SUBCHAPTER I—SOLID WASTES

PART 239—REQUIREMENTS FOR STATE PERMIT PROGRAM DETERMINATION OF ADEQUACY

Subpart A—General

Subpart B—State Program Application

Subpart C—Requirements for Adequate Permit Programs

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AUTHORITY: 42 U.S.C. 6912, 6945.

SOURCE: 63 FR 57040, Oct. 23, 1998, unless otherwise noted.

Subpart A—General

§ 239.1 Purpose.

This part specifies the requirements that state permit programs must meet to be determined adequate by the EPA under section 4005(c)(1)(C) of the Resource Conservation and Recovery Act (RCRA or the Act) and the procedures EPA will follow in determining the adequacy of state Subtitle D permit programs or other systems of prior approval and conditions required to be adopted and implemented by states under RCRA section 4005(c)(1)(B).

§ 239.2 Scope and definitions.

(a) *Scope.* (1) Nothing in this part precludes a state from adopting or enforcing requirements that are more stringent or more extensive than those required under this part or from operating a permit program or other system of prior approval and conditions with more stringent requirements or a broader scope of coverage than that required under this part.

(2) All states which develop and implement a Subtitle D permit program must submit an application for an adequacy determination for purposes of this part. Except as provided in § 239.12, state Subtitle D permit programs which received full approval prior to November 23, 1998 need not submit new applications for approval under this part. Similarly, except as provided in § 239.12, states that received partial approval of their Subtitle D permit programs prior to November 23, 1998 need not reapply under this part for approval for those program elements EPA has already determined to be adequate.

(3) If EPA determines that a state Subtitle D permit program is inadequate, EPA will have the authority to enforce the Subtitle D federal revised criteria on the RCRA section 4010(c) regulated facilities under the state's jurisdiction.

(b) *Definitions.* (1) For purposes of this part:

Administrator means the Administrator of the U.S. Environmental Protection Agency or any authorized representative.

Approved permit program or *approved program* means a state Subtitle D permit program or other system of prior approval and conditions required under section 4005(c)(1)(B) of RCRA that has been determined to be adequate by EPA under this part.

Approved state means a state whose Subtitle D permit program or other system of prior approval and conditions required under section 4005(c)(1)(B) of RCRA has been determined to be adequate by EPA under this part.

Guidance means policy memorandum, an application for approval under this Part, or other technical or policy documents that supplement state laws and regulations. These documents provide direction with regard to how state agencies should interpret their permit program requirements and must be consistent with state laws and regulations.

Implementing agency means the state and/or local agency(ies) responsible for carrying out an approved state permit program.

Lead state agency means the state agency which has the legal authority and oversight responsibilities to implement the permit program or other system of prior approval and conditions to ensure that facilities regulated under section 4010(c) of Subtitle D of RCRA comply with the requirements of the approved state permit program and/or has been designated as lead agency.

Permit or *prior approval and conditions* means any authorization, license, or equivalent control document issued under the authority of the state regulating the location, design, operation, ground-water monitoring, closure, post-closure care, corrective action, and financial assurance of Subtitle D regulated facilities.

Permit documents means permit applications, draft and final permits, or other documents that include applicable design and management conditions in accordance with the Subtitle D federal revised criteria, found at 40 CFR part 257, subpart B and 40 CFR part 258, and the technical and administrative information used to explain the basis of permit conditions.

Regional Administrator means any one of the ten Regional Administrators of the U.S. Environmental Protection Agency or any authorized representative.

State Director means the chief administrative officer of the lead state agency responsible for implementing the state permit program for Subtitle D regulated facilities.

State program or *permit program* means all the authorities, activities, and procedures that comprise the state's system of prior approval and conditions for regulating the location, design, operation, ground-water monitoring, closure, post-closure care, corrective action, and financial assurance of Subtitle D regulated facilities.

Subtitle D regulated facilities means all solid waste disposal facilities subject to the revised criteria promulgated by EPA under the authority of RCRA Section 4010(c).

(c) The definitions in 40 CFR part 257, subpart B and 40 CFR part 258 apply to all subparts of this part.

Subpart B—State Program Application

§ 239.3 Components of program application.

Any state that seeks a determination of adequacy under this part must submit an application to the Regional Administrator in the appropriate EPA Region. The application must identify the scope of the program for which the state is seeking approval (*i.e.*, which class of Subtitle D regulated facilities are covered by the application). The application also must demonstrate that the state's authorities and procedures are adequate to ensure compliance with the relevant Subtitle D federal revised criteria and that its permit program is uniformly applicable to all the relevant Subtitle D regulated facilities within the state's jurisdiction. The application must contain the following parts:

(a) A transmittal letter, signed by the State Director, requesting program approval. If more than one state agency has implementation responsibilities, the transmittal letter must designate a lead agency and be jointly signed by all state agencies with implementation responsibilities or by the State Governor;

(b) A narrative description of the state permit program in accordance with § 239.4;

(c) A legal certification in accordance with § 239.5;

(d) Copies of all applicable state statutes, regulations, and guidance.

§ 239.4 Narrative description of state permit program.

The description of a state's program must include:

(a) An explanation of the jurisdiction and responsibilities of all state agencies and local agencies implementing

the permit program and description of the coordination and communication responsibilities of the lead state agency to facilitate communications between EPA and the state if more than one state agency has implementation responsibilities;

(b) An explanation of how the state will ensure that existing and new facilities are permitted or otherwise approved and in compliance with the relevant Subtitle D federal revised criteria;

(c) A demonstration that the state meets the requirements in §§ 239.6, 239.7, 239.8, and 239.9;

(d) The number of facilities within the state's jurisdiction that received waste on or after the following dates:

(1) For municipal solid waste landfill units, October 9, 1991.

(2) For non-municipal, non-hazardous waste disposal units that receive CESQG hazardous waste, January 1, 1998.

(e) A discussion of staff resources available to carry out and enforce the relevant state permit program.

(f) A description of the state's public participation procedures as specified in § 239.6(a) through (c).

§ 239.5 State legal certification.

(a) A state must submit a written certification from the state Attorney General that the laws, regulations, and any applicable guidance cited in the application are enacted at the time the certification is signed and are fully effective when the state permit program is approved. This certification may be signed by the independent legal counsel for the state rather than the Attorney General, provided that such counsel has full authority to independently represent the lead state agency in court on all matters pertaining to the state program.

(b) If guidance is to be used to supplement statutes and regulations, the state legal certification must discuss that the state has the authority to use guidance to develop enforceable permits which will ensure compliance with relevant standards issued pursuant to RCRA section 4010(c) and that the guidance was duly issued in accordance with state law.

(c) If any laws, regulations, or guidance are not enacted or fully effective when the legal certification is signed, the certification should specify what portion(s) of laws, regulations, or guidance are not yet enacted or fully effective and when they are expected to be enacted or fully effective.

The Agency may make a tentative determination of adequacy using this legal certification. The state must submit a revised legal certification meeting the requirements of paragraph (a) of this section and, if appropriate, paragraph (b) of this section along with all the applicable fully enacted and effective statutes, regulations, or guidance, prior to the Agency making a final determination of adequacy. If the statutes, regulations or guidance originally submitted under § 239.3(d) and certified to under this section are modified in a significant way, the Regional Administrator will publish a new tentative determination to ensure adequate public participation.

Subpart C—Requirements for Adequate Permit Programs

§ 239.6 Permitting requirements.

(a) State law must require that:

(1) Documents for permit determinations are made available for public review and comment; and

(2) Final determinations on permit applications are made known to the public.

(b) The state shall have procedures that ensure that public comments on permit determinations are considered.

(c) The state must fully describe its public participation procedures for permit issuance and post-permit actions in the narrative description required under § 239.4 and include a copy of these procedures in its permit program application.

(d) The state shall have the authority to collect all information necessary to issue permits that are adequate to ensure compliance with the relevant 40 CFR part 257, subpart B or 40 CFR part 258 federal revised criteria.

(e) For municipal solid waste landfill units, state law must require that:

(1) Prior to construction and operation, all new municipal solid waste

landfill units shall have a permit incorporating the conditions identified in paragraph (e)(3) of this section;

(2) All existing municipal solid waste landfill units shall have a permit incorporating the conditions identified in paragraph (e)(3) of this section by the deadlines identified in 40 CFR 258.1;

(3) The state shall have the authority to impose requirements for municipal solid waste landfill units adequate to ensure compliance with 40 CFR part 258. These requirements shall include:

(i) General standards which achieve compliance with 40 CFR part 258, subpart A;

(ii) Location restrictions for municipal solid waste landfill units which achieve compliance with 40 CFR part 258, subpart B;

(iii) Operating criteria for municipal solid waste landfill units which achieve compliance with 40 CFR part 258, subpart C;

(iv) Design criteria for municipal solid waste landfill units which achieve compliance with 40 CFR part 258, subpart D;

(v) Ground-water monitoring and corrective action standards for municipal solid waste landfill units which achieve compliance with 40 CFR part 258, subpart E;

(vi) Closure and post-closure care standards for municipal solid waste landfill units which achieve compliance with 40 CFR part 258, subpart F; and

(vii) Financial assurance standards for municipal solid waste landfill units which achieve compliance with 40 CFR part 258, subpart G.

(f) For non-municipal, non-hazardous waste disposal units that receive CESQG waste, state law must require that:

(1) Prior to construction and operation, all new non-municipal, non-hazardous waste disposal units that receive CESQG hazardous waste shall have a permit incorporating the conditions identified in paragraph (f)(3) of this section;

(2) All existing non-municipal, non-hazardous waste disposal units that receive CESQG hazardous waste shall have a permit incorporating the conditions identified in paragraph (f)(3) of this section by the deadlines identified in 40 CFR 257.5;

(3) The state shall have the authority to impose requirements for non-municipal, non-hazardous waste disposal units that receive CESQG hazardous waste adequate to ensure compliance with 40 CFR part 257, subpart B. These requirements shall include:

(i) General standards which achieve compliance with 40 CFR part 257, subpart B (§ 257.5);

(ii) Location restrictions for non-municipal, non-hazardous waste disposal units which achieve compliance with 40 CFR 257.7 through 257.13;

(iii) Ground-water monitoring and corrective action standards for non-municipal, non-hazardous waste disposal units which achieve compliance with 40 CFR 257.21 through 257.28; and,

(iv) Recordkeeping for non-municipal, non-hazardous waste disposal units which achieves compliance with 40 CFR 257.30.

§ 239.7 Requirements for compliance monitoring authority.

(a) The state must have the authority to:

(1) Obtain any and all information necessary, including records and reports, from an owner or operator of a Subtitle D regulated facility, to determine whether the owner or operator is in compliance with the state requirements;

(2) Conduct monitoring or testing to ensure that owners and operators are in compliance with the state requirements; and

(3) Enter any site or premise subject to the permit program or in which records relevant to the operation of Subtitle D regulated facilities or activities are kept.

(b) A state must demonstrate that its compliance monitoring program provides for inspections adequate to determine compliance with the approved state permit program.

(c) A state must demonstrate that its compliance monitoring program provides mechanisms or processes to:

(1) Verify the accuracy of information submitted by owners or operators of Subtitle D regulated facilities;

(2) Verify the adequacy of methods (including sampling) used by owners or

operators in developing that information;

(3) Produce evidence admissible in an enforcement proceeding; and

(4) Receive and ensure proper consideration of information submitted by the public.

§ 239.8 Requirements for enforcement authority.

Any state seeking approval must have the authority to impose the following remedies for violation of state program requirements:

(a) To restrain immediately and effectively any person by administrative or court order or by suit in a court of competent jurisdiction from engaging in any activity which may endanger or cause damage to human health or the environment.

(b) To sue in a court of competent jurisdiction to enjoin any threatened or continuing activity which violates any statute, regulation, order, or permit which is part of or issued pursuant to the state program.

(c) To sue in a court of competent jurisdiction to recover civil penalties for violations of a statute or regulation which is part of the state program or of an order or permit which is issued pursuant to the state program.

§ 239.9 Intervention in civil enforcement proceedings.

Any state seeking approval must provide for intervention in the state civil enforcement process by providing either:

(a) Authority that allows intervention, as a right, in any civil action to obtain remedies specified in § 239.8 by any citizen having an interest that is or may be adversely affected; or,

(b) Assurance by the appropriate state agency that:

(1) It will provide notice and opportunity for public involvement in all proposed settlements of civil enforcement actions (except where immediate action is necessary to adequately protect human health and the environment); and,

(2) It will investigate and provide responses to citizen complaints about violations; and,

(3) It will not oppose citizen intervention when permissive intervention is allowed by statute, rule, or regulation.

Subpart D—Adequacy Determination Procedures

§ 239.10 Criteria and procedures for making adequacy determinations.

(a) The State Director seeking an adequacy determination must submit to the appropriate Regional Administrator an application in accordance with § 239.3.

(b) Within 30 days of receipt of a state program application, the Regional Administrator will review the application and notify the state whether its application is administratively complete in accordance with the application components required in § 239.3. The 180-day review period for final determination of adequacy, described in paragraph (d) of this section, begins when the Regional Administrator deems a state application to be administratively complete.

(c) After receipt and review of a complete application, the Regional Administrator will make a tentative determination on the adequacy of the state program. The Regional Administrator shall publish the tentative determination on the adequacy of the state program in the FEDERAL REGISTER. Notice of the tentative determination must:

(1) Specify the Regional Administrator's tentative determination;

(2) Afford the public at least 30 days after the notice to comment on the state application and the Regional Administrator's tentative determination;

(3) Include a specific statement of the areas of concern, if the Regional Administrator indicates the state program may not be adequate;

(4) Note the availability for inspection by the public of the state permit program application; and

(5) Indicate that a public hearing will be held by EPA if sufficient public interest is expressed during the comment period. The Regional Administrator may determine when such a hearing is necessary to clarify issues involved in the tentative adequacy determination. If held, the public hearing will be scheduled at least 45 days from public

notice of such hearing. The public comment period may be continued after the hearing at the discretion of the Regional Administrator.

(d) Within 180 days of determining that a state program application is administratively complete, the Regional Administrator will make a final determination of adequacy after review and consideration of all public comments, unless the Regional Administrator, after consultation with the State Director, agrees to extend the review period. The Regional Administrator will give notice of the final determination in the FEDERAL REGISTER. The document must include a statement of the reasons for the determination and a response to significant comments received.

(e) For all states that do not submit an application, the Administrator or Regional Administrator may issue a final determination of inadequacy in the FEDERAL REGISTER declaring those state permit programs inadequate to ensure compliance with the relevant Subtitle D federal revised criteria. Such states may apply later for a determination of adequacy.

§ 239.11 Approval procedures for partial approval.

(a) EPA may partially approve state permit programs that do not meet all of the requirements in § 239.6(e)(3) (*i.e.*, do not incorporate all of the relevant Subtitle D federal revised criteria). Such permit programs may be partially approved if:

(1) The appropriate Regional Administrator determines that the state's permit program largely meets the technical requirements of § 239.6 and meets all other requirements of this part;

(2) Changes to a specific part(s) of the state permit program are required in order for the state program to fully meet the requirements of § 239.6; and

(3) Provisions not included in the partially approved portions of the state permit program are clearly identifiable and separable subsets of the relevant Subtitle D federal revised criteria.

(b) A state applying for partial approval must include in its application a schedule to revise the necessary laws, regulations, and/or guidance to obtain full approval within two years of final approval of the partial permit program. The Regional Administrator and the State Director must agree to the schedule.

(c) The application for partial approval must fully meet the requirements of subparts B and C of this part.

(d) States with partially approved permit programs are only approved for those relevant provisions of the Subtitle D criteria included in the partial approval.

(e) Any partial approval adequacy determination made by the Regional Administrator pursuant to this section and § 239.10 shall expire two years from the effective date of the final partial program adequacy determination unless the Regional Administrator grants an extension. States seeking an extension must submit a request to the appropriate Regional Administrator, must provide good cause for missing the deadline, and must supply a new schedule to revise necessary laws, regulations, and/or guidance to obtain full approval. The appropriate Regional Administrator will decide if there is good cause and if the new schedule is realistic. If the Regional Administrator extends the expiration date, the Region will publish a document in the FEDERAL REGISTER along with the new expiration date. A state with partial approval shall submit an amended application meeting all of the requirements of this part and have that application approved by the two-year deadline or the amended date set by the Regional Administrator.

(f) The Regional Administrator will follow the adequacy determination procedures in § 239.10 for all initial applications for partial program approval and follow the adequacy determination procedures in § 239.12(f) for any amendments for approval for unapproved sections of the relevant Subtitle D federal revised criteria.

§ 239.12 Modifications of state programs.

(a) Approved state permit programs may be modified for various reasons, such as changes in federal or state statutory or regulatory authority.

(b) If the federal statutory or regulatory authorities that have significant

implications for state permit programs change, approved states may be required to revise their permit programs. These changes may necessitate submission of a revised application. Such a change at the federal level and resultant state requirements would be made known to the states either in a FEDERAL REGISTER document containing the change or through the appropriate EPA Regional Office.

(c) States that modify their programs must notify the Regional Administrator of the modifications. Program modifications include changes in state statutory or regulatory authority or relevant guidance or shifting of responsibility for the state program within the lead agency or to a new or different state agency or agencies. Changes to the state's permit program, as described in its application which may result in the program becoming inadequate, must be reported to the Regional Administrator. In addition, changes to a state's basic statutory or regulatory authority or guidance which were not part of the state's initial application, but may have a significant impact on the adequacy of the state's permit program, also must be reported to the Regional Administrator.

(d) States must notify the appropriate Regional Administrator of all permit program modifications required in paragraphs (b) and (c) of this section within a time-frame agreed to by the State Director and the Regional Administrator.

(e) The Regional Administrator will review the modifications and determine whether the State Director must submit a revised application. If a revised application is necessary, the Regional Administrator will inform the State Director in writing that a revised application is necessary, specifying the required revisions and establishing a schedule for submission of the revised application.

(f) For all revised municipal solid waste landfill permit program applications, and for all amended applications in the case of partially approved programs, the state must submit to the appropriate Regional Administrator an amended application that addresses those portions of its program that have changed or are being amended. For such revised programs, as well as for those from states seeking EPA approval of permit programs for state regulation of non-municipal, non-hazardous waste disposal units which receive conditionally exempt small quantity generator hazardous waste, the Regional Administrator will make an adequacy determination using the criteria found in § 239.10.

(g) For revised applications that do not incorporate permit programs for additional classifications of Subtitle D regulated facilities and for all amended applications in the case of partially approved programs, the appropriate Regional Administrator shall provide for public participation using the procedures outlined in § 239.10 or, at the Regional Administrator's discretion, using the following procedures.

(1) The Regional Administrator will publish an adequacy determination in the FEDERAL REGISTER summarizing the Agency's decision and the portion(s) of the state permit program affected and providing an opportunity to comment for a period of at least 60 days.

(2) The adequacy determination will become effective 60 days following publication, if no adverse comments are received. If EPA receives comments opposing its adequacy determination, the Regional Administrator will review these comments and publish another FEDERAL REGISTER document responding to public comments and either affirming or revising the initial decision.

§ 239.13 Criteria and procedures for withdrawal of determination of adequacy.

(a) The Regional Administrator may initiate withdrawal of a determination of adequacy when the Regional Administrator has reason to believe that:

(1) A state no longer has an adequate permit program; or

(2) The state no longer has adequate authority to administer and enforce an approved program in accordance with this part.

(b) Upon receipt of substantive information sufficient to indicate that a state program may no longer be adequate, the Regional Administrator

shall inform the state in writing of the information.

(c) If, within 45 days of the state's receipt of the information in paragraph (b) of this section, the state demonstrates to the satisfaction of the Regional Administrator that the state program is adequate (*i.e.*, in compliance with this part), the Regional Administrator shall take no further action toward withdrawal of the determination of adequacy and shall so notify the state and any person(s) who submitted information regarding the adequacy of the state's program and authorities.

(d) If the State Director does not demonstrate the state's compliance with this part to the satisfaction of the Regional Administrator, the Regional Administrator shall list the deficiencies in the program and negotiate with the state a reasonable time for the state to complete such action to correct deficiencies as the Regional Administrator determines necessary. If these negotiations reach an impasse, the Regional Administrator shall establish a time period within which the state must correct any program deficiencies and inform the State Director of the time period in writing.

(e) Within the schedule negotiated by the Regional Administrator and the State Director, or set by the Regional Administrator, the state shall take appropriate action to correct deficiencies and shall file with the Regional Administrator a statement certified by the State Director describing the steps taken to correct the deficiencies.

