-chain crop produced is animal feed.

(ii) The pH of the solid waste and soil mixture is 6.5 or greater at the time of solid waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food-chain crops are grown.

(iii) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(iv) Future property owners are notified by a stipulation in the land record or property deed which states that the property has received solid waste at high cadmium application rates and

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that food-chain crops should not be grown, due to a possible health hazard.

(b) *Polychlorinated Biphenyls (PCBs)*. Solid waste containing concentrations of PCBs equal to or greater than 10 mg/kg (dry weight) is incorporated into the soil when applied to land used for producing animal feed, including pasture crops for animals raised for milk. Incorporation of the solid waste into the soil is not required if it is assured that the PCB content is less than 0.2 mg/kg (actual weight) in animal feed or less than 1.5 mg/kg (fat basis) in milk.

(c) As used in this section:

(1) *Animal feed* means any crop grown for consumption by animals, such as pasture crops, forage, and grain.

(2) *Background soil pH* means the pH of the soil prior to the addition of substances that alter the hydrogen ion concentration.

(3) *Cation exchange capacity* means the sum of exchangeable cations a soil can absorb expressed in milli-equivalents per 100 grams of soil as determined by sampling the soil to the depth of cultivation or solid waste placement, whichever is greater, and analyzing by the summation method for distinctly acid soils or the sodium acetate method for neutral, calcareous or saline soils ("Methods of Soil Analysis, Agronomy Monograph No. 9." C. A. Black, ed., American Society of Agronomy, Madison, Wisconsin, pp 891-901, 1965).

(4) *Food-chain crops* means tobacco, crops grown for human consumption, and animal feed for animals whose products are consumed by humans.

(5) *Incorporated into the soil* means the injection of solid waste beneath the surface of the soil or the mixing of solid waste with the surface soil.

(6) *Pasture crops* means crops such as legumes, grasses, grain stubble and stover which are consumed by animals while grazing.

(7) *pH* means the logarithm of the reciprocal of hydrogen ion concentration.

(8) *Root crops* means plants whose edible parts are grown below the surface of the soil.

(9) *Soil pH* is the value obtained by sampling the soil to the depth of cultivation or solid waste placement, whichever is greater, and analyzing by the electrometric method. ("Methods

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of Soil Analysis, Agronomy Monograph No. 9." C.A. Black, ed., American Society of Agronomy, Madison, Wisconsin, pp. 914-926, 1965.)

[44 FR 53460, Sept. 13, 1979; 44 FR 54708, Sept. 21, 1979]

§ 257.3-6 Disease.

(a) *Disease Vectors*. The facility or practice shall not exist or occur unless the on-site population of disease vectors is minimized through the periodic application of cover material or other techniques as appropriate so as to protect public health.

(b) *Sewage sludge and septic tank pumpings (Interim Final)*. A facility or practice involving disposal of sewage sludge or septic tank pumpings shall not exist or occur unless in compliance with paragraphs (b) (1), (2) or (3) of this section.

(1) Sewage sludge that is applied to the land surface or is incorporated into the soil is treated by a Process to Significantly Reduce Pathogens prior to application or incorporation. Public access to the facility is controlled for at least 12 months, and grazing by animals whose products are consumed by humans is prevented for at least one month. Processes to Significantly Reduce Pathogens are listed in appendix II, section A. (These provisions do not apply to sewage sludge disposed of by a trenching or burial operation.)

(2) Septic tank pumpings that are applied to the land surface or incorporated into the soil are treated by a Process to Significantly Reduce Pathogens (as listed in appendix II, section A), prior to application or incorporation, unless public access to the facility is controlled for at least 12 months and unless grazing by animals whose products are consumed by humans is prevented for at least one month. (These provisions do not apply to septic tank pumpings disposed of by a trenching or burial operation.)

(3) Sewage sludge or septic tank pumpings that are applied to the land surface or are incorporated into the soil are treated by a Process to Further Reduce Pathogens, prior to application or incorporation, if crops for direct human consumption are grown within 18 months subsequent to application or

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incorporation. Such treatment is not required if there is no contact between the solid waste and the edible portion of the crop; however, in this case the solid waste is treated by a Process to Significantly Reduce Pathogens, prior to application; public access to the facility is controlled for at least 12 months; and grazing by animals whose products are consumed by humans is prevented for at least one month. If crops for direct human consumption are not grown within 18 months of application or incorporation, the requirements of paragraphs (b) (1) and (2) of this section apply. Processes to Further Reduce Pathogens are listed in appendix II, section B.

(c) As used in this section:

(1) *Crops for direct human consumption* means crops that are consumed by humans without processing to minimize pathogens prior to distribution to the consumer.

(2) *Disease vector* means rodents, flies, and mosquitoes capable of transmitting disease to humans.

(3) *Incorporated into the soil* means the injection of solid waste beneath the surface of the soil or the mixing of solid waste with the surface soil.

(4) *Periodic application of cover material* means the application and compaction of soil or other suitable material over disposed solid waste at the end of each operating day or at such frequencies and in such a manner as to reduce the risk of fire and to impede vectors access to the waste.

(5) *Trenching or burial operation* means the placement of sewage sludge or septic tank pumpings in a trench or other natural or man-made depression and the covering with soil or other suitable material at the end of each operating day such that the wastes do not migrate to the surface.

[44 FR 53460, Sept. 13, 1979; 44 FR 54708, Sept. 21, 1979]

§ 257.3-7 Air.

(a) The facility or practice shall not engage in open burning of residential, commercial, institutional or industrial solid waste. This requirement does not apply to infrequent burning of agricultural wastes in the field, silvicultural wastes for forest management pur-

poses, land-clearing debris, diseased trees, debris from emergency clean-up operations, and ordnance.

(b) For purposes of section 4004(a) of the Act, the facility shall not violate applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to section 110 of the Clean Air Act, as amended.