(f) If the state takes appropriate action to correct deficiencies, the Regional Administrator shall take no further action toward withdrawal of determination of adequacy and shall so notify the state and any person(s) who submitted information regarding the adequacy of the state's permit program. If the state has not demonstrated its compliance with this part to the satisfaction of the Regional Administrator, the Regional Administrator shall inform the State Director and may initiate withdrawal of all or part of the determination of state program adequacy.

(g) The Regional Administrator shall initiate withdrawal of determination of adequacy by publishing the tentative withdrawal of determination of adequacy of the state program in the FEDERAL REGISTER. Notice of the tentative determination must:

(1) Afford the public at least 60 days after the notice to comment on the Regional Administrator's tentative determination;

(2) Include a specific statement of the Regional Administrator's areas of concern and reason to believe the state program may no longer be adequate; and

(3) Indicate that a public hearing will be held by EPA if sufficient public interest is expressed during the comment period or when the Regional Administrator determines that such a hearing might clarify issues involved in the tentative withdrawal determination.

(h) If the Regional Administrator finds, after the public hearing (if any) and review and consideration of all public comments, that the state is in compliance with this part, the withdrawal proceedings shall be terminated and the decision shall be published in the FEDERAL REGISTER. The document must include a statement of the reasons for this determination and a response to significant comments received. If the Regional Administrator finds that the state program is not in compliance with this Part by the date prescribed by the Regional Administrator or any extension approved by the Regional Administrator, a final notice of inadequacy shall be published in the FEDERAL REGISTER declaring the state permit program inadequate to ensure compliance with the relevant Subtitle D federal revised criteria. The document will include a statement of the reasons for this determination and response to significant comments received.

(i) States may seek a determination of adequacy at any time after a determination of inadequacy.

[63 FR 57040, Oct. 23, 1998, as amended at 64 FR 4315, Jan. 28, 1999]

PART 240—GUIDELINES FOR THE THERMAL PROCESSING OF SOLID WASTES

Subpart A—General Provisions

Subpart B—Requirements and Recommended Procedures

AUTHORITY: Sec. 209(a), Solid Waste Disposal Act of 1965 (Pub. L. 89–272); as amended by the Resource Recovery Act of 1970 (Pub. L. 91–512).

SOURCE: 39 FR 29329, Aug. 14, 1974, unless otherwise noted.

Subpart A—General Provisions

§ 240.100 Scope.

(a) The prescribed guidelines are applicable to thermal processing facilities designed to process or which are processing 50 tons or more per day of municipal-type solid wastes. The application of this capacity criterion will be interpreted to mean any facility designed to process or actually processing 50/24 tons or more per hour. However, the guidelines do not apply to hazardous, agricultural, and mining wastes because of the lack of sufficient information upon which to base recommended procedures.

(b) The requirement sections contained herein delineate minimum levels of performance required of any solid waste thermal processing operation. The recommended procedures sections are presented to suggest preferred methods by which the objectives of the requirements can be realized. The recommended procedures are based on the practice of incineration at large facilities (50 tons per day or more) processing municipal solid waste. If techniques other than the recommended procedures are used or wastes other than municipal wastes are processed, it is the obligation of the facility's owner and operator to demonstrate to the responsible agency in advance by means of engineering calculations, pilot plant data, etc., that the techniques employed will satisfy the requirements.

(c) Thermal processing residue must be disposed of in an environmentally acceptable manner. Where a land disposal facility is employed, it must be in accordance with the Environmental

Protection Agency's Guidelines for the Land Disposal of Solid Wastes for both residues from the thermal processing operation and those non-hazardous wastes which cannot be thermally processed for reasons of health, safety, or technological limitation.

(d) Pursuant to section 211 of the Solid Waste Disposal Act, as amended, these guidelines are mandatory for Federal agencies. In addition, they are recommended to State, interstate, regional, and local government agencies for use in their activities.

(e) The guidelines are intended to apply equally to all solid waste generated by Federal agencies, regardless of whether processed or disposed of on or off Federal property; and solid waste generated by non-Federal entities, but processed or disposed of on Federal property. However, in the case of many Federal facilities such as Post Offices, military recruiting stations, and other offices, local community solid waste processing and disposal facilities are utilized, and processing and disposal is not within the management control of the Federal agency. Thus, implementation of the guidelines can be expected only in those situations where the Federal agency is able to exercise direct management control over the processing and disposal operations. However, every effort must be made by the responsible agency, where offsite facilities are utilized, to attain processing and disposal facilities that are in compliance with the guidelines. Where non-Federal generated solid waste is processed and disposed of on Federal land and/or facilities, those facilities and/or sites must be in compliance with these guidelines. Determination of compliance to meet the requirements of the guidelines rests with the responsible agency, and they have the authority to determine how such compliance may occur.

§ 240.101 Definitions.

As used in these guidelines:

(a) *Air: Overfire air* means air, under control as to quantity and direction, introduced above or beyond a fuel bed by induced or forced draft. ''Underfire air'' means any forced or induced air, under control as to quantity and direction, that is supplied from beneath and which passes through the solid wastes fuel bed.

(b) *Bottom ash* means the solid material that remains on a hearth or falls off the grate after thermal processing is complete.

(c) *Combustibles* means materials that can be ignited at a specific temperature in the presence of air to release heat energy.

(d) *Design capacity* means the weight of solid waste of a specified gross calorific value that a thermal processing facility is designed to process in 24 hours of continuous operation; usually expressed in tons per day.

(e) *Discharge* means water-borne pollutants released to a receiving stream directly or indirectly or to a sewerage system.

(f) *Emission* means gas-borne pollutants released to the atmosphere.

(g) *Facility* means all thermal processing equipment, buildings, and grounds at a specific site.

(h) *Fly ash* means suspended particles, charred paper, dust, soot, and other partially oxidized matter carried in the products of combustion.

(i) *Free moisture* means liquid that will drain freely by gravity from solid materials.

(j) *Furnace* means the chambers of the combustion train where drying, ignition, and combustion of waste material and evolved gases occur.

(k) *Grate siftings* means the materials that fall from the solid waste fuel bed through the grate openings.

(l) *Gross calorific value* means heat liberated when waste is burned completely and the products of combustion are cooled to the initial temperature of the waste. Usually expressed in British thermal units per pound.

(m) *Hazardous waste* means any waste or combination of wastes which pose a substantial present or potential hazard to human health or living organisms because such wastes are nondegradable or persistent in nature or because they can be biologically magnified, or because they can be lethal, or because they may otherwise cause or tend to cause detrimental cumulative effects.

(n) *Incineration* means the controlled process which combustible solid, liquid, or gaseous wastes are burned and changed into noncombustible gases.

(o) *Incinerator* means a facility consisting of one or more furnaces in which wastes are burned.

(p) *Infectious waste* means: (1) Equipment, instruments, utensils, and fomites of a disposable nature from the rooms of patients who are suspected to have or have been diagnosed as having a communicable disease and must, therefore, be isolated as required by public health agencies; (2) laboratory wastes such as pathological specimens (e.g., all tissues, specimens of blood elements, excreta, and secretions obtained from patients or laboratory animals) and disposable fomites (any substance that may harbor or transmit pathogenic organisms) attendant thereto; (3) surgical operating room pathologic specimens and disposable fomites attendant thereto and similar disposable materials from outpatient areas and emergency rooms.

(q) *Municipal solid wastes* means normally, residential and commercial solid wastes generated within a community.

(r) *Open burning* means burning of solid wastes in the open, such as in an open dump.

(s) *Open dump* means a land disposal site at which solid wastes are disposed of in a manner that does not protect the environment, are susceptible to open burning, and are exposed to the elements, vectors, and scavengers.

(t) *Plans* means reports and drawings, including a narrative operating description, prepared to describe the facility and its proposed operation.

(u) *Residue* means all the solids that remain after completion of thermal processing, including bottom ash, fly ash, and grate siftings.

(v) *Responsible agency* means the organizational element that has the legal duty to ensure that owners, operators, or users of facilities comply with these guidelines.

(w) *Sanitary landfill* means a land disposal site employing an engineered method of disposing of solid wastes on land in a manner that minimizes environmental hazards by spreading the solid wastes in thin layers, compacting the solid wastes to the smallest practical volume, and applying and compacting cover material at the end of each operating day.

(x) *Sludge* means the accumulated semiliquid suspension of settled solids deposited from wastewaters or other fluids in tanks or basins. It does not include solids or dissolved material in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluents, dissolved materials in irrigation return flows or other common water pollutants.

(y) *Solid wastes* means garbage, refuse, sludges, and other discarded solid materials resulting from industrial and commercial operations and from community activities. It does not include solids or dissolved material in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluents, dissolved materials in irrigation return flows or other common water pollutants.

(z) *Special wastes* means nonhazardous solid wastes requiring handling other than that normally used for municipal solid waste.

(aa) *Thermal processing* means processing of waste material by means of heat.

(bb) *Vector* means a carrier, usually an arthropod, that is capable of transmitting a pathogen from one organism to another.

Subpart B—Requirements and Recommended Procedures

§ 240.200 Solid wastes accepted.

§ 240.200–1 Requirement.

In consultation with the responsible agencies, the owner/operator shall determine what wastes shall be accepted and shall identify any special handling required. In general, only wastes for which the facility has been specifically designed shall be accepted; however, other wastes may be accepted if it has been demonstrated to the responsible agency that they can be satisfactorily processed within the design capability of the facility or after appropriate facility modifications.

§ 240.200–2 Recommended procedures: Design.

(a) In addition to the residential and commercial wastes normally processed

at municipal-scale incinerators, certain special wastes might be considered for processing. These include: Certain bulky wastes (e.g., combustible demolition and construction debris, tree stumps, large timbers, furniture, and major appliances), digested and dewatered sludges from waste water treatment facilities, raw sewage sludges, and septic tank pumpings.

(b) If the facility is designed to handle special wastes, special areas should be provided where appropriate for storage while they await processing.

§ 240.200–3 Recommended procedures: Operations.

(a) Storage areas for special wastes should be clearly marked.

(b) Facility personnel should be thoroughly trained in any unusual handling required by acceptance of Special Wastes.

§ 240.201 Solid wastes excluded.

§ 240.201–1 Requirement.

Using information provided to them by the waste generator/owner, the responsible agency and the facility owner/operator shall jointly determine specific wastes to be excluded and shall identify them in the plans. The generator/owner of excluded wastes shall consult with the responsible agency in determining an alternative method of disposal for excluded wastes. The criteria used in considering whether a waste is unacceptable shall include the facility's capabilities, alternative methods available, the chemical and biological characteristics of the waste, environmental and health effects, and the safety of personnel. Disposal of pesticides and pesticide containers shall be consistent with the Federal Environmental Pesticides Control Act of 1972 (Pub. L. 92–516) and recommended procedures promulgated thereunder.

§ 240.201–2 Recommended procedures: Design.

(a) Provision for storing, handling, and removing hazardous or excluded wastes inadvertently left at the facility should be considered in design.

(b) Examples of wastes which should be considered for exclusion from the facility include: Hazardous wastes, very large carcasses, automobile bodies, dewatered sludges from water treatment plants, and industrial process wastes.

§ 240.201–3 Recommended procedures: Operations.

(a) Regular users of the facility should be given a list of excluded materials. The list should also be displayed prominently at the facility entrance. If a regular user persists in making unacceptable deliveries, he should be barred from the installation and reported to the responsible agency.

(b) The operating plan should specify the procedures and precautions to be taken if unacceptable wastes are delivered to the facility or are improperly left there. Operating personnel should be thoroughly trained in such procedures.

§ 240.202 Site selection.

§ 240.202–1 Requirement.

Site selection and utilization shall be consistent with public health and welfare, and air and water quality standards and adaptable to appropriate land-use plans.

§ 240.202–2 Recommended procedures: Design.

(a) Whenever possible, thermal processing facilities should be located in areas zoned for industrial use and having adequate utilities to serve the facility.

(b) The site should be accessible by permanent roads leading from the public road system.

(c) Environmental factors, climatological conditions, and socioeconomic factors should be given full consideration as selection criteria.

§ 240.202–3 Recommended procedures: Operations.

Not applicable.

§ 240.203 General design.

§ 240.203–1 Requirement.

A plan for the design of new facilities or modifications to existing facilities shall be prepared or approved by a professional engineer. A list of major considerations and the rationale for the

decision on each consideration shall be approved by the responsible agency prior to authorization for construction. This information shall remain available for review.

§ 240.203–2 Recommended procedures: Design.

(a) The types, amounts (by weight and volume), and characteristics of all solid wastes expected to be processed should be determined by survey and analysis. The gross calorific value of the solid wastes to be processed should be determined to serve as a basis for design.

(b) Resource recovery in the form of heat utilization or direct recovery of materials should be considered in the design.

(c) The facility should be designed to be compatible with the surrounding area, easy to maintain, and consistent with the land use of the area.

(d) Employee convenience facilities and plant maintenance facilities should be provided. Adequate lighting should be provided throughout the facility.

(e) The corrosive and erosive action of once-through and recirculated process waters should be controlled either by treating them or by using materials capable of withstanding the adverse effects of the waters.

(f) Facility design capacity should consider such items as waste quantity and characteristics, variations in waste generation, equipment downtime, and availability of alternate storage, processing, or disposal capability.

(g) Facility systems and subsystems should be designed to assure standby capability in the event of breakdown. Provision for standby water and power should also be considered.

(h) Instrumentation should be provided to determine such factors as: The weight of incoming and outgoing materials (the same scale system may be used for both); total combustion airflow rates; underfire and overfire airflows and the quantitative distribution of each; selected temperatures and pressures in the furnace, along gas passages, in the particulate collection device, and in the stack; electrical power and water consumption of critical units; and rate of operation. The smoke density, the concentration of carbon monoxide, or the concentration of hydrocarbons in the stack gases should be monitored. Measurement of the pH should be considered for effluent waters. Continuously recording instrumentation should be used as much as possible.

(i) Audible signals should be provided to alert operating personnel of critical operating unit malfunctions.

(j) Sampling capability should be designed into the facility so that each process stream can be sampled, and the utilities required to do so should be close at hand. The sampling sites should be so designed that personnel can sample safely without interfering with normal plant operations.

(k) A laboratory should be included in the design, or provision should be made for laboratory analyses to be performed by an outside source acceptable to the responsible agency.

§ 240.203–3 Recommended procedures: Operations.

Not applicable.

§ 240.204 Water quality.

§ 240.204–1 Requirement.

All waters discharged from the facility shall be sufficiently treated to meet the most stringent of applicable water quality standards, established in accordance with or effective under the provisions of the Federal Water Pollution Control Act, as amended.

§ 240.204–2 Recommended procedures: Design.

(a) Effluent waters should not be discharged indiscriminately. Consideration should be given to onsite treatment of process and waste waters before discharge.

(b) Recirculation of process waters should be considered.

§ 240.204–3 Recommended procedures: Operations.

(a) When monitoring instrumentation indicates excessive discharge contamination, appropriate adjustments should be made to lower the concentrations to acceptable levels.

(b) In the event of an accidental spill, the local regulatory agency should be notified immediately.

§ 240.205 Air quality.

§ 240.205–1 Requirement.

Emissions shall not exceed applicable existing emission standards established by the U.S. Environmental Protection Agency (as published in parts 52, 60, 61 and 76 of this chapter) under the authority of the Clean Air Act, as amended, or State or local emission standards effective under that Act, if the latter are more stringent.

§ 240.205–2 Recommended procedures: Design.

(a) These requirements should be met by using appropriate air pollution control technology.

(b) All emissions, including dust from vents, should be controlled.

§ 240.205–3 Recommended procedures: Operations.

When monitoring instrumentation indicates excessive emissions, appropriate adjustments should be made to lower the emission to acceptable levels.

§ 240.206 Vectors.

§ 240.206–1 Requirement.

Conditions shall be maintained that are unfavorable for the harboring, feeding, and breeding of vectors.

§ 240.206–2 Recommended procedures: Design.

Thermal processing facilities should be designed for ease of cleaning. Areas favorable for breeding of vectors should be avoided.

§ 240.206–3 Recommended procedures: Operations.

(a) A housekeeping schedule should be established and maintained. As a minimum the schedule should provide for cleaning the tipping and residue areas as spillages occur, emptying the solid waste storage area at least weekly, and routinely cleaning the remainder of the facility.

(b) Solid waste and residue should not be allowed to accumulate at the facility for more than one week.

§ 240.207 Aesthetics.

§ 240.207–1 Requirement.

The incinerator facility shall be designed and operated at all times in an aesthetically acceptable manner.

§ 240.207–2 Recommended procedures: Design.

The facility should be designed so that it is physically attractive. The tipping, residue discharge, and waste salvage areas should be screened from public view, and the grounds should be landscaped.

§ 240.207–3 Recommended procedures: Operations.

(a) A routine housekeeping and litter removal schedule should be established and implemented so that the facility regularly presents a neat and clean appearance.

(b) Solid wastes that cannot be processed by the facility should be removed from the facility at least weekly. Open burning or open dumping of this material should be prohibited.

§ 240.208 Residue.

§ 240.208–1 Requirement.

Residue and other solid waste products resulting from a thermal process shall be disposed of in an environmentally acceptable manner. Where land disposal is employed, practices must be in conformance with the U.S. Environmental Protection Agency's Guidelines for the Land Disposal of Solid Wastes. Unwanted residue materials remaining after the recovery operation shall be disposed of in a manner which protects the environment. Where land disposal is employed, practices must be in conformance with the U.S. Environmental Protection Agency's Guidelines for the Land Disposal of Solid Wastes.

§ 240.208–2 Recommended procedures: Design.

Thermal processing facilities should be so designed as to allow for removal from the site of residue or other solids

in a manner that protects the environment.

§ 240.208–3 Recommended procedures: Operations.

(a) The furnace operator should visually observe the quality of the bottom ash at least twice per shift and record in the operating log the estimated percentage of unburned combustibles.

(b) If residue or fly ash is collected in a wet condition, it should be drained of free moisture. Transportation of residue and fly ash should be by means that prevent the loads from shifting, falling, leaking, or blowing from the container.

§ 240.209 Safety.

§ 240.209–1 Requirement.

Incinerators shall be designed, operated, and maintained in a manner to protect the health and safety of personnel associated with the operation of the facility. Pertinent provisions of the Occupational Safety and Health Act of 1970 (Pub. L. 91–596) and regulations promulgated thereunder shall apply.

§ 240.209–2 Recommended procedures: Design.

(a) Attention should be given to the safety of operators and vehicles through the provision of safety devices.

(b) Fire control equipment should be provided.

(c) Methods and/or equipment for removal of an injured person from the storage pit should be available.

§ 240.209–3 Recommended procedures: Operations.

(a) Detailed procedures should be developed for operation during such emergency situations as power failure, air or water supply failure, equipment breakdowns, and fire. These procedures should be posted in prominent locations, implemented by the staff as required, and upgraded and revised periodically.

(b) Approved respirators or self-contained breathing apparatus should be available at convenient locations. Their use should be reviewed periodically with facility personnel. Information on this type equipment can be obtained from the Appalachian Laboratory for Occupational Respiratory Disease, National Institute for Occupational Safety and Health, Morgantown, W. Va.

(c) Training in first aid practices and emergency procedures should be given all personnel.

(d) Personal safety devices such as hard hats, gloves, safety glasses, and footwear should be provided for facility employees.

(e) If a regular user or employee persistently poses a safety hazard he should be barred from the facility and reported to the responsible agency.

§ 240.210 General operations.

§ 240.210–1 Requirement.

The thermal processing facility shall be operated and maintained in a manner that assures it will meet the design requirements. An operations manual describing the various tasks to be performed, operating procedures, and safety precautions for various areas of the facility shall be developed and shall be readily available for reference by plant personnel.

§ 240.210–2 Recommended procedures: Design.

Not applicable.

§ 240.210–3 Recommended procedures: Operations.

(a) The facility supervisor should be experienced in the operation of the type of facility designed or, in the case of an innovated design, be adequately trained by responsible personnel in the operation of the facility.

(b) Alternate and standby disposal and operating procedures should be established for implementation during emergencies, air pollution episodes, and shutdown periods.

(c) Upon completion of facility construction, provision should be made for instruction of the staff in proper operation and maintenance procedures.

(d) A routine maintenance schedule should be established and followed.

(e) As-built engineering drawings of the facility should be provided at the conclusion of construction of the facility. These should be updated to show modifications by the owner as changes

are made and should be readily available. A schematic showing the relationships of the various subsystems should also be available.

(f) Key operational procedures should be prominently posted.

(g) Equipment manuals, catalogs, spare parts lists, and spare parts should be readily available at the facility.

(h) Training opportunities for facility operating personnel should be provided.

§ 240.211 Records.

§ 240.211–1 Requirement.

The owner/operator of the thermal processing facility shall provide records and monitoring data as required by the responsible agency.

§ 240.211–2 Recommended procedures: Design.

Continuously recording instrumentation should be used as much as possible.

§ 240.211–3 Recommended procedures: Operations.

(a) Extensive monitoring and recordkeeping should be practiced during the first 12 to 18 months of operation of a new or renovated facility, during periods of high air pollution, and during periods of upset conditions at the facility.

(b) During other periods of more normal operation of the facility, less extensive monitoring and record keeping may be practiced if approved by the responsible agency.

(c) Operating records should be kept in a daily log and should include as a minimum:

(1) The total weight and volume (truck capacities may be used for volume determination) of solid waste received during each shift, including the number of loads received, the ownership or specific identity of delivery vehicles, the source and nature of the solid wastes accepted.

(2) Furnace and combustion chamber temperatures recorded at least every 60 minutes and as changes are made, including explanations for prolonged, abnormally high and low temperatures.

(3) Rate of operation, such as grate speed.

(4) Overfire and underfire air volumes and pressure and distribution recorded at least every 60 minutes and as changes are made.

(5) Weights of bottom ash, grate siftings, and fly ash, individually or combined, recorded at intervals appropriate to normal facility operation.

(6) Estimated percentages of unburned material in the bottom ash.

(7) Water used on each shift for bottom ash quenching and scrubber operation. Representative samples of process waters should be collected and analyzed as recommended by the responsible agency.

(8) Power produced and utilized each shift. If steam is produced, quality, production totals and consumption rates should be recorded.

(9) Auxiliary fuel used each shift.

(10) Gross calorific value of daily representative samples of bottom ash, grate siftings, and fly ash. (Sampling time should be varied so that all shifts are monitored on a weekly basis.)

(11) Emission measurements and laboratory analyses required by the responsible agency.

(12) Complete records of monitoring instruments.

(13) Problems encountered and methods of solution.

(d) An annual report should be prepared which includes at least the following information:

(1) Minimum, average, and maximum daily volume and weight of waste received and processed, summarized on a monthly basis.

(2) A summary of the laboratory analyses including at least monthly averages.

(3) Number and qualifications of personnel in each job category; total manhours per week; number of State certified or licensed personnel; staffing deficiencies; and serious injuries, their cause and preventive measures instituted.

(4) An identification and brief discussion of major operational problems and solutions.

(5) Adequacy of operation and performance with regard to environmental requirements, the general level of housekeeping and maintenance, testing and reporting proficiency, and recommendations for corrective actions.

(6) A copy of all significant correspondence, reports, inspection reports, and any other communications from enforcement agencies.

(e) Methodology for evaluating the facility's performance should be developed. Evaluation procedures recommended by the U.S. Environmental Protection Agency should be used whenever possible (see bibliography).

APPENDIX TO PART 240—RECOMMENDED BIBLIOGRAPHY

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3. DeMarco, J., D. J. Keller, J. Leckman, and J. L. Newton. Municipal-scale incinerator design and operation. Public Health Service Publication No. 2012. Washington, U.S. Government Printing Office, 1973. 98 p.

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PART 241—SOLID WASTES USED AS FUELS OR INGREDIENTS IN COMBUSTION UNITS

Subpart A—General

Sec.

Subpart B—Identification of Non-Hazardous Secondary Materials That Are Solid Wastes When Used as Fuels or Ingredients in Combustion Units

AUTHORITY: 42 U.S.C. 6903, 6912, 7429.

SOURCE: 76 FR 15549, Mar. 21, 2011, unless otherwise noted.

Subpart A—General

§ 241.1 Purpose.

This part identifies the requirements and procedures for the identification of solid wastes used as fuels or ingredients in combustion units under section 1004 of the Resource Conservation and Recovery Act and section 129 of the Clean Air Act.

§ 241.2 Definitions.

For the purposes of this subpart:

Clean cellulosic biomass means those residuals that are akin to traditional cellulosic biomass, including, but not limited to: Agricultural and forest-derived biomass (e.g., green wood, forest thinnings, clean and unadulterated bark, sawdust, trim, tree harvesting residuals from logging and sawmill materials, hogged fuel, wood pellets, untreated wood pallets); urban wood (e.g., tree trimmings, stumps, and related forest-derived biomass from urban settings); corn stover and other biomass crops used specifically for the production of cellulosic biofuels (e.g., energy cane, other fast growing grasses, byproducts of ethanol natural fermentation processes); bagasse and other crop residues (e.g., peanut shells, vines, orchard trees, hulls, seeds, spent grains, cotton byproducts, corn and peanut production residues, rice milling and grain elevator operation residues); wood collected from forest fire clearance activities, trees and clean wood found in disaster debris, clean biomass from land clearing operations, and clean construction and demolition wood. These fuels are not secondary

materials or solid wastes unless discarded. Clean biomass is biomass that does not contain contaminants at concentrations not normally associated with virgin biomass materials.

Construction and demolition (C&D) wood means wood that is generated from the processing of debris from construction and demolition activities for the purposes of recovering wood. C&D wood from construction activities results from wood generated during any installation activity or from purchasing more wood than a project ultimately requires. C&D wood from demolition activities results from dismantling buildings and other structures, removing materials during renovation, or from natural disasters.

Contaminants means all pollutants listed in Clean Air Act sections 112(b) or 129(a)(4), with the following three modifications:

(1) The definition includes the elements chlorine, fluorine, nitrogen, and sulfur in cases where non-hazardous secondary materials are burned as a fuel and combustion will result in the formation of hydrogen chloride (HCl), hydrogen fluoride (HF), nitrogen oxides (NO_X), or sulfur dioxide (SO_2). Chlorine, fluorine, nitrogen, and sulfur are not included in the definition in cases where non-hazardous secondary materials are used as an ingredient and not as a fuel.

(2) The definition does not include the following pollutants that are either unlikely to be found in non-hazardous secondary materials and products made from such materials or are adequately measured by other parts of this definition: hydrogen chloride (HCl), chlorine gas (Cl_2), hydrogen fluoride (HF), nitrogen oxides (NO_X), sulfur dioxide (SO_2), fine mineral fibers, particulate matter, coke oven emissions, opacity, diazomethane, white phosphorus, and titanium tetrachloride.

(3) The definition does not include m-cresol, o-cresol, p-cresol, m-xylene, o-xylene, and p-xylene as individual contaminants distinct from the grouped pollutants total cresols and total xylenes.

Contained means the non-hazardous secondary material is stored in a manner that adequately prevents releases or other hazards to human health and the environment considering the nature and toxicity of the non-hazardous secondary material.

Control means the power to direct the policies of the facility, whether by the ownership of stock, voting rights, or otherwise, except that contractors who operate facilities on behalf of a different person as defined in this section shall not be deemed to ''control'' such facilities.

Copper naphthenate treated railroad ties means railroad ties treated with copper naphthenate made from naphthenic acid and copper salt.

Copper naphthenate-borate treated railroad ties means railroad ties treated with copper naphthenate and borate, including borate made from disodium octaborate tetrahydrate.

Creosote treated railroad ties means railway support ties treated with a wood preservative containing creosols and phenols and made from coal tar oil.

Creosote-borate treated railroad ties means railroad ties treated with a wood preservative containing creosols and phenols and made from coal tar oil and borate, including borate made from disodium octaborate tetrahydrate.

Established tire collection program means a comprehensive collection system or contractual arrangement that ensures scrap tires are not discarded and are handled as valuable commodities through arrival at the combustion facility. This can include tires that were not abandoned and were received from the general public at collection program events.

Generating facility means all contiguous property owned, leased, or otherwise controlled by the non-hazardous secondary material generator.

Ingredient means a non-hazardous secondary material that is a component in a compound, process or product.

Non-hazardous secondary material means a secondary material that, when discarded, would not be identified as a hazardous waste under Part 261 of this chapter.

Paper recycling residuals means the secondary material generated from the recycling of paper, paperboard and corrugated containers composed primarily of wet strength and short wood fibers that cannot be used to make new paper

and paperboard products. Paper recycling residuals that contain more than small amounts of non-fiber materials including polystyrene foam, polyethylene film, other plastics, waxes and adhesives, dyes and inks, clays, starches and other coating and filler material are not paper recycling residuals for purposes of this definition.

Person is defined as an individual, trust, firm, joint stock company, Federal agency, corporation (including government corporation), partnership, association, State, municipality, commission, political subdivision of a state, or any interstate body.

Power producer means a boiler unit producing electricity for sale to the grid. The term does not include units meeting the definition of electricity generating unit under 40 CFR 63.10042.

Processing means any operations that transform discarded non-hazardous secondary material into a non-waste fuel or non-waste ingredient product. Processing includes, but is not limited to, operations necessary to: Remove or destroy contaminants; significantly improve the fuel characteristics of the material, e.g., sizing or drying the material in combination with other operations; chemically improve the as-fired energy content; or improve the ingredient characteristics. Minimal operations that result only in modifying the size of the material by shredding do not constitute processing for purposes of this definition.

Resinated wood means wood products (containing binders and adhesives) produced by primary and secondary wood products manufacturing. Resinated wood includes residues from the manufacture and use of resinated wood, including materials such as board trim, sander dust, panel trim, and off-specification resinated wood products that do not meet a manufacturing quality or standard.

Secondary material means any material that is not the primary product of a manufacturing or commercial process, and can include post-consumer material, off-specification commercial chemical products or manufacturing chemical intermediates, post-industrial material, and scrap.

Solid waste means the term solid waste as defined in 40 CFR 258.2.

Traditional fuels means materials that are produced as fuels and are unused products that have not been discarded and therefore, are not solid wastes, including: (1) Fuels that have been historically managed as valuable fuel products rather than being managed as waste materials, including fossil fuels (e.g., coal, oil and natural gas), their derivatives (e.g., petroleum coke, bituminous coke, coal tar oil, refinery gas, synthetic fuel, heavy recycle, asphalts, blast furnace gas, recovered gaseous butane, and coke oven gas) and cellulosic biomass (virgin wood); and (2) alternative fuels developed from virgin materials that can now be used as fuel products, including used oil which meets the specifications outlined in 40 CFR 279.11, currently mined coal refuse that previously had not been usable as coal, and clean cellulosic biomass. These fuels are not secondary materials or solid wastes unless discarded.

Within control of the generator means that the non-hazardous secondary material is generated and burned in combustion units at the generating facility; or that such material is generated and burned in combustion units at different facilities, provided the facility combusting the non-hazardous secondary material is controlled by the generator; or both the generating facility and the facility combusting the non-hazardous secondary material are under the control of the same person as defined in this section.

[76 FR 15549, Mar. 21, 2011, as amended at 78 FR 9211, Feb. 7, 2013; 81 FR 6742, Feb. 8, 2016; 83 FR 5340, Feb. 7, 2018]

Subpart B—Identification of Non-Hazardous Secondary Materials That Are Solid Wastes When Used as Fuels or Ingredients in Combustion Units

§ 241.3 Standards and procedures for identification of non-hazardous secondary materials that are solid wastes when used as fuels or ingredients in combustion units.

(a) Except as provided in paragraph (b) of this section or in § 241.4(a) of this subpart, non-hazardous secondary materials that are combusted are solid wastes, unless a petition is submitted to, and a determination granted by, the

EPA pursuant to paragraph (c) of this section. The criteria to be addressed in the petition, as well as the process for making the non-waste determination, are specified in paragraph (c) of this section.

(b) The following non-hazardous secondary materials are not solid wastes when combusted:

(1) Non-hazardous secondary materials used as a fuel in a combustion unit that remain within the control of the generator and that meet the legitimacy criteria specified in paragraph (d)(1) of this section.

(2) The following non-hazardous secondary materials that have not been discarded and meet the legitimacy criteria specified in paragraph (d)(1) of this section when used in a combustion unit (by the generator or outside the control of the generator):

(i) [Reserved]

(ii) [Reserved]

(3) Non-hazardous secondary materials used as an ingredient in a combustion unit that meet the legitimacy criteria specified in paragraph (d)(2) of this section.

(4) Fuel or ingredient products that are used in a combustion unit, and are produced from the processing of discarded non-hazardous secondary materials and that meet the legitimacy criteria specified in paragraph (d)(1) of this section, with respect to fuels, and paragraph (d)(2) of this section, with respect to ingredients. The legitimacy criteria apply after the non-hazardous secondary material is processed to produce a fuel or ingredient product. Until the discarded non-hazardous secondary material is processed to produce a non-waste fuel or ingredient, the discarded non-hazardous secondary material is considered a solid waste and would be subject to all appropriate federal, state, and local requirements.

(c) The Regional Administrator may grant a non-waste determination that a non-hazardous secondary material that is used as a fuel, which is not managed within the control of the generator, is not discarded and is not a solid waste when combusted. This responsibility may be retained by the Assistant Administrator for the Office of Land and Emergency Management if combustors are located in multiple EPA Regions and the petitioner requests that the Assistant Administrator process the non-waste determination petition. If multiple combustion units are located in one EPA Region, the application must be submitted to the Regional Administrator for that Region. The criteria and process for making such non-waste determinations includes the following:

(1) Submittal of an application to the Regional Administrator for the EPA Region where the facility or facilities are located or the Assistant Administrator for the Office of Land and Emergency Management for a determination that the non-hazardous secondary material, even though it has been transferred to a third party, has not been discarded and is indistinguishable in all relevant aspects from a fuel product. The determination will be based on whether the non-hazardous secondary material that has not been discarded is a legitimate fuel as specified in paragraph (d)(1) of this section and on the following criteria:

(i) Whether market participants treat the non-hazardous secondary material as a product rather than as a solid waste;

(ii) Whether the chemical and physical identity of the non-hazardous secondary material is comparable to commercial fuels;

(iii) Whether the non-hazardous secondary material will be used in a reasonable time frame given the state of the market;

(iv) Whether the constituents in the non-hazardous secondary material are released to the air, water or land from the point of generation to the point just prior to combustion of the secondary material at levels comparable to what would otherwise be released from traditional fuels; and

(v) Other relevant factors.

(2) The Regional Administrator or Assistant Administrator for the Office of Land and Emergency Management will evaluate the application pursuant to the following procedures:

(i) The applicant must submit an application for the non-waste determination addressing the legitimacy criteria in paragraph (d)(1) of this section and the relevant criteria in paragraphs (c)(1)(i) through (v) of this section. In

addition, the applicant must also show that the non-hazardous secondary material has not been discarded in the first instance.

(ii) The Regional Administrator or Assistant Administrator for the Office of Land and Emergency Management will evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision will be published in a newspaper advertisement or radio broadcast in the locality where the facility combusting the non-hazardous secondary material is located, and be made available on the EPA's Web site.

(iii) The Regional Administrator or the Assistant Administrator for the Office of Land and Emergency Management will accept public comments on the tentative decision for 30 days, and may also hold a public hearing upon request or at his/her discretion. The Regional Administrator or the Assistant Administrator for the Office of Land and Emergency Management will issue a final decision after receipt of comments and after a hearing (if any). If a determination is made that the non-hazardous secondary material is a non-waste fuel, it will be retroactive and apply on the date the petition was submitted.

(iv) If a change occurs that affects how a non-hazardous secondary material meets the relevant criteria contained in this paragraph (c) after a formal non-waste determination has been granted, the applicant must re-apply to the Regional Administrator or the Assistant Administrator for the Office of Land and Emergency Management for a formal determination that the non-hazardous secondary material continues to meet the relevant criteria and, thus, is not a solid waste.

(d) Legitimacy criteria for non-hazardous secondary materials.

(1) Legitimacy criteria for non-hazardous secondary materials used as a fuel in combustion units include the following:

(i) The non-hazardous secondary material must be managed as a valuable commodity based on the following factors:

(A) The storage of the non-hazardous secondary material prior to use must not exceed reasonable time frames;

(B) Where there is an analogous fuel, the non-hazardous secondary material must be managed in a manner consistent with the analogous fuel or otherwise be adequately contained to prevent releases to the environment;

(C) If there is no analogous fuel, the non-hazardous secondary material must be adequately contained so as to prevent releases to the environment;

(ii) The non-hazardous secondary material must have a meaningful heating value and be used as a fuel in a combustion unit that recovers energy.

(iii) The non-hazardous secondary material must contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s) that the combustion unit is designed to burn. In determining which traditional fuel(s) a unit is designed to burn, persons may choose a traditional fuel that can be or is burned in the particular type of combustion unit, whether or not the unit is permitted to burn that traditional fuel. In comparing contaminants between traditional fuel(s) and a non-hazardous secondary material, persons can use data for traditional fuel contaminant levels compiled from national surveys, as well as contaminant level data from the specific traditional fuel being replaced. To account for natural variability in contaminant levels, persons can use the full range of traditional fuel contaminant levels, provided such comparisons also consider variability in non-hazardous secondary material contaminant levels. Such comparisons are to be based on a direct comparison of the contaminant levels in both the non-hazardous secondary material and traditional fuel(s) prior to combustion.

(2) Legitimacy criteria for non-hazardous secondary materials used as an ingredient in combustion units include the following:

(i) The non-hazardous secondary material must be managed as a valuable commodity based on the following factors:

(A) The storage of the non-hazardous secondary material prior to use must not exceed reasonable time frames;

(B) Where there is an analogous ingredient, the non-hazardous secondary material must be managed in a manner consistent with the analogous ingredient or otherwise be adequately contained to prevent releases to the environment;

(C) If there is no analogous ingredient, the non-hazardous secondary material must be adequately contained to prevent releases to the environment;

(ii) The non-hazardous secondary material must provide a useful contribution to the production or manufacturing process. The non-hazardous secondary material provides a useful contribution if it contributes a valuable ingredient to the product or intermediate or is an effective substitute for a commercial product.

(iii) The non-hazardous secondary material must be used to produce a valuable product or intermediate. The product or intermediate is valuable if:

(A) The non-hazardous secondary material is sold to a third party, or

(B) The non-hazardous secondary material is used as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process.

(iv) The non-hazardous secondary material must result in products that contain contaminants at levels that are comparable in concentration to or lower than those found in traditional products that are manufactured without the non-hazardous secondary material.

[76 FR 15549, Mar. 21, 2011, as amended at 78 FR 9212, Feb. 7, 2013; 80 FR 77578, Dec. 15, 2015; 81 FR 6742, Feb. 8, 2016]

§ 241.4 Non-Waste Determinations for Specific Non-Hazardous Secondary Materials When Used as a Fuel.

(a) The following non-hazardous secondary materials are not solid wastes when used as a fuel in a combustion unit:

(1) Scrap tires that are not discarded and are managed under the oversight of established tire collection programs, including tires removed from vehicles and off-specification tires.

(2) Resinated wood.

(3) Coal refuse that has been recovered from legacy piles and processed in the same manner as currently-generated coal refuse.

(4) Dewatered pulp and paper sludges that are not discarded and are generated and burned on-site by pulp and paper mills that burn a significant portion of such materials where such dewatered residuals are managed in a manner that preserves the meaningful heating value of the materials.

(5) Construction and demolition (C&D) wood processed from C&D debris according to best management practices. Combustors of C&D wood must obtain a written certification from C&D processing facilities that the C&D wood has been processed by trained operators in accordance with best management practices. Best management practices for purposes of this categorical listing must include sorting by trained operators that excludes or removes the following materials from the final product fuel: non-wood materials (e.g., polyvinyl chloride and other plastics, drywall, concrete, aggregates, dirt, and asbestos), and wood treated with creosote, pentachlorophenol, chromated copper arsenate, or other copper, chromium, or arsenical preservatives. In addition:

(i) *Positive sorting.* C&D processing facilities that use positive sorting—where operators pick out desirable wood from co-mingled debris—or that receive and process positive sorted C&D wood must either:

(A) Exclude all painted wood (to the extent that only de minimis quantities inherent to processing limitations may remain) from the final product fuel,

(B) Use X-ray Fluorescence to ensure that painted wood included in the final product fuel does not contain lead-based paint, or

(C) Require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building.

(ii) *Negative sorting.* C&D processing facilities that use negative sorting—where operators remove contaminated or otherwise undesirable materials from co-mingled debris—must remove fines (*i.e.,* small-sized particles that may contain relatively high concentrations of lead and other contaminants) and either:

(A) Remove all painted wood (to the extent that only de minimis quantities inherent to processing limitations may remain),

(B) Use X-ray Fluorescence to detect and remove lead-painted wood, or

(C) Require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building.

(iii) *Training*. Processors must train operators to exclude or remove the materials as listed in paragraph (a)(5) of this section from the final product fuel. Records of training must include date of training held and must be maintained on-site for a period of three years.

(iv) *Written certification*. A written certification must be obtained by the combustor for every new or modified contract, purchase agreement, or other legally binding document, from each final processor of C&D wood and must include the statement: *the processed C&D wood has been sorted by trained operators in accordance with best management practices*.