(c) As used in this section "open burning" means the combustion of solid waste without (1) control of combustion air to maintain adequate temperature for efficient combustion, (2) containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and (3) control of the emission of the combustion products.

[44 FR 53460, Sept. 13, 1979; 44 FR 54708, Sept. 21, 1979, as amended at 46 FR 47052, Sept. 23, 1981]

§ 257.3-8 Safety.

(a) *Explosive gases*. The concentration of explosive gases generated by the facility or practice shall not exceed:

(1) Twenty-five percent (25%) of the lower explosive limit for the gases in facility structures (excluding gas control or recovery system components); and

(2) The lower explosive limit for the gases at the property boundary.

(b) *Fires*. A facility or practice shall not pose a hazard to the safety of persons or property from fires. This may be accomplished through compliance with § 257.3-7 and through the periodic application of cover material or other techniques as appropriate.

(c) *Bird hazards to aircraft*. A facility or practice disposing of putrescible wastes that may attract birds and which occurs within 10,000 feet (3,048 meters) of any airport runway used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway used by only piston-type aircraft shall not pose a bird hazard to aircraft.

(d) *Access*. A facility or practice shall not allow uncontrolled public access so as to expose the public to potential health and safety hazards at the disposal site.

(e) As used in this section:

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(1) *Airport* means public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.

(2) *Bird hazard* means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

(3) *Explosive gas* means methane (CH₄).

(4) *Facility structures* means any buildings and sheds or utility or drainage lines on the facility.

(5) *Lower explosive limit* means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at 25 °C and atmospheric pressure.

(6) *Periodic application of cover material* means the application and compaction of soil or other suitable material over disposed solid waste at the end of each operating day or at such frequencies and in such a manner as to reduce the risk of fire and to impede disease vectors' access to the waste.

(7) *Putrescible wastes* means solid waste which contains organic matter capable of being decomposed by microorganisms and of such a character and proportion as to be capable of attracting or providing food for birds.

§ 257.4 Effective date.

These criteria become effective October 15, 1979.

Subpart B—Disposal Standards for the Receipt of Conditionally Exempt Small Quantity Generator (CESQG) Wastes at Non-Municipal Non-Hazardous Waste Disposal Units

SOURCE: 61 FR 34269, July 1, 1996, unless otherwise noted.

§ 257.5 Disposal standards for owners/operators of non-municipal non-hazardous waste disposal units that receive Conditionally Exempt Small Quantity Generator (CESQG) waste.

(a) *Applicability.* (1) The requirements in this section apply to owners/operators of any non-municipal non-hazardous waste disposal unit that receives CESQG hazardous waste, as defined in 40 CFR 261.5. Non-municipal

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non-hazardous waste disposal units that meet the requirements of this section may receive CESQG wastes. Any owner/operator of a non-municipal non-hazardous waste disposal unit that receives CESQG hazardous waste continues to be subject to the requirements in §§ 257.3-2, 257.3-3, 257.3-5, 257.3-6, 257.3-7, and 257.3-8 (a), (b), and (d).

(2) Any non-municipal non-hazardous waste disposal unit that is receiving CESQG hazardous waste as of January 1, 1998, must be in compliance with the requirements in §§ 257.7 through 257.13 and § 257.30 by January 1, 1998, and the requirements in §§ 257.21 through 257.28 by July 1, 1998.

(3) Any non-municipal non-hazardous waste disposal unit that does not meet the requirements in this section may not receive CESQG wastes.

(4) Any non-municipal non-hazardous waste disposal unit that is not receiving CESQG Hazardous waste as of January 1, 1998, continues to be subject to the requirements in §§ 257.1 through 257.4.

(5) Any non-municipal non-hazardous waste disposal unit that first receives CESQG hazardous waste after January 1, 1998, must be in compliance with §§ 257.7 through 257.30 prior to the receipt of CESQG hazardous waste.

(b) *Definitions.*

Active life means the period of operation beginning with the initial receipt of solid waste and ending at the final receipt of solid waste.

Existing unit means any non-municipal non-hazardous waste disposal unit that is receiving CESQG hazardous waste as of January 1, 1998.

Facility means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of non-municipal non-hazardous waste.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing non-municipal non-hazardous waste disposal unit.

New unit means any non-municipal non-hazardous waste disposal unit that has not received CESQG hazardous waste prior to January 1, 1998.

State means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American

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Samoa, and the Commonwealth of the Northern Mariana Islands.

State Director means the chief administrative officer of the lead state agency responsible for implementing the state permit program for 40 CFR part 257, subpart B and 40 CFR part 258 regulated facilities.

Waste management unit boundary means a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

[61 FR 34269, July 1, 1996, as amended at 63 FR 57044, Oct. 23, 1998]

LOCATION RESTRICTIONS

§ 257.7 [Reserved]

§ 257.8 Floodplains.

(a) Owners or operators of new units, existing units, and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record.

(b) For purposes of this section:

(1) *Floodplain* means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(2) *100-year flood* means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(3) *Washout* means the carrying away of solid waste by waters of the base flood.

§ 257.9 Wetlands.

(a) Owners or operators of new units and lateral expansions shall not locate such units in wetlands, unless the owner or operator can make the following demonstrations to the Director of an approved State:

(1) Where applicable under section 404 of the Clean Water Act or applicable State wetlands laws, the presumption that a practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted;

(2) The construction and operation of the unit will not:

(i) Cause or contribute to violations of any applicable State water quality standard;

(ii) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act;

(iii) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973; and

(iv) Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary;

(3) The unit will not cause or contribute to significant degradation of wetlands. The owner/operator must demonstrate the integrity of the unit and its ability to protect ecological resources by addressing the following factors:

(i) Erosion, stability, and migration potential of native wetland soils, mounds and deposits used to support the unit;

(ii) Erosion, stability, and migration potential of dredged and fill materials used to support the unit;

(iii) The volume and chemical nature of the waste managed in the unit;

(iv) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of the waste;

(v) The potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(vi) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under section 404 of the Clean Water Act or applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum

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extent practicable as required by paragraph (a)(1) of this section, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and

(5) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

(b) For purposes of this section, wetlands means those areas that are defined in 40 CFR 232.2(r).