(6) Paper recycling residuals generated from the recycling of recovered paper, paperboard and corrugated containers and combusted by paper recycling mills whose boilers are designed to burn solid fuel.

(7) Creosote-treated railroad ties that are processed and then combusted in the following types of units. Processing must include, at a minimum, metal removal and shredding or grinding.

(i) Units designed to burn both biomass and fuel oil as part of normal operations and not solely as part of start-up or shut-down operations, and

(ii) Units at major source pulp and paper mills or power producers subject to 40 CFR part 63, subpart DDDDD, that combust CTRTs and had been designed to burn biomass and fuel oil, but are modified (e.g., oil delivery mechanisms are removed) in order to use natural gas instead of fuel oil, as part of normal operations and not solely as part of start-up or shut-down operations. The CTRTs may continue to be combusted as product fuel under this subparagraph only if the following conditions are met, which are intended to ensure that the CTRTs are not being discarded:

(A) CTRTs must be burned in existing (*i.e.* commenced construction prior to April 14, 2014) stoker, bubbling bed, fluidized bed, or hybrid suspension grate boilers; and

(B) CTRTs can comprise no more than 40 percent of the fuel that is used on an annual heat input basis.

(8) Creosote-borate treated railroad ties, and mixtures of creosote, borate and/or copper naphthenate treated railroad ties that are processed and then combusted in the following types of units. Processing must include, at a minimum, metal removal and shredding or grinding.

(i) Units designed to burn both biomass and fuel oil as part of normal operations and not solely as part of start-up or shut-down operations; and

(ii) Units at major source pulp and paper mills or power producers subject to 40 CFR part 63, subpart DDDDD, designed to burn biomass and fuel oil as part of normal operations and not solely as part of start-up or shut-down operations, but are modified (e.g., oil delivery mechanisms are removed) in order to use natural gas instead of fuel oil, The creosote-borate and mixed creosote, borate and copper naphthenate treated railroad ties may continue to be combusted as product fuel under this subparagraph only if the following conditions are met, which are intended to ensure that such railroad ties are not being discarded:

(A) Creosote-borate and mixed creosote, borate and copper naphthenate treated railroad ties must be burned in existing (*i.e.*, commenced construction prior to April 14, 2014) stoker, bubbling bed, fluidized bed, or hybrid suspension grate boilers; and

(B) Creosote-borate and mixed creosote, borate and copper naphthenate treated railroad ties can comprise no more than 40 percent of the fuel that is used on an annual heat input basis.

(iii) Units meeting requirements in paragraph (a)(8)(i) or (ii) of this section that are also designed to burn coal.

(9) Copper naphthenate treated railroad ties that are processed and then combusted in units designed to burn biomass, biomass and fuel oil, or biomass and coal. Processing must include

at a minimum, metal removal, and shredding or grinding.

(10) Copper naphthenate-borate treated railroad ties that are processed and then combusted in units designed to burn biomass, biomass and fuel oil, or biomass and coal. Processing must include at a minimum, metal removal, and shredding or grinding.

(b) Any person may submit a rulemaking petition to the Administrator to identify additional non-hazardous secondary materials to be listed in paragraph (a) of this section. Contents and procedures for the submittal of the petitions include the following:

(1) Each petition must be submitted to the Administrator by certified mail and must include:

(i) The petitioner's name and address;

(ii) A statement of the petitioner's interest in the proposed action;

(iii) A description of the proposed action, including (where appropriate) suggested regulatory language; and

(iv) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information. Where the non-hazardous secondary material does not meet the legitimacy criteria, the applicant must explain why such non-hazardous secondary material should be considered a non-waste fuel, balancing the legitimacy criteria with other relevant factors.

(2) The Administrator will make a tentative decision to grant or deny a petition and will publish notice of such tentative decision, either in the form of an advanced notice of proposed rulemaking, a proposed rule, or a tentative determination to deny the petition, in the FEDERAL REGISTER for written public comment.

(3) Upon the written request of any interested person, the Administrator may, at its discretion, hold an informal public hearing to consider oral comments on the tentative decision. A person requesting a hearing must state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The Administrator may in any case decide on its own motion to hold an informal public hearing.

(4) After evaluating all public comments the Administrator will make a final decision by publishing in the FEDERAL REGISTER a regulatory amendment or a denial of the petition.

(5) The Administrator will grant or deny a petition based on the weight of evidence showing the following:

(i) The non-hazardous secondary material has not been discarded in the first instance and is legitimately used as a fuel in a combustion unit, or if discarded, has been sufficiently processed into a material that is legitimately used as a fuel.

(ii) Where any one of the legitimacy criteria in §241.3(d)(1) is not met, that the use of the non-hazardous secondary material is integrally tied to the industrial production process, that the non-hazardous secondary material is functionally the same as the comparable traditional fuel, or other relevant factors as appropriate.

[78 FR 9213, Feb. 7, 2013, as amended by 81 FR 6743, Feb. 8, 2016; 83 FR 5340, Feb. 7, 2018]

PART 243—GUIDELINES FOR THE STORAGE AND COLLECTION OF RESIDENTIAL, COMMERCIAL, AND INSTITUTIONAL SOLID WASTE

Subpart A—General Provisions

Subpart B—Requirements and Recommended Procedures

AUTHORITY: 42 U.S.C. 6907(a)(3), 6912(a)(1), and 6944(a).

SOURCE: 41 FR 6769, Feb. 13, 1976, unless otherwise noted.

Subpart A—General Provisions

§ 243.100 Scope.

(a) These guidelines are promulgated in partial fulfillment of section 209(a) of the Solid Waste Disposal Act, as amended (Pub. L. 89–272).

(b) The guidelines apply to the collection of residential, commercial, and institutional solid wastes and street wastes. Explicitly excluded are mining, agricultural, and industrial solid wastes; hazardous wastes; sludges; construction and demolition wastes; and infectious wastes.

(c) The ''Requirement'' sections contained herein delineate minimum levels of performance required of solid waste collection operations. Under section 211 of the Solid Waste Disposal Act, as amended, and Executive Order 12088, the ''Requirement'' sections of these guidelines are mandatory for Federal agencies. In addition, they are recommended to State, interstate, regional, and local governments for use in their activities.

(d) The ''Recommended procedures'' sections are presented to suggest additional actions or preferred methods by which the objectives of the requirements can be realized. The ''Recommended procedures'' are not mandatory for Federal agencies.

(e) The guidelines apply equally to Federal agencies generating solid waste whether the solid waste is actually collected by a Federally operated or non-Federally operated collection system, except in the case of isolated Federal facilities such as post offices, military recruiting stations, and other offices where local community solid waste collection systems are utilized, which are not within the managerial control of the Federal agency.

(f) The guidelines shall be implemented in those situations where the Federal agency is able to exercise direct managerial control over the collection system through operation of the system or by contracting for collection service. Where non-Federal collection systems are utilized, service contracts should require conformance with the guidelines requirements unless service meeting such requirements is not reasonably available. It is left to the head of the responsible agency to decide how the requirements of the guidelines will be met.

(g) The Environmental Protection Agency will give technical assistance and other guidance to Federal agencies when requested to do so under section 3(D)1 of Executive Order 12088.

(h) Within 1 year after the final promulgation of these guidelines, Federal agencies shall decide what actions shall be taken to adopt the requirements of these guidelines and shall, within 60 days of this decision, submit to the Administrator a schedule of such actions.

(i) Federal agencies that decide not to adopt the requirements contained herein, for whatever reason, shall make available to the Administrator a report of the analysis and rationale used in making that decision. The Administrator shall publish notice of availability of this report in the FEDERAL REGISTER. EPA considers the following reasons to be valid for purposes of noncompliance: costs so high as to render compliance economically impracticable, and the technical inhibitions to compliance specifically described in the guidelines.

(1) The following points are to be covered in the report.

(i) A description of the proposed or on-going practices which will not be in compliance with these guidelines. This statement should identify all agency facilities which will be affected by noncompliance including a brief description of how such facilities will be affected.

(ii) A description of the alternative actions considered with emphasis on those alternatives which, if taken, would be in compliance with these guidelines.

(iii) The rationale for the action chosen by the agency including technical data and policy considerations used in arriving at this decision.

In covering these points, agencies should make every effort to present the information succinctly in a form easily understood, but in sufficient detail so that the Administrator and the public

may understand the factors influencing the decision not to adopt the requirements of these guidelines.

(2) The report shall be submitted to the Administrator as soon as possible after a final agency decision has been made not to adopt the requirements of these guidelines, but in no case later than 60 days after the final decision. The Administrator will indicate to the agency his concurrence/nonconcurrence with the agency's decision, including his reasons.

(3) Implementation of actions not in compliance with these guidelines shall be deferred, where feasible, in order to give the Administrator time to receive, analyze, and seek clarification of the required report.

(4) It is recommended that where the report on non-compliance concerns an action for which an Environmental Impact Statement (EIS) is required by the National Environmental Policy Act, that the report be circulated simultaneously with the EIS, since much of the information to satisfy the requirements of the report will be useful in the preparation of the EIS.

[41 FR 6769, Feb. 13, 1976, as amended at 64 FR 70606, Dec. 17, 1999]

§ 243.101 Definitions.

As used in these guidelines:

(a) *Alley collection* means the collection of solid waste from containers placed adjacent to or in an alley.

(b) *Agricultural solid waste* means the solid waste that is generated by the rearing of animals, and the producing and harvesting of crops or trees.

(c) *Bulky waste* means large items of solid waste such as household appliances, furniture, large auto parts, trees, branches, stumps, and other oversize wastes whose large size precludes or complicates their handling by normal solid wastes collection, processing, or disposal methods.

(d) *Carryout collection* means collection of solid waste from a storage area proximate to the dwelling unit(s) or establishment.

(e) *Collection* means the act of removing solid waste (or materials which have been separated for the purpose of recycling) from a central storage point.

(f) *Collection frequency* means the number of times collection is provided in a given period of time.

(g) *Commercial solid waste* means all types of solid wastes generated by stores, offices, restaurants, warehouses, and other non-manufacturing activities, excluding residential and industrial wastes.

(h) *Compactor collection vehicle* means a vehicle with an enclosed body containing mechanical devices that convey solid waste into the main compartment of the body and compress it into a smaller volume of greater density.

(i) *Construction and demolition waste* means the waste building materials, packaging, and rubble resulting from construction, remodeling, repair, and demolition operations on pavements, houses, commercial buildings, and other structures.

(j) *Curb collection* means collection of solid waste placed adjacent to a street.

(k) *Federal facility* means any building, installation, structure, land, or public work owned by or leased to the Federal Government. Ships at sea, aircraft in the air, land forces on maneuvers, and other mobile facilities are not considered ''Federal facilities'' for the purpose of these guidelines. United States Government installations located on foreign soil or on land outside the jurisdiction of the United States Government are not considered ''Federal facilities'' for the purpose of these guidelines.

(l) *Food waste* means the organic residues generated by the handling, storage, sale, preparation, cooking, and serving of foods, commonly called garbage.

(m) *Generation* means the act or process of producing solid waste.

(n) *Hazardous waste* means a waste or combination of wastes of a solid, liquid, contained gaseous, or semisolid form which may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness, taking into account the toxicity of such waste, its persistence and degradability in nature, its potential for accumulation or concentration in tissue, and other factors that may otherwise cause or contribute to adverse acute or

chronic effects on the health of persons or other organisms.

(o) *Industrial solid waste* means the solid waste generated by industrial processes and manufacturing.

(p) *Infectious waste* means: (1) Equipment, instruments, utensils, and formites of a disposable nature from the rooms of patients who are suspected to have or have been diagnosed as having a communicable disease and must, therefore, be isolated as required by public health agencies; (2) laboratory wastes, such as pathological specimens (e.g., all tissues, specimens of blood elements, excreta, and secretions obtained from patients or laboratory animals) and disposable fomites (any substance that may harbor or transmit pathogenic organisms) attendant thereto; (3) surgical operating room pathologic specimens and disposable fomites attendant thereto, and similar disposable materials from outpatient areas and emergency rooms.

(q) *Institutional solid waste* means solid wastes generated by educational, health care, correctional, and other institutional facilities.

(r) *Mining wastes* means residues which result from the extraction of raw materials from the earth.

(s) *Residential solid waste* means the wastes generated by the normal activities of households, including, but not limited to, food wastes, rubbish, ashes, and bulky wastes.

(t) *Responsible agency* means the organizational element that has the legal duty to ensure compliance with these guidelines.

(u) *Rubbish* means a general term for solid waste, excluding food wastes and ashes, taken from residences, commercial establishments, and institutions.

(v) *Satellite vehicle* means a small collection vehicle that transfers its load into a larger vehicle operating in conjunction with it.

(w) *Scavenging* means the uncontrolled and unauthorized removal of materials at any point in the solid waste management system.

(x) *Sludge* means the accumulated semiliquid suspension of settled solids deposited from wastewaters or other fluids in tanks or basins. It does not include solids or dissolved material in domestic sewage or other significant pollutants in water resources, such as silt, dissolved materials in irrigation return flows or other common water pollutants.

(y) *Solid waste* means garbage, refuse, sludges, and other discarded solid materials, including solid waste materials resulting from industrial, commercial, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluents, dissolved materials in irrigation return flows or other common water pollutants. Unless specifically noted otherwise, the term ''solid waste'' as used in these guidelines shall not include mining, agricultural, and industrial solid wastes; hazardous wastes; sludges; construction and demolition wastes; and infectious wastes.

(z) *Stationary compactor* means a powered machine which is designed to compact solid waste or recyclable materials, and which remains stationary when in operation.

(aa) *Storage* means the interim containment of solid waste after generation and prior to collection for ultimate recovery or disposal.

(bb) *Solid waste storage container* means a receptacle used for the temporary storage of solid waste while awaiting collection.

(cc) *Street wastes* means materials picked up by manual or mechanical sweepings of alleys, streets, and sidewalks; wastes from public waste receptacles; and material removed from catch basins.

(dd) *Transfer station* means a site at which solid wastes are concentrated for transport to a processing facility or land disposal site. A transfer station may be fixed or mobile.

(ee) *Vector* means a carrier that is capable of transmitting a pathogen from one organism to another.

Subpart B—Requirements and Recommended Procedures

§ 243.200 Storage.

§ 243.200–1 Requirement.

(a) All solid wastes (or materials which have been separated for the purpose of recycling) shall be stored in such a manner that they do not constitute a fire, health, or safety hazard or provide food or harborage for vectors, and shall be contained or bundled so as not to result in spillage. All solid waste containing food wastes shall be securely stored in covered or closed containers which are nonabsorbent, leakproof, durable, easily cleanable (if reusable), and designed for safe handling. Containers shall be of an adequate size and in sufficient numbers to contain all food wastes, rubbish, and ashes that a residence or other establishment generates in the period of time between collections. Containers shall be maintained in a clean condition so that they do not constitute a nuisance, and to retard the harborage, feeding, and breeding of vectors. When serviced, storage containers should be emptied completely of all solid waste.

(b) Storage of bulky wastes shall include, but is not limited to, removing all doors from large household appliances and covering the item(s) to reduce the problems of an attractive nuisance, and the accumulation of solid waste and water in and around the bulky items.

(c) Reusable waste containers which are emptied manually shall not exceed 75 pounds (34.05 kg) when filled, and shall be capable of being serviced without the collector coming into physical contact with the solid waste.

(d) In the design of all buildings or other facilities which are constructed, modified, or leased after the effective date of these guidelines, there shall be provisions for storage in accordance with these guidelines which will accommodate the volume of solid waste anticipated, which may be easily cleaned and maintained, and which will allow for efficient, safe collection.

(e) Waste containers used for the storage of solid waste (or materials which have been separated for recycling) must meet the standards established by the American National Standards Institute (ANSI) for waste containers as follows: Waste Containers—Safety Requirements, 1994, American National Standards Institute, ANSI Z245.30–1994; and Waste Containers—Compatibility Dimensions, 1996, American National Standards Institute, ANSI Z245.60–1996.

(1) The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You may obtain a copy from American National Standards Institute, 11 W. 42nd Street, New York, NY 10036. You may inspect a copy at the Environmental Protection Agency's RCRA Information Center, 1235 Jefferson Davis Highway, Arlington, VA or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

[41 FR 6769, Feb. 13, 1976, as amended at 64 FR 70606, Dec. 17, 1999; 69 FR 18803, Apr. 9, 2004]

§ 243.200–2 Recommended procedures: Design.

(a) Reusable waste containers should be constructed of corrosion resistant metal or other material which will not absorb water, grease, or oil. The containers should be leakproof, including sides, seams, and bottoms, and be durable enough to withstand anticipated usage without rusting, cracking, or deforming in a manner that would impair serviceability. The interior of the container should be smooth without interior projections or rough seams which would make it difficult to clean or interfere with its emptying. The exterior of the container should be safe for handling with no cracks, holes, or jagged edges. Containers should be stored on a firm, level, well-drained surface which is large enough to accommodate all of the containers and which is maintained in a clean, spillage-free condition.

(1) Reusable waste containers which are emptied manually should have a capacity of no more than 35 gallons (132.51) in volume, unless they are

mounted on casters and can be serviced by being rolled to the collection vehicle and tilted for emptying. The containers should be constructed with rounded edges and tapered sides with the larger diameter at the top of the container to facilitate discharge of the solid waste by gravity. Containers should have two handles or bails located directly opposite one another on the sides of the container. Containers should have covers which are tight-fitting to resist the intrusion of water and vectors, and should be equipped with a suitable handle. Containers should be designed so that they cannot be tipped over easily.

(2) Reusable waste containers which are emptied mechanically should be designed or equipped to prevent spillage or leakage during on-site storage, collection, or transport. The container should be easily cleanable and designed to allow easy access for depositing the waste and removing it by gravity or by mechanical means. The containers should be easily accessible to the collection vehicle in an area which can safely accommodate the dimensions and weight of the vehicle.

(b) Single-use plastic and paper bags should meet the National Sanitation Foundation Standard No. 31 for polyethylene refuse bags and Standard No. 32 for paper refuse bags, respectively. However, such bags do not need to have been certified by the National Sanitation Foundation. Single-use bags containing food wastes should be stored within the confines of a building or container between collection periods.

§ 243.201 Safety.

§ 243.201–1 Requirement.

Collection systems shall be operated in such a manner as to protect the health and safety of personnel associated with the operation.

§ 243.201–2 Recommended procedures: Operations.

(a) All solid waste collection personnel should receive instructions and training in safe container and waste handling techniques, and in the proper operation of collection equipment, such as those presented in *Operation Responsible: Safe Refuse Collection*.

(b) Personal protective equipment such as gloves, safety glasses, respirators, and footwear should be used by collection employees, as appropriate. This equipment should meet the applicable provisions of the Occupational Safety and Health Administration Standards for Subpart I—Personal Protective Equipment (29 CFR 1910.132 through 1910.137).

(c) Scavenging should be prohibited at all times to avoid injury and to prevent interference with collection operations.

(d) When conducting carryout collection, a leakproof and puncture-proof carrying container should be used to minimize the potential for physical contact between the collector and the solid waste or the liquids which may derive from it.

§ 243.202 Collection equipment.

§ 243.202–1 Requirement.

(a) All vehicles used for the collection and transportation of solid waste (or materials which have been separated for the purpose of recycling) which are considered to be operating in interstate or foreign commerce shall meet all applicable standards established by the Federal Government, including, but not limited to, Motor Carrier Safety Standards (49 CFR parts 390 through 396) and Noise Emission Standards for Motor Carriers Engaged in Interstate Commerce (40 CFR part 202). Federally owned collection vehicles shall be operated in compliance with Federal Motor Vehicle Safety Standards (49 CFR parts 500 through 580).

(b) All vehicles used for the collection and transportation of solid waste (or materials which have been separated for the purpose of recycling) shall be enclosed or adequate provisions shall be made for suitable cover, so that while in transit there can be no spillage.

(c) The equipment used in the compaction, collection, and transportation of solid waste (or materials which have been separated for the purpose of recycling) shall be constructed, operated, and maintained in such a manner as to minimize health and safety hazards to solid waste management personnel and the public. This equipment shall be

maintained in good condition and kept clean to prevent the propagation or attraction of vectors and the creation of nuisances.

(d) Collection equipment used for the collection, storage, and transportation of solid waste (or materials which have been separated for recycling) must meet the standards established by the American National Standards Institute as follows: Mobile Refuse Collection and Compaction Equipment—Safety Requirements, 1992, American National Standards Institute, ANSI Z245.1–1992; and Stationary Compactors—Safety Requirements, 1997, American National Standards Institute, ANSI Z245.2–1997.