§§ 257.10-257.12 [Reserved]

§ 257.13 Deadline for making demonstrations.

Existing units that cannot make the demonstration specified in §257.8(a) pertaining to floodplains by January 1, 1998, must not accept CESQG hazardous waste for disposal.

GROUND-WATER MONITORING AND
CORRECTIVE ACTION

§ 257.21 Applicability.

(a) The requirements in this section apply to units identified in §257.5(a), except as provided in paragraph (b) of this section.

(b) Ground-water monitoring requirements under §§257.22 through 257.25 may be suspended by the Director of an approved State for a unit identified in §257.5(a) if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that unit to the uppermost aquifer during the active life of the unit plus 30 years. This demonstration must be certified by a qualified ground-water scientist and approved by the Director of an approved State, and must be based upon:

(1) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport; and

(2) Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and environment.

(c) Owners and operators of facilities identified in §257.5(a) must comply

with the ground-water monitoring requirements of this section according to the following schedule unless an alternative schedule is specified under paragraph (d) of this section:

(1) Existing units and lateral expansions must be in compliance with the ground-water monitoring requirements specified in §§257.22 through 257.25 by July 1, 1998.

(2) New units identified in §257.5(a) must be in compliance with the ground-water monitoring requirements specified in §§257.22 through 257.25 before waste can be placed in the unit.

(d) The Director of an approved State may specify an alternative schedule for the owners or operators of existing units and lateral expansions to comply with the ground-water monitoring requirements specified in §§257.22 through 257.25. This schedule must ensure that 50 percent of all existing units are in compliance by July 1, 1998, and all existing units are in compliance by July 1, 1999. In setting the compliance schedule, the Director of an approved State must consider potential risks posed by the unit to human health and the environment. The following factors should be considered in determining potential risk:

(1) Proximity of human and environmental receptors;

(2) Design of the unit;

(3) Age of the unit;

(4) The size of the unit; and

(5) Resource value of the underlying aquifer, including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users; and

(iii) Ground-water quality and quantity.

(e) Once established at a unit, ground-water monitoring shall be conducted throughout the active life plus 30 years. The Director of an approved State may decrease the 30 year period if the owner/operator demonstrates that a shorter period of time is adequate to protect human health and the environment and the Director approves the demonstration.

(f) For the purposes of this section, a qualified ground-water scientist is a scientist or engineer who has received

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a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in ground-water hydrology and related fields as may be demonstrated by State registration, professional Certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding ground-water monitoring, contaminant fate and transport, and corrective-action.

(g) The Director of an approved State may establish alternative schedules for demonstrating compliance with § 257.22(d)(2), pertaining to notification of placement of certification in operating record; § 257.24(c)(1), pertaining to notification that statistically significant increase (SSI) notice is in operating record; § 257.24(c)(2) and (3), pertaining to an assessment monitoring program; § 257.25(b), pertaining to sampling and analyzing appendix II of part 258 constituents; § 257.25(d)(1), pertaining to placement of notice (appendix II of 40 CFR part 258 constituents detected) in record and notification of notice in record; § 257.25(d)(2), pertaining to sampling for appendix I and II of 40 CFR part 258; § 257.25(g), pertaining to notification (and placement of notice in record) of SSI above ground-water protection standard; §§ 257.25(g)(1)(iv) and 257.26(a), pertaining to assessment of corrective measures; § 257.27(a), pertaining to selection of remedy and notification of placement in record; § 257.28(c)(4), pertaining to notification of placement in record (alternative corrective action measures); and § 257.28(f), pertaining to notification of placement in record (certification of remedy completed).

(h) Directors of approved States can use the flexibility in paragraph (i) of this section for any non-municipal non-hazardous waste disposal unit that receives CESQG waste, if the non-municipal non-hazardous waste disposal unit:

(1) Disposes of less than 20 tons of non-municipal waste daily, based on an annual average; and

(2) Has no evidence of ground-water contamination; and either

(3) Serves a community that experiences an annual interruption of at least three consecutive months of sur-

face transportation that prevents access to a regional waste management facility; or

(4) Serves a community that has no practicable waste management alternative and the non-municipal solid waste disposal facility is located in an area that annually receives less than or equal to 25 inches of precipitation.

(5) Owners/operators of any non-municipal non-hazardous waste disposal unit that meets the criteria in paragraph (h) of this section must place in the operating record information demonstrating this.

(i) Directors of approved States may allow any non-municipal non-hazardous waste disposal unit meeting the criteria in paragraph (h) of this section to:

(1) Use alternatives to the ground-water monitoring system prescribed in §§ 257.22 through 257.25 so long as the alternatives will detect and, if necessary, assess the nature or extent of contamination from the non-municipal non-hazardous waste disposal unit on a site-specific basis; or establish and use, on a site-specific basis, an alternative list of indicator parameters for some or all of the constituents listed in appendix I (Appendix I of 40 CFR part 258. Alternative indicator parameters approved by the Director of an approved State under this section must ensure detection of contamination from the non-municipal non-hazardous waste disposal unit.

(2) If contamination is detected through the use of any alternative to the ground-water monitoring system prescribed in §§ 257.22 through 257.25, the non-municipal non-hazardous waste disposal unit owner or operator must perform expanded monitoring to determine whether the detected contamination is an actual release from the non-municipal solid waste disposal unit and, if so, to determine the nature and extent of the contamination. The Director of the approved State shall establish a schedule for the non-municipal non-hazardous waste disposal unit owner or operator to submit results from expanded monitoring in a manner that ensures protection of human health and the environment.

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(i) If expanded monitoring indicates that contamination from the non-municipal non-hazardous waste disposal unit has reached the saturated zone, the owner or operator must install ground-water monitoring wells and sample these wells in accordance with §§ 257.22 through 257.25.

(ii) If expanded monitoring indicates that contamination from the non-municipal non-hazardous waste disposal unit is present in the unsaturated zone or on the surface, the Director of an approved State shall establish a schedule for the owner or operator to submit a description of any necessary corrective measures. The schedule shall ensure corrective measures, where necessary, are undertaken in a timely manner that protects human health and the environment. The proposed corrective measures are subject to revision and approval by the Director of the approved State. The owner or operator must implement the corrective measures according to a schedule established by the Director of the approved State.

(3) When considering whether to allow alternatives to a ground-water monitoring system prescribed in §§ 257.22 through 257.25, including alternative indicator parameters, the Director of an approved State shall consider at least the following factors:

(i) The geological and hydrogeological characteristics of the site;

(ii) The impact of manmade and natural features on the effectiveness of an alternative technology;

(iii) Climatic factors that may influence the selection, use, and reliability of alternative ground-water monitoring procedures; and

(iv) The effectiveness of indicator parameters in detecting a release.

(4) The Director of an approved State can require an owner or operator to comply with the requirements of §§ 257.22 through 257.25, where it is determined by the Director that using alternatives to ground-water monitoring approved under this paragraph are inadequate to detect contamination and, if necessary, to assess the nature and extent of contamination.

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§ 257.22 Ground-water monitoring systems.

(a) A ground-water monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield ground-water samples from the uppermost aquifer (as defined in § 257.5(b)) that:

(1) Represent the quality of background ground water that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(i) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; or

(ii) Sampling at other wells will provide an indication of background ground-water quality that is as representative or more representative than that provided by the upgradient wells; and

(2) Represent the quality of ground water passing the relevant point of compliance specified by the Director of an approved State or at the waste management unit boundary in an unapproved State. The downgradient monitoring system must be installed at the relevant point of compliance specified by the Director of an approved State or at the waste management unit boundary in an unapproved State that ensures detection of ground-water contamination in the uppermost aquifer. The relevant point of compliance specified by the Director of an approved State shall be no more than 150 meters from the waste management unit boundary and shall be located on land owned by the owner of the facility. In determining the relevant point of compliance the State Director shall consider at least the following factors: the hydrogeologic characteristics of the unit and surrounding land, the volume and physical and chemical characteristics of the leachate, the quantity, quality and direction of flow of ground water, the proximity and withdrawal rate of the ground-water users, the availability of alternative drinking water supplies, the existing quality of the ground water, including other

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sources of contamination and their cumulative impacts on the ground water, and whether the ground water is currently used or reasonably expected to be used for drinking water, public health, safety, and welfare effects, and practicable capability of the owner or operator. When physical obstacles preclude installation of ground-water monitoring wells at the relevant point of compliance at existing units, the down-gradient monitoring system may be installed at the closest practicable distance hydraulically down-gradient from the relevant point of compliance specified by the Director of an approved State that ensures detection of groundwater contamination in the uppermost aquifer.

(b) The Director of an approved State may approve a multi-unit ground-water monitoring system instead of separate ground-water monitoring systems for each unit when the facility has several units, provided the multi-unit ground-water monitoring system meets the requirement of § 257.22(a) and will be as protective of human health and the environment as individual monitoring systems for each unit, based on the following factors:

- (1) Number, spacing, and orientation of the units;
- (2) Hydrogeologic setting;
- (3) Site history;
- (4) Engineering design of the units; and
- (5) Type of waste accepted at the units.

(c) Monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.

(1) The owner or operator must notify the State Director that the design, installation, development, and decommission of any monitoring wells, piezometers and other measurement, sampling, and analytical devices documentation has been placed in the operating record; and

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

(d) The number, spacing, and depths of monitoring systems shall be:

(1) Determined based upon site-specific technical information that must include thorough characterization of:

(i) Aquifer thickness, ground-water flow rate, ground-water flow direction including seasonal and temporal fluctuations in ground-water flow; and

(ii) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to: thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

(2) Certified by a qualified ground-water scientist or approved by the Director of an approved State. Within 14 days of this certification, the owner or operator must notify the State Director that the certification has been placed in the operating record.

§ 257.23 Ground-water sampling and analysis requirements.

(a) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of ground-water quality at the background and downgradient wells installed in compliance with § 257.22(a). The owner or operator must notify the State Director that the sampling and analysis program documentation has been placed in the operating record and the program must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures;
- (4) Chain of custody control; and
- (5) Quality assurance and quality control.

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(b) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents and other monitoring parameters in ground-water samples. Ground-water samples shall not be field-filtered prior to laboratory analysis.

(c) The sampling procedures and frequency must be protective of human health and the environment.

(d) Ground-water elevations must be measured in each well immediately prior to purging, each time ground water is sampled. The owner or operator must determine the rate and direction of ground-water flow each time ground water is sampled. Ground-water elevations in wells which monitor the same waste management area must be measured within a period of time short enough to avoid temporal variations in ground-water flow which could preclude accurate determination of ground-water flow rate and direction.

(e) The owner or operator must establish background ground-water quality in a hydraulically upgradient or background well(s) for each of the monitoring parameters or constituents required in the particular ground-water monitoring program that applies to the unit, as determined under § 257.24(a), or § 257.25(a). Background ground-water quality may be established at wells that are not located hydraulically upgradient from the unit if it meets the requirements of § 257.22(a)(1).

(f) The number of samples collected to establish ground-water quality data must be consistent with the appropriate statistical procedures determined pursuant to paragraph (g) of this section. The sampling procedures shall be those specified under § 257.24(b) for detection monitoring, § 257.25 (b) and (d) for assessment monitoring, and § 257.26(b) for corrective action.