(1) The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You may obtain a copy from American National Standards Institute, 11 W. 42nd Street, New York, NY 10036. You may inspect a copy at the Environmental Protection Agency's RCRA Information Center, 1235 Jefferson Davis Highway, Arlington, VA or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

In the procurement of new collection equipment before the effective dates of ANSI Z245.1, equipment which meets the standards shall be obtained if available.

[41 FR 6769, Feb. 13, 1976, as amended at 64 FR 70606, Dec. 17, 1999; 69 FR 18803, Apr. 9, 2004]

§ 243.202–2 Recommended procedures: Design.

(a) Whenever possible, enclosed, metal, leak-resistant compactor vehicles should be used for the collection of solid wastes.

(b) Safety devices, including, but not limited to, the following should be provided on all collection vehicles:

(1) Exterior rear-view mirrors.

(2) Back-up lights.

(3) Four-way emergency flashers.

(4) Easily accessible first aid equipment.

(5) Easily accessible fire extinguisher.

(6) Audible reverse warning device.

(c) If crew members ride outside the cab of the collection vehicle for short trips the vehicle should be equipped with handholds and platforms big enough to safeguard against slipping.

(d) Vehicle size should take into consideration: Local weight and height limits for all roads over which the vehicle will travel; turning radius; and loading height in the unloading position to insure overhead clearance in transfer stations, service buildings, incinerators, or other facilities.

(e) Engines which conserve fuel and minimize pollution should be used in collection vehicles to reduce fuel consumption and air pollution.

§ 243.202–3 Recommended procedures: Operations.

(a) Collection vehicles should be maintained and serviced according to manufacturers' recommendations, and receive periodic vehicle safety checks, including, but not limited to, inspection of brakes, windshield wipers, taillights, backup lights, audible reverse warning devices, tires, and hydraulic systems. Any irregularities should be repaired before the vehicle is used. Vehicles should also be cleaned thoroughly at least once a week.

(b) Solid waste should not be allowed to remain in collection vehicles over 24 hours and should only be left in a vehicle overnight when this practice does not constitute a fire, health, or safety hazard.

§ 243.203 Collection frequency.

§ 243.203–1 Requirement.

Solid wastes (or materials which have been separated for the purpose of recycling) shall be collected with frequency sufficient to inhibit the propagation or attraction of vectors and the creation of nuisances. Solid wastes which contain food wastes shall be collected at a minimum of once during each week. Bulky wastes shall be collected at a minimum of once every 3 months.

§ 243.203–2 Recommended procedures: Operations.

(a) The minimum collection frequency consistent with public health and safety should be adopted to minimize collection costs and fuel consumption. In establishing collection frequencies, generation rates, waste composition, and storage capacity should be taken into consideration.

(b) When solid wastes are separated at the point of storage into various categories for the purpose of resource recovery, a collection frequency should be designated for each waste category.

§ 243.204 Collection management.

§ 243.204–1 Requirement.

The collection of solid wastes (or materials which have been separated for the purpose of recycling) shall be conducted in a safe, efficient manner, strictly obeying all applicable traffic and other laws. The collection vehicle operator shall be responsible for immediately cleaning up all spillage caused by his operations, for protecting private and public property from damage resulting from his operations, and for creating no undue disturbance of the peace and quiet in residential areas in and through which he operates.

§ 243.204–2 Recommended procedures: Operations.

(a) Records should be maintained detailing all costs (capital, operating, and maintenance) associated with the collection system. These records should be used for scheduling maintenance and replacement, for budgeting, and for system evaluation and comparison.

(b) The collection system should be reviewed on a regular schedule to assure that environmentally adequate, economical, and efficient service is maintained.

(c) Solid waste collection systems should be operated in a manner designed to minimize fuel consumption, including, but not limited to, the following procedures.

(1) Collection vehicle routes should be designed to minimize driving distances and delays.

(2) Collection vehicles should receive regular tuneups, tires should be maintained at recommended pressures, and compaction equipment should be serviced regularly to achieve the most efficient compaction.

(3) Compactor trucks should be used to reduce the number of trips to the disposal site.

(4) When the distance or travel time from collection routes to disposal sites is great, transfer stations should be used when cost effective.

(5) Residential solid waste containers which are serviced manually should be placed at the curb or alley for collection.

(6) For commercial wastes which do not contain food wastes, storage capacity should be increased in lieu of more frequent collection.

APPENDIX TO PART 243—RECOMMENDED BIBLIOGRAPHY

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PART 246—SOURCE SEPARATION FOR MATERIALS RECOVERY GUIDELINES

Subpart A—General Provisions

Sec.

Subpart B—Requirements and Recommended Procedures

AUTHORITY: Secs. 1008 and 6004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6907, 6964).

SOURCE: 41 FR 16952, Apr. 23, 1976, unless otherwise noted.

Subpart A—General Provisions

§ 246.100 Scope.

(a) These guidelines are applicable to the source separation of residential, commercial, and institutional solid wastes. Explicitly excluded are mining, agricultural, and industrial solid wastes; hazardous wastes; sludges; construction and demolition wastes; infectious wastes; classified waste.

(b) The ''Requirement'' sections contained herein delineate minimum actions for Federal agencies for the recovery of resources from solid waste through source separation. Pursuant to section 211 of the Solid Waste Disposal Act, as amended, and Executive Order 11752 section 4(a), the ''Requirement''

sections of these guidelines are mandatory for all Federal agencies that generate solid waste. In addition, they are recommended to State, interstate, regional, and local governments for use in their activities.

(c) The ''Recommended Procedures'' sections are presented to suggest actions or preferred methods by which the objectives of the requirements can be realized. The ''Recommended Procedures'' are not mandatory for Federal agencies.

(d) The Environmental Protection Agency will render technical assistance in the form of sample cost analysis formats, sample bid specifications, implementation guidance documents and other guidance to Federal agencies when requested to do so, pursuant to section 3(d)1 of Executive Order 11752.

(e) Within one year after the effective date of these guidelines, agencies shall make a final determination as to what actions shall be taken to adopt the requirements of these guidelines and shall, within two months of such determination, submit to the Administrator a schedule of such actions.

(f) Federal agencies that make the determination not to source separate as described in §§ 246.200–1, 246.201–1, and 246.202–1, for whatever reason, shall make available to the Administrator the analysis and rationale used in making that determination. The Administrator shall publish notice of the availability of this report to the general public in the FEDERAL REGISTER. The following are considered to be valid reasons for not source separating under individual facts and circumstances: inability to sell the recovered materials due to lack of market, and costs so unreasonably high as to render source separation for materials recovery economically impracticable.

(1) The following points are to be covered in the report:

(i) A description of alternative actions considered with emphasis on those alternatives which involve source separation for materials recovery.

(ii) A description of ongoing actions which will be continued and new actions taken or proposed. This statement should identify all agency facilities which will be affected by these actions including a brief description of how such facilities will be affected.

(iii) An analysis in support of the action chosen by the agency including technical data, market studies, and policy considerations used in arriving at such a determination.

In covering the points above, agencies should make every effort to present information succinctly in a form easily understood, but in sufficient detail so that the factors influencing the decision not to source separate for materials recovery are clear.

(2) The above report shall be submitted to the Administrator as soon as possible after a final agency determination has been made not to adopt the requirements of these guidelines, but in no case later than sixty days after such final determination. The Administrator will indicate to the agency his concurrence/nonconcurrence with the agency's decision, including his reason therefor.

(3) Implementation of actions that would preclude source separation for materials recovery shall be deferred, for sixty days where feasible, in order to give the Administrator an opportunity to receive, analyze and seek clarification of the above required report.

(4) It is recommended that where the report required by § 246.100(f) concerns an action for which an Environmental Impact Statement (EIS) is required by the National Environmental Policy Act, that the report be circulated together with the EIS.

(g) The report required under § 246.100(e) and (f) shall be made on forms to be prescribed by the Administrator by notice in the FEDERAL REGISTER.

[41 FR 16952, Apr. 23, 1976, as amended at 47 FR 36603, Aug. 20, 1982]

§ 246.101 Definitions.

As used in these guidelines:

(a) *Agricultural solid waste* means the solid waste that is generated by the rearing of animals, and the producing and harvesting of crops or trees.

(b) *Baler* means a machine used to compress solid wastes, primary materials, or recoverable materials, with or without binding, to a density or from

which will support handling and transportation as a material unit rather than requiring a disposable or reuseable container. This specifically excludes briquetters and stationary compaction equipment which is used to compact materials into disposable or reuseable containers.

(c) *Bulk container* means a large container that can either be pulled or lifted mechanically onto a service vehicle or emptied mechanically into a service vehicle.

(d) *Classified Waste* means waste material that has been given security classification in accordance with 50 U.S.C. 401 and Executive Order 11652.

(e) *Collection* means the act of removing solid waste (or materials which have been separated for the purpose of recycling) from a central storage point.

(f) *Commercial establishment* means stores, offices, restaurants, warehouses and other non-manufacturing activities.

(g) *Commercial solid waste* means all types of solid wastes generated by stores, offices, restaurants, warehouses and other non-manufacturing activities, and non-processing wastes such as office and packing wastes generated at industrial facilities.

(h) *Construction and demolition waste* means the waste building materials, packaging, and rubble resulting from construction, remodeling, repair, and demolition operations on pavements, houses, commercial buildings and other structures.

(i) *Compartmentalized vehicle* means a collection vehicle which has two or more compartments for placement of solid wastes or recyclable materials. The compartments may be within the main truck body or on the outside of that body as in the form of metal racks.

(j) *Corrugated container waste* means discarded corrugated boxes.

(k) *Corrugated box* means a container for goods which is composed of an inner fluting of material (corrugating medium) and one or two outer liners of material (linerboard).

(l) *Federal facility* means any building, installation, structure, land, or public work owned by or leased to the Federal Government. Ships at sea, aircraft in the air, land forces on maneuvers, and other mobile facilities are not considered Federal facilities for the purpose of these guidelines. United States Government installations located on foreign soil or on land outside the jurisdiction of the United States Government are not considered Federal facilities for the purpose of these guidelines.

(m) *Food waste* means the organic residues generated by the handling, storage, sale, preparation, cooking, and serving of foods; commonly called garbage.

(n) *Generation* means the act or process of producing solid waste.

(o) *High-grade paper* means letterhead, dry copy papers, miscellaneous business forms, stationery, typing paper, tablet sheets, and computer printout paper and cards, commonly sold as ''white ledger,'' ''computer printout'' and ''tab card'' grade by the wastepaper industry.

(p) *Industrial solid waste* means the solid waste generated by industrial processes and manufacturing.

(q) *Infectious waste* means: (1) Equipment, instruments, utensils, and fomites (any substance that may harbor or transmit pathogenic organisms) of a disposable nature from the rooms of patients who are suspected to have or have been diagnosed as having a communicable disease and must, therefore, be isolated as required by public health agencies; (2) laboratory wastes, such as pathological specimens (e.g. all tissues, specimens of blood elements, excreta, and secretions obtained from patients or laboratory animals) and disposable fomites attendant thereto; (3) surgical operating room pathologic specimens and disposable fomites attendant thereto and similar disposable materials from outpatient areas and emergency rooms.

(r) *Institutional solid waste* means solid wastes generated by educational, health care, correctional and other institutional facilities.

(s) *Mining wastes* means residues which result from the extraction of raw materials from the earth.

(t) *Post-consumer waste* (PCW) means a material or product that has served its intended use and has been discarded for disposal or recovery after passing through the hands of a final consumer.

(u) *Recoverable resources* means materials that still have useful physical, chemical, or biological properties after serving their original purpose and can, therefore, be reused or recycled for the same or other purposes.

(v) *Recovery* means the process of obtaining materials or energy resources from solid waste.

(w) *Recycled material* means a material that is used in place of a primary, raw or virgin material in manufacturing a product.

(x) *Recycling* means the process by which recovered materials are transformed into new products.

(y) *Residential solid waste* means the wastes generated by the normal activities of households, including but not limited to, food wastes, rubbish, ashes, and bulky wastes.

(z) *Separate collection* means collecting recyclable materials which have been separated at the point of generation and keeping those materials separate from other collected solid waste in separate compartments of a single collection vehicle or through the use of separate collection vehicles.

(aa) *Sludge* means the accumulated semiliquid suspension of settled solids deposited from wastewaters or other fluids in tanks or basins. It does not include solid or dissolved material in domestic sewage or other significant pollutants in water resources, such as silt, dissolved material in irrigation return flows or other common water pollutants.

(bb) *Solid waste* means garbage, refuse, sludge, and other discarded solid materials, including solid waste materials resulting from industrial, commercial, and agricultural operations, and from community activities, but does not include solids or dissolved materials in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluents, dissolved materials in irrigation return flows or other common water pollutants. Unless specifically noted otherwise, the term ''solid waste'' as used in these guidelines shall not include mining, agricultural, and industrial solid wastes; hazardous wastes; sludges; construction and demolition wastes; and infectious wastes.

(cc) *Source separation* means the setting aside of recyclable materials at their point of generation by the generator.

(dd) *Specification* means a clear and accurate description of the technical requirements for materials, products or services, identifying the minimum requirements for quality and construction of materials and equipment necessary for an acceptable product. In general, specifications are in the form of written descriptions, drawings, prints, commercial designations, industry standards, and other descriptive references.

(ee) *Stationary compactor* means a powered machine which is designed to compact solid waste or recyclable materials, and which remains stationary when in operation.

(ff) *Storage* means the interim containment of solid waste after generation and prior to collection for ultimate recovery or disposal.

(gg) *Virgin material* means a raw material used in manufacturing that has been mined or harvested and has not as yet become a product.

Subpart B—Requirements and Recommended Procedures

§ 246.200 High-grade paper recovery.

§ 246.200–1 Requirements.

High-grade paper generated by office facilities of over 100 office workers shall be separated at the source of generation, separately collected, and sold for the purpose of recycling.

§ 246.200–2 Recommended procedures: High-grade paper recovery from smaller offices.

The recovery of high-grade paper generated by office facilities of less than 100 office workers should be investigated in conformance with the following recommended procedures and implemented where feasible.

§ 246.200–3 Recommended procedures: Market study.

An investigation of markets should be made by the organization responsible for the sale of recyclable materials in each Federal agency and should include at a minimum:

(a) Identifying potential purchasers of the recovered paper through standard market research techniques;

(b) Directly contacting buyers, and determining the buyers' quality specifications, the exact types of paper to be recycled, potential transportation agreements and any minimum quantity criteria; and

(c) Determining the price that the buyer will pay for the recovered paper and the willingness of the buyer to sign a contract for purchase of the paper at a guaranteed minimum price.

§ 246.200–4 Recommended procedures: Levels of separation.

A two-level separation is recommended for most facilities. This separation should consist of (a) high-grade wastepaper and (b) all other waste. Facilities that produce large enough quantities of waste computer paper and cards to make their separation into a separate category cost effective may choose to implement three levels of separation: (1) Computer papers, (2) other high-grade papers, (3) all other wastes.

§ 246.200–5 Recommended procedures: Methods of separation and collection.

(a) Systems designed to recover high grades of office paper at the source of generation, i.e., the desk, are the desk-top system, the two-wastebasket system, and the office centralized container system.

(b) With the desk-top system, recyclable paper is placed by the generator in a container on his desk, while other waste is placed in a wastebasket. With the two-wastebasket system, recyclable paper is placed by the generator in one desk-side wastebasket, and all other waste is placed in another. In the centralized container system, large containers for the collection of recyclables are placed in centralized locations within the office areas of the building. Nonrecyclable waste is placed in desk-side wastebaskets.

(c) The recommended system is the desk-top system because it is designed to maximize recovery of high value material in an economically feasible manner. While the two-wastebasket system and centralized container system have been implemented with success in isolated instances, data indicate that, on the whole, these systems have experienced high levels of contamination, low levels of participation, and low revenues. The desk-top system has been designed to minimize these problems.

(d) The precise method of separation and collection used to implement the desk-top system will depend upon such things as the physical layout of the individual facility, the ease of collection, and the projected cost effectiveness of using various methods. The recommended desk-top system is carried out in the following manner:

(1) Workers are to deposit high-grade paper into a desk-top tray or other small desk-top holder to be supplied by the agency. This holder should be designed in such a way as to prevent it holding contaminants, such as food or beverage containers.

(2) At the office worker's convenience or when the tray is filled, the worker carries the paper to a conveniently located bulk container within the office area. This large container should be located in an area the worker frequents in the normal course of business.

(3) In locations where computer cards and printouts are to be collected separately, the receptacle for these wastes should be near the computer terminal or in some other logical, centrally located place.

(4) Collection of the high-grade paper from the bulk containers in the office area should be performed by the janitorial or general maintenance service.

The number of locations and the frequency of collection of these containers will be determined by office size and maintenance staff capacity.

(e) Mixed paper and some high-grade office papers have also been recovered for recycling by hand-picking in an individual building's trash room or at a centralized facility serving several

buildings. With these hand-picking systems, recyclable waste is not separated at the source of generation, but is mixed with other waste in the usual manner and removed to a centralized location where recyclable paper is picked out of the mixed waste by hand. Facilities may choose to use this method of high-grade paper recovery if it is shown by analysis to be economically preferable to source separation.

§ 246.200–6 Recommended procedures: Storage.

Among the alternatives for paper storage are on-site bailing, the use of stationary compactors, or storage in corrugated boxes or normal waste containers. Stored paper should be protected from fire, inclement weather, theft, and vandalism.

§ 246.200–7 Recommended procedures: Transportation.

Transportation to market may be supplied by the facility, by a private hauler, or by the purchaser. Collection of the recyclable paper should be on a regular, established schedule.

§ 246.200–8 Recommended procedures: Cost analysis.

After potential markets have been located (but prior to initiation of formal bidding procedures), preliminary determinations of various separation methods, storage, and transportation costs have been made, and estimated tonnages of both recoverable high-grade paper and residual solid waste have been established, an analysis should be conducted which compares the costs of the present waste collection and disposal system with the proposed segregated systems. At a minimum, the study should include all capital, operating and overhead costs and take into account credits for revenue from paper sales and savings from diverting recycled materials from disposal. Potential costs to upgrade collection and disposal practices to comply with EPA's Guidelines for the Storage and Collection of Residential, Commercial and Institutional Solid Wastes (40 CFR part 243) and Thermal Processing and Land Disposal Guidelines (40 CFR parts 240 and 241) should be included in the analysis. In formulating a separation system and evaluating its costs, every effort should be made to use janitorial and waste collection resources efficiently. This cost analysis should enable the facility to determine the most cost effective method of implementing the requirement of this part.

§ 246.200–9 Recommended procedures: Contracts.

Formal bids should be requested for purchase of the recovered materials, such bids being solicited in conformance with bidding procedures established for the responsible agency. Contracts should include the buyer's quality specifications, quantity and transportation agreements, a guarantee that the material will be accepted for one year or more, and a guaranteed minimum purchase price.

§ 246.200–10 Recommended procedures: Public information and education.

A well-organized and well-executed public information and education program explaining the justification, goals, methods and level of separation should be conducted to inform and motivate office personnel and secure their cooperation in separating their waste. This public information and education program should precede the program and continue on a regular basis for its duration.

§ 246.201 Residential materials recovery.

§ 246.201–1 Requirement.

Separation of used newspapers at the source of residential generation in conjunction with separate collection shall be carried out at all facilities in which more than 500 families reside, and the newspapers shall be sold for the purpose of recycling.

§ 246.201–2 Recommended procedures: Newsprint recovery from smaller residential facilities.

The recovery of newsprint generated by residential facilities of less than 500 families should be investigated in conformance with the following recommended procedures and implemented where feasible.

§ 246.201–3 Recommended procedures: Glass, can, and mixed paper separation.

In areas where markets are available, it is recommended that glass, cans, and mixed paper be separated at the source of generation and separately collected for the purpose of recycling.

§ 246.201–4 Recommended procedures: Market study.

An investigation of markets should be made for each material by the organization responsible for sale of recyclable materials in each agency and should include at a minimum:

(a) Identifying potential purchasers of the recovered material through standard market research techniques.

(b) Directly contacting buyers and determining the buyers' quality specifications, potential transportation agreements and any minimum quantity criteria.

(c) Determining the prices that the buyer will pay for the recovered material and the willingness of the buyer to sign a contract for the purchase of the material at guaranteed minimum prices.

§ 246.201–5 Recommended procedures: Methods of separation and collection.

Following separation within the home, any of the following methods of collection may be used:

(a) Materials may be placed at the curbside by the resident and may be collected from each household using separate trucks or compartmentalized vehicles.

(b) For multi-family dwellings, separated materials may be placed in bulk containers located outside of the building and collected by trucks dispatched to collect recyclables.