(g) The owner or operator must specify in the operating record one of the following statistical methods to be used in evaluating ground-water monitoring data for each hazardous constituent. The statistical test chosen shall be conducted separately for each hazardous constituent in each well.

(1) A parametric analysis of variance (ANOVA) followed by multiple com-

parisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method that meets the performance standards of paragraph (h) of this section. The owner or operator must place a justification for this alternative in the operating record and notify the State Director of the use of this alternative test. The justification must demonstrate that the alternative method meets the performance standards of paragraph (h) of this section.

(h) Any statistical method chosen under paragraph (g) of this section shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate ground-water monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent

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concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) If a control chart approach is used to evaluate ground-water monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(4) If a tolerance interval or a prediction interval is used to evaluate ground-water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(i) The owner or operator must determine whether or not there is a statis-

tically significant increase over background values for each parameter or constituent required in the particular ground-water monitoring program that applies to the unit, as determined under §§257.24(a) or 257.25(a).

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the ground-water quality of each parameter or constituent at each monitoring well designated pursuant to §257.22(a)(2) to the background value of that constituent, according to the statistical procedures and performance standards specified under paragraphs (g) and (h) of this section.

(2) Within a reasonable period of time after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background at each monitoring well.

§ 257.24 Detection monitoring program.

(a) Detection monitoring is required at facilities identified in §257.5(a) at all ground-water monitoring wells defined under §§257.22 (a)(1) and (a)(2). At a minimum, a detection monitoring program must include the monitoring for the constituents listed in appendix I of 40 CFR part 258.

(1) The Director of an approved State may delete any of the appendix I (Appendix I of 40 CFR part 258) monitoring parameters for a unit if it can be shown that the removed constituents are not reasonably expected to be contained in or derived from the waste contained in the unit.

(2) The Director of an approved State may establish an alternative list of indicator parameters for a unit, in lieu of some or all of the constituents in appendix I to 40 CFR part 258, if the alternative parameters provide a reliable indication of releases from the unit to the ground water. In determining alternative parameters, the Director shall consider the following factors:

(i) The types, quantities, and concentrations of constituents in waste managed at the unit;

(ii) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the unit;

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(iii) The detectability of indicator parameters, waste constituents, and reaction products in the ground water; and

(iv) The concentration or values and coefficients of variation of monitoring parameters or constituents in the groundwater background.

(b) The monitoring frequency for all constituents listed in appendix I to 40 CFR part 258, or in the alternative list approved in accordance with paragraph (a)(2) of this section, shall be at least semiannual during the active life of the unit plus 30 years. A minimum of four independent samples from each well (background and downgradient) must be collected and analyzed for the appendix I (Appendix I of 40 CFR part 258) constituents, or the alternative list approved in accordance with paragraph (a)(2) of this section, during the first semiannual sampling event. At least one sample from each well (background and downgradient) must be collected and analyzed during subsequent semiannual sampling events. The Director of an approved State may specify an appropriate alternative frequency for repeated sampling and analysis for appendix I (Appendix I of 40 CFR part 258) constituents, or the alternative list approved in accordance with paragraph (a)(2) of this section, during the active life plus 30 years. The alternative frequency during the active life shall be no less than annual. The alternative frequency shall be based on consideration of the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) Ground-water flow rates;
- (4) Minimum distance between upgradient edge of the unit and downgradient monitoring well screen (minimum distance of travel); and
- (5) Resource value of the aquifer.

(c) If the owner or operator determines, pursuant to §257.23(g), that there is a statistically significant increase over background for one or more of the constituents listed in appendix I to 40 CFR part 258, or in the alternative list approved in accordance with paragraph (a)(2) of this section, at any monitoring well at the boundary specified

under §257.22(a)(2), the owner or operator:

(1) Must, within 14 days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels, and notify the State Director that this notice was placed in the operating record; and

(2) Must establish an assessment monitoring program meeting the requirements of §257.25 within 90 days except as provided for in paragraph (c)(3) of this section.

(3) The owner/operator may demonstrate that a source other than the unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Director of an approved State and be placed in the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this section. If, after 90 days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in §257.25.

EFFECTIVE DATE NOTE: At 61 FR 34274, July 1, 1996, §257.24 was added. This section contains information collection and record-keeping requirements and will not become effective until approval has been given by the Office of Management and Budget.

§ 257.25 Assessment monitoring program.

(a) Assessment monitoring is required whenever a statistically significant increase over background has been detected for one or more of the constituents listed in appendix I of 40 CFR part 258 or in the alternative list approved in accordance with §257.24(a)(2).

(b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the ground water for all constituents identified in appendix II of 40 CFR part 258. A minimum of one sample from each

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downgradient well must be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as the result of the complete appendix II (Appendix II of 40 CFR part 258) analysis, a minimum of four independent samples from each well (background and downgradient) must be collected and analyzed to establish background for the new constituents. The Director of an approved State may specify an appropriate subset of wells to be sampled and analyzed for appendix II (Appendix II of 40 CFR part 258) constituents during assessment monitoring. The Director of an approved State may delete any of the appendix II (Appendix II of 40 CFR part 258) monitoring parameters for a unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit.

(c) The Director of an approved State may specify an appropriate alternate frequency for repeated sampling and analysis for the full set of appendix II (Appendix II of 40 CFR part 258) constituents, or the alternative list approved in accordance with paragraph (b) of this section, during the active life plus 30 years considering the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) Ground-water flow rates;
- (4) Minimum distance between upgradient edge of the unit and downgradient monitoring well screen (minimum distance of travel);
- (5) Resource value of the aquifer; and
- (6) Nature (fate and transport) of any constituents detected in response to this section.