(c) Collection stations may be set up at convenient locations to which residents bring recyclables. These stations should provide separate bulk containers for each item to be recycled. The size and type of container will depend on the volume and type of material collected, the method of transportation to be used in hauling the materials to market and the frequency of removal.

§ 246.201–6 Recommended procedures: Transportation to market.

Transportation to market may be supplied by the facility or the community generating the waste, by a private hauler, or by the purchaser.

§ 246.201–7 Recommended procedures: Cost analysis.

After potential markets have been located (but prior to initiation of formal bidding procedures), preliminary determinations of various separation methods, storage and transportation costs have been made, and estimated tonnages of both recoverable materials and residual solid waste have been established, an analysis should be conducted which compares the costs of the present waste collection and disposal system with the proposed segregated systems. At a minimum this study should include all capital, operating and overhead costs and take into account credits for revenue from paper sales and savings from diverting recycled materials from disposal. Potential costs to upgrade collection and disposal practices to comply with EPA's Guidelines for the Storage and Collection of Residential, Commercial and Institutional Solid Wastes (40 CFR part 243) and Thermal Processing and Land Disposal Guidelines (40 CFR parts 240 and 241) should be included in the analysis. In formulating a separate collection system and evaluating its costs, every effort should be made to use idle equipment and underutilized collection manpower to reduce separate collection costs. This cost analysis should enable the facility to determine the most cost effective method if implementing the requirements of this part.

§ 246.201–8 Recommended procedures: Contracts.

Formal bids should be requested for purchase of the recovered materials, such bids being solicited in conformance with bidding procedures established for the responsible jurisdiction. Contracts should include the buyer's quality specifications, quantity and transportation agreements, a guarantee that the material will be accepted for one year or more and a guaranteed minimum purchase price.

§ 246.201–9 Recommended procedures: Public information and education.

A well organized and well executed public information and education program explaining the justification, goals, methods and level of separation should be conducted to inform and motivate householders and to secure their cooperation in separating their waste. This public information and education program should precede the program and continue on a regular basis for its duration.

§ 246.202 Corrugated container recovery.

§ 246.202–1 Requirement.

Any commercial establishment generating 10 or more tons of waste corrugated containers per month shall separately collect and sell this material for the purpose of recycling.

§ 246.202–2 Recommended procedures: Corrugated container recovery from smaller commercial facilities.

The recovery of corrugated containers from commercial facilities generating less than 10 tons per month should be investigated in conformance with the following recommended procedures and implemented where feasible.

§ 246.202–3 Recommended procedures: Market study.

An investigation of markets should be made by the organization responsible for sale of recyclable material in each Federal agency and should include at a minimum:

(a) Identifying potential purchasers of the recovered corrugated through standard market research techniques.

(b) Directly contacting buyers and determining the buyers' quality specifications, potential transportation agreements and any minimum quantity criteria.

(c) Determining the price that the buyer will pay for the recovered corrugated and the willingness of the buyer to sign a contract for purchase of the paper at a guaranteed minimum price.

§ 246.202–4 Recommended procedures: Methods of separation and storage.

The method selected will depend upon such variables as the physical layout of the individual generating facility, the rate at which the corrugated accumulates, the storage capacity of the facility, and the projected cost-effectiveness of using the various methods. All of the following suggested modes of separation and storage presuppose that the corrugated boxes will be accumulated at a central location in the facility after their contents are removed and that the boxes are flattened.

(a) Balers of various sizes: Corrugated boxes are placed in balers and compacted into bales. These bales may be stored inside or outside of the facility. The bales should be protected from fire, inclement weather, theft, and vandalism.

(b) Stationary compactors or bulk containers: Corrugated boxes are placed in a stationary compactor or bulk containers outside of the facility. The containers should be protected from fire, inclement weather, theft and vandalism.

§ 246.202–5 Recommended procedures: Transportation.

Transportation to market may be supplied by either the facility, a private hauler or the purchaser. In facilities to which goods are delivered from a central warehouse, corrugated may be backhauled by delivery trucks to the central facility and baled there for delivery to a user.

§ 246.202–6 Recommended procedures: Cost analysis.

After potential markets have been identified (but prior to initiation of formal bidding), preliminary determinations of various separation methods, storage and transportation costs have been made, and estimated tonnages of both recoverable material and residual solid waste have been established, an analysis should be conducted which compares the costs of the present waste collection and disposal system with the proposed segregated systems. At a minimum, the study should include all capital, operating

and overhead costs and take into account credits for revenue from paper sales and savings from diverting recycled materials from disposal. Potential costs to upgrade collection and disposal practices to comply with EPA's Guidelines for the Storage and Collection of Residential, Commercial and Institutional Solid Wastes (40 CFR part 243) and Thermal Processing and Land Disposal Guidelines (40 CFR parts 240 and 241) should be included in the analysis. This cost analysis should enable the facility to determine the most cost effective method of implementing these guidelines.

§ 246.202–7 Recommended procedures: Establishment of purchase contract.

Formal bids should be requested for purchase of the recovered materials, such bids being solicited in conformance with bidding procedures established for the responsible agency. Contracts should include the buyer's quality specifications, transportation agreements, a guarantee that the material will be accepted for one year or more and a guaranteed minimum purchase price.

§ 246.203 Reevaluation.

APPENDIX TO PART 246—RECOMMENDED BIBLIOGRAPHY

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PART 247—COMPREHENSIVE PROCUREMENT GUIDELINE FOR PRODUCTS CONTAINING RECOVERED MATERIALS

Subpart A—General

Subpart B—Item Designations

AUTHORITY: 42 U.S.C. 6912(a) and 6962; E.O. 13423, 72 FR 3919, 3 CFR, 1998 Comp., p. 210.

SOURCE: 60 FR 21381, May 1, 1995, unless otherwise noted.

Subpart A—General

§ 247.1 Purpose and scope.

(a) The purpose of this guideline is to assist procuring agencies in complying with the requirements of section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6962, and Executive Order 12873, as they apply to the procurement of the items designated in subpart B of this part.

(b) This guideline designates items that are or can be made with recovered materials and whose procurement by procuring agencies will carry out the objectives of section 6002 of RCRA. EPA's recommended practices with respect to the procurement of specific designated items are found in the companion Recovered Materials Advisory Notice(s).

(c) EPA believes that adherence to the recommendations in the Recovered Materials Advisory Notice(s) constitutes compliance with RCRA section 6002. However, procuring agencies may adopt other types of procurement programs consistent with RCRA section 6002.

§ 247.2 Applicability.

(a)(1) This guideline applies to all procuring agencies and to all procurement actions involving items designated by EPA in this part, where the procuring agency purchases $10,000 or more worth of one of these items during the course of a fiscal year, or where the cost of such items or of functionally equivalent items purchased during the preceding fiscal year was $10,000 or more.

(2) This guideline applies to Federal agencies, to State and local agencies using appropriated Federal funds to procure designated items, and to persons contracting with any such agencies with respect to work performed under such contracts. Federal procuring agencies should note that the requirements of RCRA section 6002 apply to them whether or not appropriated Federal funds are used for procurement of designated items.

(3) The $10,000 threshold applies to procuring agencies as a whole rather than to agency subgroups such as regional offices or subagencies of a larger department or agency.

(b) The term *procurement actions* includes:

(1) Purchases made directly by a procuring agency and purchases made directly by any person (e.g., a contractor) in support of work being performed for a procuring agency, and

(2) Any purchases of designated items made ''indirectly'' by a procuring agency, as in the case of procurements resulting from grants, loans, funds, and similar forms of disbursements of monies.

(c)(1) This guideline does not apply to purchases of designated items which are unrelated to or incidental to Federal funding, i.e., not the direct result of a contract or agreement with, or a grant, loan, or funds disbursement to, a procuring agency.

(2) This guideline also does not apply to purchases made by private party recipients (e.g., individuals, non-profit organizations) of Federal funds pursuant to grants, loans, cooperative agreements, and other funds disbursements.

(d) RCRA section 6002(c)(1) requires procuring agencies to procure designated items composed of the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, considering such guidelines. Procuring agencies may decide not to procure such items if they are not reasonably available in a reasonable period of time; fail to meet reasonable performance standards; or are only available at an unreasonable price.

[60 FR 21381, May 1, 1995, as amended at 62 FR 60973, Nov. 13, 1997]

§ 247.3 Definitions.

As used in this procurement guideline and the related Recovered Materials Advisory Notice(s):

Act or *RCRA* means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, as amended, 42 U.S.C 6901 *et seq;*

Awards and plaques refers to freestanding statues and boardlike products generally used as wall-hangings.

Bike racks are free-standing or anchored units that provide a method for cyclists to secure their bicycles safely.

Blanket insulation means relatively flat and flexible insulation in coherent sheet form, furnished in units of substantial area. Batt insulation is included in this term;

Blasting grit is a type of industrial abrasive used to shape, cut, sharpen, polish, or finish surfaces and materials.

Board insulation means semi-rigid insulation preformed into rectangular units having a degree of suppleness, particularly related to their geometrical dimensions;

Building insulation means a material, primarily designed to resist heat flow, which is installed between the conditioned volume of a building and adjacent unconditioned volumes or the outside. This term includes but is not limited to insulation products such as blanket, board, spray-in-place, and loose-fill that are used as ceiling, floor, foundation, and wall insulation;

Carpet cushion, also known as carpet underlay, is padding placed beneath carpet to reduce carpet wear caused by foot traffic or furniture indentation, enhance comfort, and prolong appearance.

Cellulose fiber loose-fill means a basic material of recycled wood-based cellulosic fiber made from selected paper, paperboard stock, or ground wood stock, excluding contaminated materials which may reasonably be expected to be retained in the finished product, with suitable chemicals introduced to provide properties such as flame resistance, processing and handling characteristics. The basic cellulosic material may be processed into a form suitable for installation by pneumatic or pouring methods;

Cenospheres, a naturally-occurring waste component of coal fly ash, are very small, inert, lightweight, hollow, ''glass'' spheres composed of silica and alumina and filled with air or other gases.

Channelizers means highly visible barrels or drums that can be positioned to direct traffic through detours;

Compost is a thermophilic converted product with high humus content. Compost can be used as a soil amendment and can also be used to prevent or remediate pollutants in soil, air, and storm water run-off.

Delineator means a highly visible pavement marker that can be positioned to direct traffic or define boundaries;

Engine lubricating oils means petroleum-based oils used for reducing friction in engine parts;

Federal agency means any department, agency, or other instrumentality of the Federal government; any independent agency or establishment of the Federal government including any government corporation; and the Government Printing Office;

Fertilizer made from recovered organic materials is a single or blended substance, made from organic matter such as plant and animal by-products, manure-based or biosolid products, and rock and mineral powders, that contains one or more recognized plant nutrient(s) and is used primarily for its plant nutrient content and is designed for use or claimed to have value in promoting plant growth.

Fiberglass insulation means insulation which is composed principally of glass fibers, with or without binders;

Flexible delineator means a highly visible marker that can be positioned to direct traffic or define boundaries and that will flex if struck by a vehicle to prevent damage to the vehicle or the delineator;

Flowable fill is a low strength material that is mixed to a wet, flowable slurry and used as an economical fill or backfill material in place of concrete, compacted soils, or sand.

Foam-in-place insulation is rigid cellular foam produced by catalyzed chemical reactions that hardens at the site of the work. The term includes spray-applied and injected applications such as spray-in-place foam and pour-in-place;

Garden hose means a flexible tubing that conducts water to a specific location;

Gear oils means petroleum-based oils used for lubricating machinery gears;

Hydraulic fluids means petroleum-based hydraulic fluids;

Hydraulic mulch means a mulch that is a cellulose-based (paper or wood) protective covering that is mixed with water and applied through mechanical

spraying in order to aid the germination of seeds and to prevent soil erosion;

Hydroseeding means the process of spraying seeds mixed with water through a mechanical sprayer (hydroseeder). Hydraulic mulch, fertilizer, a tacking agent, or a wetting agent can also be added to the water/seed mix for enhanced performance;

Industrial drums are cylindrical containers used for shipping and storing liquid or solid materials.

Laminated paperboard means board made from one or more plies of kraft paper bonded together, with or without facers, that is used for decorative, structural, or insulating purposes;

Latex paint means a water-based decorative or protective covering having a latex binder;

Lawn edging means a barrier used between lawns and landscaped areas or garden beds to prevent grass roots or weeds from spreading to the landscaped areas;

Loose-fill insulation means insulation in granular, nodular, fibrous, powdery, or similar form, designed to be installed by pouring, blowing or hand placement;

Manual-grade strapping refers to straps of material used with transport packaging to hold products in place on pallets or in other methods of commercial, bulk shipment. Strapping can also prevent tampering and pilferage during shipping.

Mats are temporary or semipermanent protective floor coverings used for numerous applications, including home and office carpet protection, car and truck floor board protection, traction on slippery surfaces, cushion from floor hardness, and reduction of injury risk during athletic events.

Mineral fiber insulation means insulation (rock wool or fiberglass) which is composed principally of fibers manufactured from rock, slag or glass, with or without binders;

Modular threshold ramps are ramps used to modify existing door thresholds and other small rises to remove access barriers created by differentials in landing levels.

Nonpressure pipe is pipe used to drain waste and wastewater, to vent gases, and to channel cable and conduit in various applications.

Office furniture is furniture typically used in offices, including seating, desks, storage units, file cabinets, tables, and systems furniture (or ''cubicles'').

Pallet means a portable platform for storing or moving cargo or freight;

Paper means one of two broad subdivisions of paper products, the other being paperboard. Paper is generally lighter in basis weight, thinner, and more flexible than paperboard. Sheets 0.012 inch or less in thickness are generally classified as paper. Its primary uses are for printing, writing, wrapping, and sanitary purposes. However, in this guideline, the term paper is also used as a generic term that includes both paper and paperboard.

Paper product means any item manufactured from paper or paperboard. The term paper product is used in this guideline to distinguish such items as boxes, doilies, and paper towels from printing and writing papers.

Park benches and picnic tables are recreational furniture found in parks, outdoor recreational facilities, and the grounds of office buildings and other facilities.

Parking stop means a barrier used to mark parking spaces and keep parked vehicles from rolling beyond a designated parking area;

Perlite composite board means insulation board composed of expanded perlite and fibers formed into rigid, flat, rectangular units with a suitable sizing material incorporated in the product. It may have on one or both surfaces a facing or coating to prevent excessive hot bitumen strike-in during roofing installation;

Person means an individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, Federal agency, State, municipality, commission, political subdivision of a State, or any interstate body;

Phenolic insulation means insulation made with phenolic plastics which are plastics based on resins made by the condensation of phenols, such as phenol or cresol, with aldehydes;

Plastic fencing means a barrier with an open-weave pattern that can be used

to control drifting snow or sand by restricting the force of wind and to provide a warning or barrier in construction and other areas;

Plastic lumber landscaping timbers and posts are used to enhance the appearance of and control erosion in parks, highways, housing developments, urban plazas, zoos, and the exteriors of office buildings, military facilities, schools, and other public use areas.

Playground equipment includes many components, like slides, merry-go-rounds, hand rails, etc., and is found in parks, schools, child care facilities, institutions, multiple family dwellings, restaurants, resort and recreational developments, and other public use areas.

Polyisocyanurate insulation means insulation produced principally by the polymerization of polymeric polyisocyanates, usually in the presence of polyhydroxyl compounds with the addition of cell stabilizers, blowing agents, and appropriate catalyst to produce a polyisocyanurate chemical structure;

Polystyrene insulation means an organic foam composed principally of polymerized styrene resin processed to form a homogenous rigid mass of cells;

Polyurethane insulation means insulation composed principally of the catalyzed reaction product of polyisocyanates and polyhydroxyl compounds, processed usually with a blowing agent to form a rigid foam having a predominantly closed cell structure;

Postconsumer material means a material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item. *Postconsumer material* is a part of the broader category of *recovered materials*.

Postconsumer recovered paper means:

(1) Paper, paperboard and fibrous wastes from retail stores, office buildings, homes and so forth, after they have passed through their end-usage as a consumer item including: Used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards and used cordage; and

(2) All paper, paperboard and fibrous wastes that enter and are collected from municipal solid waste;

Practicable means capable of being used consistent with: Performance in accordance with applicable specifications, availability at a reasonable price, availability within a reasonable period of time, and maintenance of a satisfactory level of competition;

Printer ribbon means a nylon fabric designed to hold ink and used in dot matrix and other types of impact printers;

Procurement item means any device, good, substance, material, product, or other item, whether real or personal property, which is the subject of any purchase, barter, or other exchange made to procure such item;

Procuring agency means any Federal agency, or any State agency or agency of a political subdivision of a State, which is using appropriated Federal funds for such procurement, or any person contracting with any such agency with respect to work performed under such contract;

Purchasing means the act of and the function of responsibility for the acquisition of equipment, materials, supplies, and services, including: Buying, determining the need, selecting the supplier, arriving at a fair and reasonable price and terms and conditions, preparing the contract or purchase order, and follow-up;

Railroad grade crossing surfaces are materials placed between railroad tracks, and between the track and the road at highway and street railroad crossings, to enhance automobile and pedestrian safety.

Rebuilt vehicular parts are vehicular parts that have been remanufactured, reusing parts in their original form.

Recovered materials means waste materials and byproducts which have been recovered or diverted from solid waste, but such term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process;

Recovered materials, for purposes of purchasing paper and paper products, means waste material and byproducts that have been recovered or diverted from solid waste, but such term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process. In the case of paper

and paper products, the term *recovered materials* includes:

(1) Postconsumer materials such as—

(i) Paper, paperboard, and fibrous wastes from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: Used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; and

(ii) All paper, paperboard, and fibrous wastes that enter and are collected from municipal solid waste, and

(2) Manufacturing, forest residues, and other wastes such as—

(i) Dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel in smaller rolls of rough sheets) including: Envelope cuttings, bindery trimmings, and other paper and paperboard waste, resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and

(ii) Finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others;

(iii) Fibrous byproducts of harvesting, manufacturing, extractive, or wood-cutting processes, flax, straw, linters, bagasse, slash, and other forest residues;

(iv) Wastes generated by the conversion of goods made from fibrous material (that is, waste rope from cordage manufacture, textile mill waste, and cuttings); and

(v) Fibers recovered from waste water which otherwise would enter the waste stream.

Re-refined oils means used oils from which the physical and chemical contaminants acquired through previous use have been removed through a refining process;

Restroom divider/partition means a barrier used to provide privacy in public restroom facilities;

Retread tire means a worn automobile, truck, or other motor vehicle tire whose tread has been replaced;

Rock wool insulation means insulation which is composed principally from fibers manufactured from slag or natural rock, with or without binders;

Roofing materials are materials used to construct a protective cover over a structure to shield its interior from the natural elements.

Shower divider/partition means a water-proof barrier used to provide privacy in public shower facilities;

Signage (including sign posts and supports) is used for identification and directional purposes for public roads and highways, and inside and outside office buildings, museums, parks, and other public places.

Silica fume is a waste byproduct of alloyed metal production.

Soaker hose means a perforated flexible tubing that is used to deliver gentle irrigation to plants;

Sorbents (*i.e.*, absorbents and adsorbents) are materials used to retain liquids and gases in a diverse number of environmental, industrial, agricultural, medical, and scientific applications. Absorbents incorporate a substance while adsorbents gather substances on their surfaces.

Specification means a description of the technical requirements for a material, product, or service that includes the criteria for determining whether these requirements are met. In general, specifications are in the form of written commercial designations, industry standards, and other descriptive references;

Spray-in-place insulation means insulation material that is sprayed onto a surface or into cavities and includes cellulose fiber spray-on as well as plastic rigid foam products;

Spray-in-place foam is rigid cellular polyurethane or polyisocyanurate foam produced by catalyzed chemical reactions that hardens at the site of the work. The term includes spray-applied and injected applications;

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;

Structural fiberboard means a fibrous-felted, homogenous panel made from lignocellulosic fibers (usually wood,

cane, or paper) and having a density of less than 31 lbs/ft^3 but more than 10 lbs/ft^3. It is characterized by an integral bond which is produced by interfelting of the fibers, but which has not been consolidated under heat or pressure as a separate stage of manufacture;

Tire means the following types of tires: Passenger car tires, light- and heavy-duty truck tires, high-speed industrial tires, bus tires, and special service tires (including military, agricultural, off-the-road, and slow-speed industrial);

[60 FR 21381, May 1, 1995, as amended at 62 FR 60973, Nov. 13, 1997; 65 FR 3080, Jan. 19, 2000; 69 FR 24038, Apr. 30, 2004; 72 FR 52488, Sept. 14, 2007]

§ 247.4 Contracting officer requirements.

Within one year after the effective date of each item designation, contracting officers shall require that vendors:

(a) Certify that the percentage of recovered materials to be used in the performance of the contract will be at least the amount required by applicable specifications or other contractual requirements, and

(b) Estimate the percentage of total material utilized for the performance of the contract which is recovered materials.

§ 247.5 Specifications.

(a) RCRA section 6002(d)(1) required Federal agencies that have the responsibility for drafting or reviewing specifications for procurement items procured by Federal agencies to revise their specifications by May 8, 1986, to eliminate any exclusion of recovered materials and any requirement that items be manufactured from virgin materials.

(b) RCRA section 6002(d)(2) requires that within one year after the publication date of each item designation by the EPA, each procuring agency must assure that its specifications for these items require the use of recovered materials to the maximum extent possible without jeopardizing the intended end use of these items.

§ 247.6 Affirmative procurement programs.

RCRA section 6002(i) provides that each procuring agency which purchases items designated by EPA must establish an affirmative procurement program, containing the four elements listed below, for procuring such items containing recovered materials to the maximum extent practicable:

(a) Preference program for purchasing the designated items;

(b) Promotion program;

(c) Procedures for obtaining estimates and certifications of recovered materials content and for verifying the estimates and certifications; and

(d) Annual review and monitoring of the effectiveness of the program.

§ 247.7 Effective date.

Within one year after the date of publication of any item designation, procuring agencies which purchase that designated item must comply with the following requirements of RCRA: affirmative procurement of the designated item (6002(c)(1) and (i)), specifications revision (6002(d)(2)), vendor certification and estimation of recovered materials content of the item (6002(c)(3) and (i)(2)(C)), and verification of vendor estimates and certifications (6002(i)(2)C)).

Subpart B—Item Designations

§ 247.10 Paper and paper products.

Paper and paper products, excluding building and construction paper grades.

§ 247.11 Vehicular products.

(a) Lubricating oils containing re-refined oil, including engine lubricating oils, hydraulic fluids, and gear oils, excluding marine and aviation oils.

(b) Tires, excluding airplane tires.

(c) Reclaimed engine coolants, excluding coolants used in non-vehicular applications.

(d) Rebuilt vehicular parts.

[60 FR 21381, May 1, 1995, as amended at 69 FR 24038, Apr. 30, 2004]

§ 247.12 Construction products.

(a) Building insulation products, including the following items:

(1) Loose-fill insulation, including but not limited to cellulose fiber, mineral fibers (fiberglass and rock wool), vermiculite, and perlite;

(2) Blanket and batt insulation, including but not limited to mineral fibers (fiberglass and rock wool);

(3) Board (sheathing, roof decking, wall panel) insulation, including but not limited to structural fiberboard and laminated paperboard products, perlite composite board, polyurethane, polyisocyanurate, polystyrene, phenolics, and composites; and

(4) Spray-in-place insulation, including but not limited to foam-in-place polyurethane and polyisocyanurate, and spray-on cellulose.

(b) Structural fiberboard and laminated paperboard products for applications other than building insulation, including building board, sheathing, shingle backer, sound deadening board, roof insulating board, insulating wallboard, acoustical and non-acoustical ceiling tile, acoustical and non-acoustical lay-in panels, floor underlayments, and roof overlay (coverboard).

(c) Cement and concrete, including concrete products such as pipe and block containing:

(1) Coal fly ash;

(2) Ground granulated blast furnace slag (GGBF);

(3) Cenospheres; or

(4) Silica fume from silicon and ferrosilicon metal production.

(d) Carpet made from polyester fiber made from recovered materials for use in moderate-wear applications such as single-family housing and similar wear applications.

(e) Floor tiles and patio blocks containing recovered rubber or plastic.

(f) Shower and restroom dividers/partitions containing recovered plastic or steel.

(g)(1) Consolidated latex paint used for covering graffiti; and

(2) Reprocessed latex paint used for interior and exterior architectural applications such as wallboard, ceilings, and trim; gutter boards; and concrete, stucco, masonry, wood, and metal surfaces.

(h) Carpet cushion made from bonded polyurethane, jute, synthetic fibers, or rubber containing recovered materials.

(i) Flowable fill containing coal fly ash and/or ferrous foundry sands.

(j) Railroad grade crossing surfaces made from cement and concrete containing fly ash, recovered rubber, recovered steel, recovered wood, or recovered plastic.

(k) Modular threshold ramps containing recovered steel, rubber, or aluminum.

(l) Nonpressure pipe containing recovered steel, plastic, or cement.

(m) Roofing materials containing recovered steel, aluminum, fiber, rubber, plastic or plastic composites, or cement.

[60 FR 21381, May 1, 1995, as amended at 62 FR 60974, Nov. 13, 1997; 65 FR 3081, Jan. 19, 2000; 69 FR 24038, Apr. 30, 2004]

§ 247.13 Transportation products.

(a) Traffic barricades and traffic cones used in controlling or restricting vehicular traffic.

(b) Parking stops made from concrete or containing recovered plastic or rubber.

(c) Channelizers containing recovered plastic or rubber.

(d) Delineators containing recovered plastic, rubber, or steel.

(e) Flexible delineators containing recovered plastic.

[60 FR 21381, May 1, 1995, as amended at 62 FR 60974, Nov. 13, 1997]

§ 247.14 Park and recreation products.

(a) Playground surfaces and running tracks containing recovered rubber or plastic.

(b) Plastic fencing containing recovered plastic for use in controlling snow or sand drifting and as a warning/safety barrier in construction or other applications.

(c) Park benches and picnic tables containing recovered steel, aluminum, plastic, or concrete.

(d) Playground equipment containing recovered plastic, steel, or aluminum.

[60 FR 21381, May 1, 1995, as amended at 62 FR 60974, Nov. 13, 1997; 65 FR 3081, Jan. 19, 2000]

§ 247.15 Landscaping products.

(a) Hydraulic mulch products containing recovered paper or recovered wood used for hydroseeding and as an

over-spray for straw mulch in landscaping, erosion control, and soil reclamation.

(b) Compost made from recovered organic materials.

(c) Garden and soaker hoses containing recovered plastic or rubber.

(d) Lawn and garden edging containing recovered plastic or rubber.

(e) Plastic lumber landscaping timbers and posts containing recovered materials.

(f) Fertilizer made from recovered organic materials.

[60 FR 21381, May 1, 1995, as amended at 62 FR 60974, Nov. 13, 1997; 65 FR 3081, Jan. 19, 2000; 72 FR 52488, Sept. 14, 2007]

§ 247.16 Non-paper office products.

(a) Office recycling containers and office waste receptacles.

(b) Plastic desktop accessories.

(c) Toner cartridges.

(d) Plastic-covered binders containing recovered plastic; chipboard and pressboard binders containing recovered paper; and solid plastic binders containing recovered plastic.

(e) Plastic trash bags.

(f) Printer ribbons.

(g) Plastic envelopes.

(h) Plastic clipboards containing recovered plastic.

(i) Plastic file folders containing recovered plastic.

(j) Plastic clip portfolios containing recovered plastic.

(k) Plastic presentation folders containing recovered plastic.

(l) Office furniture containing recovered steel, aluminum, wood, agricultural fiber, or plastic.

[60 FR 21381, May 1, 1995, as amended at 62 FR 60974, Nov. 13, 1997; 65 FR 3081, Jan. 19, 2000; 69 FR 24038, Apr. 30, 2004]

§ 247.17 Miscellaneous products.

(a) Pallets containing recovered wood, plastic, or paperboard.

(b) Sorbents containing recovered materials for use in oil and solvent clean-ups and as animal bedding.

(c) Industrial drums containing recovered steel, plastic, or paper.

(d) Awards and plaques containing recovered glass, wood, paper, or plastic.

(e) Mats containing recovered rubber and/or plastic.

(f)(1) Non-road signs containing recovered plastic or aluminum and road signs containing recovered aluminum.

(2) Sign supports and posts containing recovered plastic or steel.

(g) Manual-grade strapping containing recovered steel or plastic.

(h) Bike racks containing recovered steel or plastic.

(i) Blasting grit containing recovered steel, coal and metal slag, bottom ash, glass, plastic, fused alumina oxide, or walnut shells.

[62 FR 60974, Nov. 13, 1997, as amended at 65 FR 3081, Jan. 19, 2000; 69 FR 24038, Apr. 30, 2004]

PART 254—PRIOR NOTICE OF CITIZEN SUITS

Sec.

AUTHORITY: Sec. 7002, Pub. L. 94–580, 90 Stat. 2825 (42 U.S.C. 6972).

SOURCE: 42 FR 56114, Oct. 21, 1977, unless otherwise noted.

§ 254.1 Purpose.

Section 7002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, authorizes suit by any person to enforce the Act. These suits may be brought where there is alleged to be a violation by any person (including (a) the United States, and (b) any other governmental instrumentality or agency, to the extent permitted by the eleventh amendment to the Constitution) of any permit, standard, regulation, condition, requirement, or order which has become effective under the Act, or a failure of the Administrator to perform any act or duty under the Act, which is not discretionary with the Administrator. These actions are to be filed in accordance with the rules of the district court in which the action is instituted. The purpose of this part is to prescribe procedures governing the notice requirements of subsections (b) and (c) of section 7002 as a prerequisite to the commencement of such actions.

§ 254.2 Service of notice.

(a) Notice of intent to file suit under subsection 7002(a)(1) of the Act shall be served upon an alleged violator of any permit, standard, regulation, condition, requirement, or order which has become effective under this Act in the following manner:

(1) If the alleged violator is a private individual or corporation, service of notice shall be accomplished by registered mail, return receipt requested, addressed to, or by personal service upon, the owner or site manager of the building, plant, installation, or facility alleged to be in violation. A copy of the notice shall be mailed to the Administrator of the Environmental Protection Agency, the Regional Administrator of the Environmental Protection Agency for the region in which the violation is alleged to have occurred, and the chief administrative officer of the solid waste management agency for the State in which the violation is alleged to have occurred. If the alleged violator is a corporation, a copy of the notice shall also be mailed to the registered agent, if any, of that corporation in the State in which such violation is alleged to have occurred.

(2) If the alleged violator is a State or local agency, service of notice shall be accomplished by registered mail, return receipt requested, addressed to, or by personal service upon, the head of that agency. A copy of the notice shall be mailed to the chief administrator of the solid waste management agency for the State in which the violation is alleged to have occurred, the Administrator of the Environmental Protection Agency, and the Regional Administrator of the Environmental Protection Agency for the region in which the violation is alleged to have occurred.

(3) If the alleged violator is a Federal agency, service of notice shall be accomplished by registered mail, return receipt requested, addressed to, or by personal service upon, the head of the agency. A copy of the notice shall be mailed to the Administrator of the Environmental Protection Agency, the Regional Administrator of the Environmental Protection Agency for the region in which the violation is alleged to have occurred, the Attorney General of the United States, and the chief administrative officer of the solid waste management agency for the State in which the violation is alleged to have occurred.

(b) Service of notice of intent to file suit under subsection 7002(a)(2) of the Act shall be accomplished by registered mail, return receipt requested, addressed to, or by personal service upon, the Administrator, Environmental Protection Agency, Washington, DC 20460. A copy of the notice shall be mailed to the Attorney General of the United States.

(c) Notice given in accordance with the provisions of this part shall be considered to have been served on the date of receipt. If service was acomplished by mail, the date of receipt will be considered to be the date noted on the return receipt card.

§ 254.3 Contents of notice.

(a) *Violation of permit, standard, regulation, condition, requirement, or order.* Notice regarding an alleged violation of a permit, standard, regulation, condition, requirement, or order which has become effective under this Act shall include sufficient information to permit the recipient to identify the specific permit, standard, regulation, condition, requirement, or order which has allegedly been violated, the activity alleged to constitute a violation, the person or persons responsible for the alleged violation, the date or dates of the violation, and the full name, address, and telephone number of the person giving notice.

(b) *Failure to act.* Notice regarding an alleged failure of the Administrator to perform an act or duty which is not discretionary under the Act shall identify the provisions of the Act which require such act or create such duty, shall describe with reasonable specificity the action taken or not taken by the Administrator which is claimed to constitute a failure to perform the act or duty, and shall state the full name, address, and telephone number of the person giving the notice.

(c) *Identification of counsel.* The notice shall state the name, address, and telephone number of the legal counsel, if any, representing the person giving the notice.

PART 255—IDENTIFICATION OF REGIONS AND AGENCIES FOR SOLID WASTE MANAGEMENT

Subpart A—General Provisions

Subpart B—Criteria for Identifying Regions and Agencies

Subpart C—Procedures for Identifying Regions and Agencies

Subpart D—Responsibilities of Identified Agencies and Relationship to Other Programs

Subpart E—Submission and Revision of Identifications

AUTHORITY: Sec. 2002(a)(1), Pub. L. 94–580, 90 Stat. 2795 (42 U.S.C. 6912(a)(1)). Also issued under sec. 4006(b), Pub. L. 94–580, 90 Stat. 2795 (42 U.S.C. 6946(b)).

SOURCE: 42 FR 24927, May 16, 1977, unless otherwise noted.

Subpart A—General Provisions

§ 255.1 Scope and purpose.

(a) These guidelines are applicable to policies, procedures, and criteria for the identification of those areas which have common solid waste management problems and which are appropriate units for planning regional solid waste management services pursuant to section 4002(a) of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (the Act). The guidelines also define and guide the identification of which functions will be carried out by which agencies pursuant to section 4006 of the Act.

(b) The purposes of these guidelines are to (1) provide useful criteria for selecting the regions and agencies to be identified pursuant to section 4006 of the Act and (2) provide guidance for conducting the process which will result in formal identification of those regions and agencies.

(c) Identifications made pursuant to these guidelines should be consistent with State solid waste management plans and strategies. A State strategy establishes: Goals for prevention of adverse effects on the environment resulting from improper solid waste disposal including protection of surface and ground water quality, air quality and the land; priorities among waste types; priorities among disposal practices; and the roles of existing agencies with responsibilities in solid waste management. The identification process should cover all waste types (residential and commercial solid waste, hazardous wastes, industrial sludges and pretreatment residues, municipal sewage sludge, air pollution control residue, septage, mining and agricultural waste, other industrial waste, and solid waste from community activities), all disposal practices (impoundments, pits, ponds, lagoons, landfills, dumps, land-spreading, and industrial leaching fields) and all technological approaches (conservation, recovery, incineration, disposal).

(Also sec. 4002(a), Pub. L. 94–580, 90 Stat. 2795 (42 U.S.C. 6942))

§ 255.2 Definitions.

The Act contains an extensive list of definitions in section 1004 which are applicable here. There are further definitions of terms in 40 CFR part 29 of this chapter which apply unless the context herein requires otherwise.

[42 FR 24927, May 16, 1977, as amended at 48 FR 29302, June 24, 1983]

Subpart B—Criteria for Identifying Regions and Agencies

§ 255.10 Criteria for identifying regions.

The following criteria are to assist in identifying regions pursuant to section 4006(a) of the Act.

(a) Geographic areas which have a history of cooperating to solve problems in environmental or other related matters should be considered.

(1) Regions encompassing existing regional, including countywide, systems or institutions, including those of the private sector, should be evaluated. Changes in their boundaries may be needed for economic viability or other reasons in keeping with the State plan.

(2) Boundary selection which would require the creation of new agencies should be considered only where necessary. The relationship among established agencies should be considered. Where institutional gaps or inadequacies are found, regions should be identified keeping in mind which agencies would be able to fill those needs.

(b) The size and location of regions should permit resource recovery and conservation in accordance with the objectives in section 4001 of the Act.

(1) A region's size and configuration should be considered, weighing transportation costs against economies of scale.

(2) Left-over regions having inadequate resources or volumes of waste should be avoided.

(3) Location should be considered relative to available transportation and to markets for recovered resources.

(c) The volume of wastes within a region will influence the technology choices for recovery and disposal, determine economies of scale, and affect marketability of resources recovered. A region should include sufficient volume of waste to support the goals and objectives of the State plan, including materials or energy recovery as appropriate.

(d) Waste type should be considered since it also affects management options. Industrial or hazardous waste streams may warrant special consideration or special boundaries.

(e) The effect of geologic and hydrologic conditions, such as soil suitability, land availability, natural barriers (rivers and mountains), the quantity and availability of water resources, and the susceptibility of ground water to contamination should be considered. Aquifer protection in accordance with State water quality management plans and policies could influence boundary selection.

(f) Coordination with ongoing planning for other purposes may be an influence in selecting boundaries.

(1) The local and regional planning process should be integrated into the State planning process.

(2) Use of a common data base should be encouraged among transportation, land use, and other planning areas.

(3) To the extent practicable, coterminous planning regions should be encouraged, and larger regions should be multiples of whole smaller regions.

(4) Coordination should be provided with those agencies designated for water quality management planning under section 208 of the Federal Water Pollution Control Act, with underground injection control agencies designated in accordance with the Safe Drinking Water Act, and with air quality planning agencies designated under the Clean Air Act.

(Sec. 4002(a), Pub. L. 94–580, 90 Stat. 2795 (42 U.S.C. 6942))

§ 255.11 Criteria for identifying agencies.

The following criteria are intended to assist in the process of agency selection pursuant to section 4006(b) of the Act. They may also be useful in pointing out needed improvements in the qualifications of the selected agencies.

(a) Existing agencies with demonstrated satisfactory ability to plan, manage, or operate solid waste management services should be considered for planning and implementation responsibilities. Agencies which have completed planning that resulted in successful implementation of solid waste management facilities or services should be given priority consideration for future planning responsibilities when they otherwise meet these criteria.

(b) An agency to be identified as responsible for conducting regional solid waste management planning should:

(1) Be a representative organization composed of, or whose membership is composed of, individuals at least a majority of whom are elected officials of local governments or their designees having jurisdiction in the planning region.

(2) Have planning jurisdiction in the entire planning region.

(3) Be capable of having the planning process fully underway within 1 year after identification.

(4) Have established procedures for adoption, review, and revision of plans and resolution of major issues, including procedures for public participation in the planning process.

(5) Have appropriate experience and skills to perform all of its assigned responsibilities, including expertise for the particular waste type, processing or disposal technology, and functional area. (Attention is directed to OMB Circular No. A–95, paragraph 1.e., part IV of Attachment A which encourages the designation of established substate district comprehensive planning agencies as the agencies to carry out areawide planning assisted or required under any Federal program).

(c) In identifying agencies for solid waste management planning and implementation under section 4006 of the Act, the State should review the solid waste activities being conducted by water quality management planning agencies designated under section 208 of the Federal Water Pollution Control Act. Where feasible, identification of such agencies should be considered in the joint identification processes of subpart C of this part. There should be a formal means of coordination established with the State water quality management agencies.

(d) Planning objectives will influence agency selection. Distinctions may be made between policy planning and facility planning and between planning a single solid waste management system and comprehensive planning which addresses trade-offs among various media.

(e) For coordinating planning and implementation under the State plan, as required in section 4003(1)(c), consideration should be given to identifying one agency for both functions. Where separate planning and implementation agencies are selected, there should be some means to ensure implementation, such as State legislation or an interagency agreement that all constituent jurisdictions will abide by the plan. Furthermore, strong coordination should be established between the planning agency and the implementing agency. During the planning period, the implementation agency should have continual access to plan development processes. There should be an administrative procedure to resolve conflicts between planners and implementers.

(f) The agency responsible for carrying out the regional plan should be constituted with authority to implement the plan in its constituent jurisdictions.

(g) The need for a reliable volume of waste to supply disposal or recovery facilities should be addressed. The Agency providing such facilities whose member jurisdictions could choose whether or not to utilize the facility should analyze that need and consider methods such as franchising or public utility controls to assure an adequate supply.

Subpart C—Procedures for Identifying Regions and Agencies

NOTE: The following procedures are provided to assist in establishing consultation and joint identification processes to be used for identifying regions and agencies pursuant to section 4006. Any process which meets the substantive intent of these guidelines may be submitted to the EPA Regional Administrator for purposes of determining grant eligibility under section 4007, especially if such process has been mandated or funded by State legislation.

§ 255.20 Preliminary identification of regions.

Preliminary identification of regions should be made by the Governor or his representative after consultation with regional and areawide planning agencies, water quality and solid waste management planning agencies, cities, and counties and other appropriate units of general purpose local government. The Governor should notify the concerned agencies of his recommendations concerning boundaries. Where the regional identification has already

been established by State legislation or other method in keeping with these guidelines, this notification need only request comments on the existing arrangement.

[42 FR 24927, May 16, 1977, as amended at 48 FR 29303, June 24, 1983]

§ 255.21 Local consultation on boundaries.