(d) After obtaining the results from the initial or subsequent sampling events required in paragraph (b) of this section, the owner or operator must:

- (1) Within 14 days, place a notice in the operating record identifying the appendix II (appendix II of 40 CFR part 258) constituents that have been detected and notify the State Director that this notice has been placed in the operating record;
- (2) Within 90 days, and on at least a semiannual basis thereafter, resample

all wells specified by § 257.22(a) to this section, conduct analyses for all constituents in appendix I (Appendix I of 40 CFR part 258) to this part or in the alternative list approved in accordance with § 257.24(a)(2), and for those constituents in appendix II to 40 CFR part 258 that are detected in response to paragraph (b) of this section, and record their concentrations in the facility operating record. At least one sample from each well (background and downgradient) must be collected and analyzed during these sampling events. The Director of an approved State may specify an alternative monitoring frequency during the active life plus 30 years for the constituents referred to in this paragraph. The alternative frequency for appendix I (appendix I of 40 CFR part 258) constituents, or the alternative list approved in accordance with § 257.24(a)(2), during the active life shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in paragraph (c) of this section:

(3) Establish background concentrations for any constituents detected pursuant to paragraphs (b) or (d)(2) of this section; and

(4) Establish ground-water protection standards for all constituents detected pursuant to paragraph (b) or (d) of this section. The ground-water protection standards shall be established in accordance with paragraphs (h) or (i) of this section.

(e) If the concentrations of all appendix II (appendix II of 40 CFR part 258) constituents are shown to be at or below background values, using the statistical procedures in § 257.23(g), for two consecutive sampling events, the owner or operator must notify the State Director of this finding and may return to detection monitoring.

(f) If the concentrations of any appendix II (appendix II of part 258) constituents are above background values, but all concentrations are below the ground-water protection standard established under paragraphs (h) or (i) of this section, using the statistical procedures in § 257.23(g), the owner or operator must continue assessment monitoring in accordance with this section.

(g) If one or more appendix II (appendix II of CFR part 258) constituents are

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detected at statistically significant levels above the ground-water protection standard established under paragraphs (h) or (i) of this section in any sampling event, the owner or operator must, within 14 days of this finding, place a notice in the operating record identifying the appendix II (appendix II of 40 CFR part 258) constituents that have exceeded the ground-water protection standard and notify the State Director and all appropriate local government officials that the notice has been placed in the operating record. The owner or operator also:

(1)(i) Must characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(ii) Must install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with paragraph (d)(2) of this section;

(iii) Must notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site if indicated by sampling of wells in accordance paragraph (g)(1) of this section; and

(iv) Must initiate an assessment of corrective measures as required by § 257.26 within 90 days; or

(2) May demonstrate that a source other than the non-municipal non-hazardous waste disposal unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Director of an approved State and placed in the operating record. If a successful demonstration is made the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this § 257.25, and may return to detection monitoring if the appendix II (appendix II of 40 CFR part 258) constituents are at or below background as specified in paragraph (e) of this section. Until a successful demonstration is made, the owner or operator must comply with

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§ 257.25(g) including initiating an assessment of corrective measures.

(h) The owner or operator must establish a ground-water protection standard for each appendix II (appendix II of 40 CFR part 258) constituent detected in the ground-water. The ground-water protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been promulgated under section 1412 of the Safe Drinking Water Act (codified) under 40 CFR part 141, the MCL for that constituent;

(2) For constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with § 257.22(a)(1); or

(3) For constituents for which the background level is higher than the MCL identified under subparagraph (h)(1) of this section or health based levels identified under paragraph (i)(1) of this section, the background concentration.

(i) The Director of an approved State may establish an alternative ground-water protection standard for constituents for which MCLs have not been established. These ground-water protection standards shall be appropriate health based levels that satisfy the following criteria:

(1) The level is derived in a manner consistent with Agency guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, September 24, 1986);

(2) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR part 792) or equivalent;

(3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) within the 1×10^{-4} to 1×10^{-6} range; and

(4) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes

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of this subpart, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.

(j) In establishing ground-water protection standards under paragraph (i) of this section, the Director of an approved State may consider the following:

- (1) Multiple contaminants in the ground water;
- (2) Exposure threats to sensitive environmental receptors; and
- (3) Other site-specific exposure or potential exposure to ground water.

EFFECTIVE DATE NOTE: At 61 FR 34274, July 1, 1996, § 257.25 was added. This section contains information collection and record-keeping requirements and will not become effective until approval has been given by the Office of Management and Budget.

§ 257.26 Assessment of corrective measures.

(a) Within 90 days of finding that any of the constituents listed in appendix II (appendix II of 40 CFR Part 258) have been detected at a statistically significant level exceeding the ground-water protection standards defined under § 257.25 (h) or (i), the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time.

(b) The owner or operator must continue to monitor in accordance with the assessment monitoring program as specified in § 257.25.

(c) The assessment shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under § 257.27, addressing at least the following:

- (1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- (2) The time required to begin and complete the remedy;
- (3) The costs of remedy implementation; and
- (4) The institutional requirements such as State or local permit requirements or other environmental or public health requirements that may substan-

tially affect implementation of the remedy(s).

(d) The owner or operator must discuss the results of the corrective measures assessment, prior to the selection of remedy, in a public meeting with interested and affected parties.

§ 257.27 Selection of remedy.

(a) Based on the results of the corrective measures assessment conducted under § 257.26, the owner or operator must select a remedy that, at a minimum, meets the standards listed in paragraph (b) of this section. The owner or operator must notify the State Director, within 14 days of selecting a remedy, that a report describing the selected remedy has been placed in the operating record and how it meets the standards in paragraph (b) of this section.

(b) Remedies must:

- (1) Be protective of human health and the environment;
- (2) Attain the ground-water protection standard as specified pursuant to §§ 257.25 (h) or (i);
- (3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of appendix II (appendix II of 40 CFR part 258) constituents into the environment that may pose a threat to human health or the environment; and
- (4) Comply with standards for management of wastes as specified in § 257.28(d).

(c) In selecting a remedy that meets the standards of § 257.27(b), the owner or operator shall consider the following evaluation factors:

- (1) The long- and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:
 - (i) Magnitude of reduction of existing risks;
 - (ii) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;
 - (iii) The type and degree of long-term management required, including monitoring, operation, and maintenance;
 - (iv) Short-term risks that might be posed to the community, workers, or

the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and re-disposal or containment;

(v) Time until full protection is achieved;

(vi) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, re-disposal, or containment;

(vii) Long-term reliability of the engineering and institutional controls; and

(viii) Potential need for replacement of the remedy.

(2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:

(i) The extent to which containment practices will reduce further releases;

(ii) The extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:

(i) Degree of difficulty associated with constructing the technology;

(ii) Expected operational reliability of the technologies;

(iii) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(iv) Availability of necessary equipment and specialists; and

(v) Available capacity and location of needed treatment, storage, and disposal services.

(4) Practicable capability of the owner or operator, including a consideration of the technical and economic capability.

(5) The degree to which community concerns are addressed by a potential remedy(s).

(d) The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into consideration the factors set forth in para-

graphs (d)(1) through (d)(8) of this section. The owner or operator must consider the following factors in determining the schedule of remedial activities:

(1) Extent and nature of contamination;

(2) Practical capabilities of remedial technologies in achieving compliance with ground-water protection standards established under §§257.25 (g) or (h) and other objectives of the remedy;

(3) Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;

(4) Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;

(5) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;

(6) Resource value of the aquifer including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users;

(iii) Ground-water quantity and quality;

(iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituent;

(v) The hydrogeologic characteristic of the unit and surrounding land;

(vi) Ground-water removal and treatment costs; and

(vii) The cost and availability of alternative water supplies.

(7) Practicable capability of the owner or operator.

(8) Other relevant factors.

(e) The Director of an approved State may determine that remediation of a release of an appendix II (appendix II of 40 CFR part 258) constituent from the unit is not necessary if the owner or operator demonstrates to the Director of the approved state that:

(1) The ground-water is additionally contaminated by substances that have originated from a source other than the unit and those substances are present in concentrations such that cleanup of the release from the unit

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would provide no significant reduction in risk to actual or potential receptors; or

(2) The constituent(s) is present in ground water that:

(i) Is not currently or reasonably expected to be a source of drinking water; and

(ii) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the ground-water protection standards established under § 257.25 (h) or (i); or

(3) Remediation of the release(s) is technically impracticable; or

(4) Remediation results in unacceptable cross-media impacts.

(f) A determination by the Director of an approved State pursuant to paragraph (e) of this section shall not affect the authority of the State to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the ground-water, to prevent exposure to the ground-water, or to remediate the ground-water to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

EFFECTIVE DATE NOTE: At 61 FR 34276, July 1, 1996, § 257.27 was added. This section contains information collection and record-keeping requirements and will not become effective until approval has been given by the Office of Management and Budget.

§ 257.28 Implementation of the corrective action program.

(a) Based on the schedule established under § 257.27(d) for initiation and completion of remedial activities the owner/operator must:

(1) Establish and implement a corrective action ground-water monitoring program that:

(i) At a minimum, meets the requirements of an assessment monitoring program under § 257.25;

(ii) Indicates the effectiveness of the corrective action remedy; and

(iii) Demonstrates compliance with ground-water protection standard pursuant to paragraph (e) of this section.

(2) Implement the corrective action remedy selected under § 257.27; and

(3) Take any interim measures necessary to ensure the protection of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to § 257.27. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

(i) Time required to develop and implement a final remedy;

(ii) Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

(iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(iv) Further degradation of the ground-water that may occur if remedial action is not initiated expeditiously;

(v) Weather conditions that may cause hazardous constituents to migrate or be released;

(vi) Risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

(vii) Other situations that may pose threats to human health and the environment.

(b) An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of § 257.27(b) are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could practicably achieve compliance with the requirements, unless the owner or operator makes the determination under § 257.28(c).

(c) If the owner or operator determines that compliance with requirements under § 257.27(b) cannot be practically achieved with any currently available methods, the owner or operator must:

(1) Obtain certification of a qualified ground-water scientist or approval by the Director of an approved State that compliance with requirements under § 257.27(b) cannot be practically

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achieved with any currently available methods;

(2) Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

(3) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

(i) Technically practicable; and

(ii) Consistent with the overall objective of the remedy.

(4) Notify the State Director within 14 days that a report justifying the alternative measures prior to implementing the alternative measures has been placed in the operating record.

(d) All solid wastes that are managed pursuant to a remedy required under §257.27, or an interim measure required under §257.28(a)(3), shall be managed in a manner:

(1) That is protective of human health and the environment; and

(2) That complies with applicable RCRA requirements.

(e) Remedies selected pursuant to §257.27 shall be considered complete when:

(1) The owner or operator complies with the ground-water protection standards established under §§257.25 (h) or (i) at all points within the plume of contamination that lie beyond the ground-water monitoring well system established under §257.22(a).

(2) Compliance with the ground-water protection standards established under §§257.25 (h) or (i) has been achieved by demonstrating that concentrations of appendix II (appendix II of Part 258) constituents have not exceeded the ground-water protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in §257.23 (g) and (h). The Director of an approved State may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of appendix II (appendix II of 40 CFR part 258) constituents have not exceeded the ground-water protection standard(s) taking into consideration:

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(i) Extent and concentration of the release(s);

(ii) Behavior characteristics of the hazardous constituents in the ground-water;

(iii) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and

(iv) Characteristics of the ground-water.

(3) All actions required to complete the remedy have been satisfied.

(f) Upon completion of the remedy, the owner or operator must notify the State Director within 14 days that a certification that the remedy has been completed in compliance with the requirements of §257.28(e) has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified ground-water scientist or approved by the Director of an approved State.

§257.29 [Reserved]

RECORDKEEPING REQUIREMENTS

§257.30 Recordkeeping requirements.

(a) The owner/operator of a non-municipal non-hazardous waste disposal unit must record and retain near the facility in an operating record or in an alternative location approved by the Director of an approved State the following information as it becomes available:

(1) Any location restriction demonstration required under §§257.7 through 257.12; and

(2) Any demonstration, certification, finding, monitoring, testing, or analytical data required in §§257.21 through 257.28.

(b) The owner/operator must notify the State Director when the documents from paragraph (a) of this section have been placed or added to the operating record, and all information contained in the operating record must be furnished upon request to the State Director or be made available at all reasonable times for inspection by the State Director.

(c) The Director of an approved State can set alternative schedules for recordkeeping and notification requirements as specified in paragraphs (a)

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and (b) of this section, except for the notification requirements in § 257.25(g)(1)(iii).

APPENDIX I TO PART 257—MAXIMUM CONTAMINANT LEVELS (MCLs)

MAXIMUM CONTAMINANT LEVELS (MCLs) PROMULGATED UNDER THE SAFE DRINKING WATER ACT

Chemical	CAS No.	MCL (mg/l)
Arsenic	7440-38-2	0.05
Barium	7440-39-3	1.0
Benzene	71-343-2	0.005
Cadmium	7440-43-9	0.01
Carbon tetrachloride	56-23-5	0.005
Chromium (hexavalent)	7440-47-3	0.05
2,4-Dichlorophenoxy acetic acid	94-75-7	0.1
1,4-Dichlorobenzene	106-46-7	0.075
1,2-Dichloroethane	107-06-2	0.005
1,1-Dichloroethylene	75-35-4	0.007
Dieldrin	75-20-8	0.0002
Fluoride	7	4.0
Lindane	58-89-9	0.004
Lead	7439-92-1	0.05
Mercury	7439-97-6	0.002
Methoxychlor	72-43-5	0.1
Nitrate		10.0
Selenium	7782-49-2	0.01
Silver	7440-22-4	0.05
Toxaphene	8001-35-2	0.005
1,1,1-Trichloroethane	71-55-6	0.2
Trichloroethylene	79-01-6	0.005
2,4,5-Trichlorophenoxy acetic acid	93-76-6	0.01
Vinyl chloride	75-01-4	0.002

[56 FR 51016, Oct. 9, 1991]

APPENDIX II TO PART 257

A. Processes to Significantly Reduce Pathogens

Aerobic digestion: The process is conducted by agitating sludge with air or oxygen to maintain aerobic conditions at residence times ranging from 60 days at 15 °C to 40 days at 20 °C, with a volatile solids reduction of at least 38 percent.

Air Drying: Liquid sludge is allowed to drain and/or dry on under-drained sand beds, or paved or unpaved basins in which the sludge is at a depth of nine inches. A minimum of three months is needed, two months of which temperatures average on a daily basis above 0 °C.

Anaerobic digestion: The process is conducted in the absence of air at residence times ranging from 60 days at 20 °C to 15 days at 35 to 55 °C, with a volatile solids reduction of at least 38 percent.

Composting: Using the within-vessel, static aerated pile or windrow composting methods, the solid waste is maintained at minimum operating conditions of 40 °C for 5 days. For four hours during this period the temperature exceeds 55 °C.

Lime Stabilization: Sufficient lime is added to produce a pH of 12 after 2 hours of contact.

Other methods: Other methods or operating conditions may be acceptable if pathogens and vector attraction of the waste (volatile solids) are reduced to an extent equivalent to the reduction achieved by any of the above methods.

B. Processes to Further Reduce Pathogens

Composting: Using the within-vessel composting method, the solid waste is maintained at operating conditions of 55 °C or greater for three days. Using the static aerated pile composting method, the solid waste is maintained at operating conditions of 55 °C or greater for three days. Using the windrow composting method, the solid waste attains a temperature of 55 °C or greater for at least 15 days during the composting period. Also, during the high temperature period, there will be a minimum of five turnings of the windrow.

Heat drying: Dewatered sludge cake is dried by direct or indirect contact with hot gases, and moisture content is reduced to 10 percent or lower. Sludge particles reach temperatures well in excess of 80 °C, or the wet bulb temperature of the gas stream in contact with the sludge at the point where it leaves the dryer is in excess of 80 °C.

Heat treatment: Liquid sludge is heated to temperatures of 180 °C for 30 minutes.

Thermophilic Aerobic Digestion: Liquid sludge is agitated with air or oxygen to maintain aerobic conditions at residence times of 10 days at 55-60 °C, with a volatile solids reduction of at least 38 percent.

Other methods: Other methods or operating conditions may be acceptable if pathogens and vector attraction of the waste (volatile solids) are reduced to an extent equivalent to the reduction achieved by any of the above methods.

Any of the processes listed below, if added to the processes described in Section A above, further reduce pathogens. Because the processes listed below, on their own, do not reduce the attraction of disease vectors, they are only add-on in nature.

Beta ray irradiation: Sludge is irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (ca. 20 °C).

Gamma ray irradiation: Sludge is irradiated with gamma rays from certain isotopes, such as ⁶⁰Cobalt and ¹³⁷Cesium, at dosages of at least 1.0 megarad at room temperature (ca. 20 °C).

Pasteurization: Sludge is maintained for at least 30 minutes at a minimum temperature of 70 °C.

Other methods: Other methods or operating conditions may be acceptable if pathogens are reduced to an extent equivalent to the reduction achieved by any of the above add-on methods.

History: Adopted 23 Com. Reg. 18088 (June 19, 2001); Proposed 22 Com. Reg. 17329 (July 20, 2000).