Any chief executive of a general purpose government within the State may comment on the Governor's recommendation concerning the boundaries.

(a) The purposes of these comments are to assure that the experience of local agencies is used to fullest advantage in boundary decisions, that incompatible institutional arrangements are not forced, and that significant local considerations are not overlooked.

(b) When the objectives of the Act concerning local consultation can be met by an equivalent or existing process established under State administrative procedures acts or other State procedural guidance, the Governor may request that the EPA accept that process in fulfillment of the grant eligibility criteria under section 4007 of the Act.

§ 255.22 Establishing regional boundaries.

Under section 4006(a) of the Act the formal means for identifying regional boundaries are to be regulations promulgated by the Governor. Where the identification of areas has already been made by State legislation or other means which have legal stature equivalent to the required regulations, and where notification and consultation have occurred pursuant to §§ 255.20 and 255.21 of this part, such legislation may be used in lieu of those regulations. Where substantial disagreement persists between the Governor and local officials, normal State administrative and judicial appeals procedures are available to resolve such conflict.

§ 255.23 Joint identification of agencies.

(a) The Governor should designate a lead agency to manage the identification process. That agency should review established notification procedures to determine that at least all general purpose local governments within the State, all units of regional governance, all existing solid waste and water quality management planning agencies, and all areawide agencies and the state process under Executive Order 12372 will be notified. If necessary, a supplemental distribution list should be prepared. Consideration should be given to addressing individual offices within those agencies.

(b) The Governor should, by correspondence or State notification procedures, notify the agencies on the distribution list (paragraph (a) of this section) of the purpose and schedule of the joint identification process. This may be coincident with the notification in § 255.20.

(c) The Governor, an appropriate legislative committee, and appropriate local elected officials may submit nominations of agencies and functions to the lead agency appointed by the Governor. This lead agency should make such nominations public.

(d) Chief executives of agencies on the distribution list may comment by letter on the nominations.

(e) If a disagreement exists which cannot be settled by correspondence or a meeting with the Governor's representative, a public hearing should be held and all elected officials of local general purpose governments within the region should be invited. The purpose of this meeting will be for the local officials to reach a consensus regarding the agency(ies) to be formally identified.

(f) When a consensus is reached among local elected officials a formal agreement should be made in conformance with State administrative procedures. It should be binding until revised in accordance with this subpart.

(g) When the local consensus is in agreement with the State opinion, the State should confirm that agreed arrangement, formally establishing the duties and responsibilities of the identified agencies by legislative resolution or executive order.

(h) In the event that a consensus cannot be reached before 270 days after promulgation of regulations pursuant to § 255.22 the Governor should designate a State agency to develop and

implement the plan for the concerned region.

[42 FR 24927, May 16, 1977, as amended at 48 FR 29303, June 24, 1983]

§ 255.24 Procedure for identifying interstate regions.

If the Governor's recommendation, the local consensus, or a neighboring Governor's recommendation is that an interstate region be identified, the procedures described in this subpart should be extended to include notification and comment of all concerned officials in the entire recommended region.

(a) Section 4006(c) of the Act establishes specific procedures for the conduct of interstate identification processes.

(b) Recommendations, nominations, and comments resulting from processes described in §§ 255.20 and 255.21 that concern interstate regions should be brought to the attention of the appropriate EPA Regional Administrator.

(c) The Governor should evaluate the use of interstate metropolitan area (Standard Metropolitan Statistical Area) boundaries for planning and management purposes, and consider nominating such areas where appropriate.

(Also sec. 4006(c), Pub. L. 94–580, 90 Stat. 2795 (42 U.S.C. 6946(c)))

§ 255.25 Public participation.

Public participation in the process of identifying regions and agencies should be provided for, encouraged, and assisted by the State and local officials.

Subpart D—Responsibilities of Identified Agencies and Relationship to Other Programs

§ 255.30 Responsibilities established.

The following duties and responsibilities should be assigned for all appropriate areas pursuant to section 4006.

(a) Disposal of municipal solid waste should be an identified responsibility throughout the State. In the event that no local or regional agency is held responsible for disposal for a region, a State agency should be identified and held accountable.

(b) Where the State plan identifies municipal sewage sludge disposal, hazardous waste disposal or other functions needing attention in a region, an agency should be identified as being responsible for that function in that region.

(c) These responsibilities may be assigned with the intent that private industry be the actual purveyor of service.

§ 255.31 Integration with other acts.

The Governor shall integrate the provisions of these guidelines for purposes of administration and enforcement, and should avoid duplication to the maximum extent practicable, with the appropriate regional identification provisions of the Clean Air Act (42 U.S.C. 1857 *et seq.*), the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*), the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), the Toxic Substances Control Act (15 U.S.C. 2601 *et seq.*), the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1401 *et seq.*) and other appropriate Acts of Congress.

(Sec. 1006(b), Pub. L. 94–580, 90 Stat. 2795 (42 U.S.C. 6905(b)))

§ 255.32 Coordination with other programs.

The region and agency identification criteria (§ 255.11) specify review of solid waste activities being conducted by water quality management planning agencies, underground injection control agencies, and air quality management agencies. There should be a formal means of coordination established between any agencies established under section 4006 which are not identical with these agencies. Coordination should be established so that permittees under the National Pollutant Discharge Elimination System of the Federal Water Pollution Control Act will be consulted concerning disposal of residual sludges.

§ 255.33 Inclusion of Federal facilities and Native American Reservations.

Major Federal facilities and Native American Reservations should be treated for the purposes of these guidelines as though they are incorporated

municipalities, and the facility director or administrator should be considered the same as a locally elected official.

(Sec. 6001, Pub. L. 94–580, 90 Stat. 2795 (42 U.S.C. 6961))

Subpart E—Submission and Revision of Identifications

§ 255.40 Notification of status.

This subpart describes procedures which may ultimately be required by EPA when it publishes regulations governing application and eligibility for grants under section 4007. Under these regulations the appropriate EPA Regional Administrator will consider the identifications made under section 4006 as one of the conditions of grant eligibility.

The Regional Administrator may accept, in State grant applications, notification of the status of these identifications to ensure that premature decisions on State plan development will not be forced by the timing of the identifications specified in the Act. Procedures are outlined here to advise the States of what EPA expects to require in such notification.

(a) The notification should specify those regional boundaries and agencies which are uncontested at the time of submission, and specify a schedule of hearings and determinations of subsequent identification of regions and agencies as consensus is reached.

(b) The appropriate level of detail and the timing of the identifications to be made should be established for each planning region after agreement between the State and the appropriate EPA Regional Administrator. The timing should depend upon how well the State plan is developed, the environmental and economic decisions to be made, and the existing management approaches to their resolution.

(c) The notification should list the major known interested agencies and private operators within each planning region and describe how they will be included in the process. Where appropriate, it should include an expression of their interest and a definition of the extent and limits of their role in solid waste management planning.

(d) The notification should provide a schedule for phasing of plan development with the identification of agencies to carry out those plans, showing the projected maturation of management agencies and the milestones for those agencies in taking over the plan implementation process.

(e) This notification should include establishment of State agencies where regional planning and implementation agencies have not been identified within 270 days of the Governor's promulgation of regulations identifying regional boundaries.

(See sec. 4006(b)(2))

§ 255.41 Procedure for revision.

The procedure for revising regional identifications or agency responsibilities should be specified by the notification.

(a) The State should review and, if appropriate, revise or modify the identification of regions and the responsibilities of local and regional agencies at intervals of less than 3 years. Review and modification should include, but not be limited to, the following areas:

(1) Whether new regions should be identified, or whether present boundaries should be modified.

(2) Whether responsibilities of an agency should be expanded or reduced due to changes in the needs for solid waste functions in the region.

(b) Revisions or adjustments to the State plan may require minor boundary or agency changes from time to time. The appropriate EPA Regional Administrator should be notified of such revisions by the State solid waste agency.

(c) Major revisions or adjustments in agencies or boundaries should be made in consultation with local officials and be subject to the same procedures used in the original identification process. Notification of such revisions should be submitted with State plan updates.

PART 256—GUIDELINES FOR DEVELOPMENT AND IMPLEMENTATION OF STATE SOLID WASTE MANAGEMENT PLANS

Subpart A—Purpose, General Requirements, Definitions

Subpart B—Identification of Responsibilities; Distribution of Funding

Subpart C—Solid Waste Disposal Programs

Subpart D—Resource Conservation and Resource Recovery Programs

Subpart E—Facility Planning and Implementation

Subpart F—Coordination With Other Programs

Subpart G—Public Participation

AUTHORITY: Sec. 4002(b), Pub. L. 94–580, 90 Stat. 2813(b) (42 U.S.C. 6942(b)).

SOURCE: 44 FR 45079, July 31, 1979, unless otherwise noted.

EDITORIAL NOTE: For approval of State solid waste management plans see the List of CFR Sections Affected in the Finding Aids section of this volume.

Subpart A—Purpose, General Requirements, Definitions

§ 256.01 Purpose and scope of the guidelines.

(a) The purpose of these guidelines is to assist in the development and implementation of State solid waste management plans, in accordance with section 4002(b) of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6942(b)) (the ''Act''). These guidelines contain methods for achieving the objectives of environmentally sound management and disposal of solid and hazardous waste, resource conservation, and maximum utilization of valuable resources.

(b) These guidelines address the minimum requirements for approval of State plans as set forth in section 4003 of the Act. These are:

(1) The plan shall identify, in accordance with section 4006(b), (i) the responsibilities of State, local, and regional authorities in the implementation of the State plan, (ii) the distribution of Federal funds to the authorities responsible for development and implementation of the State plan, and (iii) the means for coordinating regional

planning and implementation under the State plan.

(2) The plan shall, in accordance with section 4005(c), prohibit the establishment of new open dumps within the State, and contain requirements that all solid waste (including solid waste originating in other States, but not including hazardous waste) shall be (i) utilized for resource recovery or (ii) disposed of in sanitary landfills (within the meaning of section 4004(a)) or otherwise disposed of in an environmentally sound manner.

(3) The plan shall provide for the closing or upgrading of all existing open dumps within the State pursuant to the requirements of section 4005.

(4) The plan shall provide for the establishment of such State regulatory powers as may be necessary to implement the plan.

(5) The plan shall provide that no local government within the State shall be prohibited under State or local law from entering into long-term contracts for the supply of solid waste to resource recovery facilities.

(6) The plan shall provide for resource conservation or recovery and for the disposal of solid waste in sanitary landfills or for any combination of practices so as may be necessary to use or dispose of such waste in a manner that is environmentally sound.

(c) These guidelines address the requirement of section 4005(c) that a State plan:

> Shall establish, for any entity which demonstrates that it has considered other public or private alternatives for solid waste management to comply with the prohibition on open dumping and is unable to utilize such alternatives to so comply, a timetable or schedule of compliance for such practice or disposal of solid waste which specifies a schedule of remedial measures, including an enforceable sequence of actions or operations leading to compliance with the prohibition on open dumping of solid waste within a reasonable time (not to exceed five years from the date of publication of the inventory).

§ 256.02 Scope of the State solid waste management plan.

(a)(1) The State plan shall address all solid waste in the State that poses potential adverse effects on health or the environment or provides opportunity for resource conservation or resource recovery. The plan shall consider:

(i) Hazardous wastes;

(ii) Residential, commercial and institutional solid waste;

(iii) Wastewater treatment sludge;

(iv) Pollution control residuals;

(v) Industrial wastes;

(vi) Mining wastes;

(vii) Agricultural wastes;

(viii) Water treatment sludge; and

(ix) Septic tank pumpings.

(2) The State plan shall consider the following aspects of solid waste management:

(i) Resource conservation;

(ii) Source separation;

(iii) Collection;

(iv) Transportation;

(v) Storage;

(vi) Transfer;

(vii) Processing (including resource recovery);

(viii) Treatment; and

(ix) Disposal.

(b) The State Plan shall establish and justify priorities and timing for actions. These priorities shall be based on the current level of solid waste management planning and implementation within the State, the extent of the solid waste management problem, the health, environmental and economic impacts of the problem, and the resources and management approaches available.

(c) The State plan shall set forth an orderly and manageable process for achieving the objectives of the Act and meeting the requirements of these quidelines. This process shall describe as specifically as possible the activities to be undertaken, including detailed schedules and milestones.

(d) The State plan shall cover a minimum of a five year time period from the date submitted to EPA for approval.

(e) The State plan shall identify existing State legal authority for solid waste management and shall identify modifications to regulations necessary to meet the requirements of these guidelines.

§ 256.03 State plan submission, adoption, and revision.

(a) To be considered for approval, the State plan shall be submitted to EPA

within a reasonable time after final promulgation of these guidelines.

(b) Prior to submission to EPA, the plan shall be adopted by the State pursuant to State administrative procedures.

(c) The plan shall be developed in accord with public participation procedures required by Subpart G of this part.

(d) The plan shall contain procedures for revision. The State plan shall be revised by the State, after notice and public hearings, when the Administrator, by regulation, or the State determines, that:

(1) The State plan is not in compliance with the requirements of these guidelines;

(2) Information has become available which demonstrates the inadequacy of the plan; or

(3) Such revision is otherwise necessary.

(e) The State plan shall be reviewed by the State and, where necessary, revised and readopted not less frequently than every three years.

(f) States which are developing a complete State plan may submit the portion of the plan designed to satisfy the requirements of §256.26 prior to submission of the complete plan.

[44 FR 45079, July 31, 1979, as amended at 46 FR 47051, Sept. 23, 1981]

§256.04 State plan approval, financial assistance.

(a) The Administrator shall, within six months after a State plan has been submitted for approval, approve or disapprove the plan. The Administrator shall approve a plan if he determines that:

(1) It meets the requirements of these guidelines which address sections 4003(1), (2), (3), and (5), and

(2) It contains provisions for revision pursuant to §256.03.

(b) The Administrator shall review approved plans from time to time, and if he determines that revisions or corrections are necessary to bring such plan into compliance with all of the requirements of these guidelines, including the requirements which address sections 4003(4) and (6) and any new or revised requirement established by amendment to this part, he shall notify the State and provide an opportunity for such revisions and corrections and for an appeal and public hearing. If the plan continues to remain out of compliance, he shall withdraw his approval of such plan.

(c) Such withdrawal of approval shall cease to be effective upon the Administrator's determination that the State plan complies with the requirements of these guidelines.

(d) The Administrator shall approve a State application for financial assistance under subtitle D of the Act, and make grants to such State, if the Administrator determines that the State plan continues to be eligible for approval and is being implemented by the State.

(e) Upon withdrawal of approval of a State plan, the Administrator shall withhold Federal financial and technical assistance under subtitle D (other than such technical assistance as may be necessary to assist in obtaining reinstatement of approval) until such time as approval is reinstated. (Procedures for termination of financial assistance and for settlement of disputes are contained in 40 CFR part 30, appendix A, articles 7 and 8.)

(f) If a State submits to EPA the portion of the plan by which entities may, pursuant to §256.26, obtain timetables or schedules of compliance for complying with the open dumping prohibition, the Administrator shall approve such portion of the plan if he determines that:

(1) The portion submitted satisfies the requirements of §256.26;

(2) The State has the general legal authority to issue and enforce compliance schedules; and

(3) The remainder of the plan is being developed in conformity with these guidelines and will be completed within a reasonable period of time.

In giving partial plan approval, the Administrator shall specify in writing the timetable for completion of the final plan as required in paragraph (f)(3) of this section.

[44 FR 45079, July 31, 1979, as amended at 46 FR 47051, Sept. 23, 1981]

§256.05 Annual work program.

(a) The annual work program submitted for financial assistance under

section 4008(a)(1) and described in the grant regulations (40 CFR part 35) shall be reviewed by the Administrator in order to determine whether the State plan is being implemented by the State.

(b) The Administrator and the State shall agree on the contents of the annual work program. The Administrator will consider State initiatives and priorities, in light of the goals of the Act, in determining annual work programs for each State. The annual work program represents a State's obligation incurred by acceptance of financial assistance.

(c) Annual guidance for the development of State work programs will be issued by EPA. While this guidance will establish annual national priorities, flexibility will be provided in order to accommodate differing State priorities.

(d) The following documents developed under the State plan shall be included by reference in the annual work program:

(1) Substate solid waste management plans,

(2) Plans for the development of facilities and services, including hazardous waste management facilities and services, and

(3) Evidence of actions or steps taken to close or upgrade open dumps.

(e) The annual work program shall allocate the distribution of Federal funds to agencies responsible for the development and implementation of the State plan.

§ 256.06 Definitions.

Terms not defined below have the meanings assigned them by section 1004 of the Act.

The Act means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901 *et seq.*).

Criteria means the ''Criteria for Classification of Solid Waste Disposal Facilities'', 40 CFR Part 257, promulgated under section 4004(a) of the Act.

Facility refers to any resource recovery system or component thereof, any system, program or facility for resource conservation, and any facility for collection, source separation, storage, transportation, transfer, processing, treatment or disposal of solid waste, including hazardous waste, whether such facility is associated with facilities generating such wastes or not.

Implementation means putting the plan into practice by carrying out planned activities, including compliance and enforcement activities, or ensuring such activities are carried out.

Inactive facility means a facility which no longer receives solid waste.

Inventory of open dumps means the inventory required under section 4005(b) and is defined as the list published by EPA of those disposal facilities which do not meet the criteria.

Operator includes facility owners and operators.

A *permit* is an entitlement to commence and continue operation of a facility as long as both procedural and performance standards are met. The term ''permit'' includes any functional equivalent such as a registration or license.

Planning includes identifying problems, defining objectives, collecting information, analyzing alternatives and determining necessary activities and courses of action.

Provide for in the phrase ''the plan shall (should) provide for'' means explain, establish or set forth steps or courses of action.

The term *shall* denotes requirements for the development and implementation of the State plan.

The term *should* denotes recommendations for the development and implementation of the State plan.

Substate refers to any public regional, local, county, municipal, or intermunicipal agency, or regional or local public (including interstate) solid or hazardous waste management authority, or other public agency below the State level.

Subpart B—Identification of Responsibilities; Distribution of Funding

§ 256.10 Requirements.

(a) In accordance with sections 4003(1) and 4006 and the interim guidelines for identification of regions and agencies for solid waste management

(40 CFR part 255), the State plan shall provide for:

(1) The identification of the responsibilities of State and substate (regional, local and interstate) authorities in the development and implementation of the State plan;

(2) The means of distribution of Federal funds to the authorities responsible for development and implementation of the State plan; and

(3) The means for coordinating substate planning and implementation.

(b) Responsibilities shall be identified for the classification of disposal facilities for the inventory of open dumps.

(c) Responsibilities shall be identified for development and implementation of the State regulatory program described in subpart C of this part.

(d) Responsibilities shall be identified for the development and implementation of the State resource conservation and resource recovery program described in subpart D of this part.

(e) State, substate and private sector responsibilities shall be identified for the planning and implementation of solid and hazardous waste management facilities and services.

(f) Financial assistance under sections 4008(a) (1) and (2) shall be allocated by the State to State and substate authorities carrying out development and implementation of the State plan. Such allocation shall be based on the responsibilities of the respective parties as determined under section 4006(b).

§ 256.11 Recommendations.

(a) Responsibilities should be identified for each of the solid waste types listed in § 256.02(a)(1).

(b) Responsibilities should be identified for each of the aspects of solid waste management listed in § 256.02(a)(2).

(c) Responsibilities should be identified for planning and designating ground water use with respect to design and operation of solid waste disposal facilities.

(d) Responsibilities should be identified for the development and implementation of the authorized State hazardous waste management program under subtitle C of the Act.

(e) The State plan should include a schedule and procedure for the continuing review, reassessment and reassignment of responsibilities.

Subpart C—Solid Waste Disposal Programs

§ 256.20 Requirements for State legal authority.

In order to comply with sections 4003 (2) and (3), the State plan shall assure that the State has adequate legal authority to prohibit the establishment of new open dumps and to close or upgrade existing open dumps. The prohibition of the establishment of new open dumps shall take effect no later than six months after the date of promulgation of the criteria or on the date of approval of the State plan, whichever is later.

§ 256.21 Requirements for State regulatory powers.

In order to comply with section 4003(4), the State plan shall provide for the establishment of State regulatory powers. These powers:

(a) Shall be adequate to enforce solid waste disposal standards which are equivalent to or more stringent than the criteria for classification of solid waste disposal facilities (40 CFR part 257). Such authority shall be as definitive as possible and clearly establish the means for compliance.

(b) Shall include surveillance capabilities necessary to detect adverse environmental effects from solid waste disposal facilities. Such capabilities shall include access for inspection and monitoring by regulatory officials and the authority to establish operator monitoring and reporting requirements.

(c) Shall make use of a permit program which ensures that the establishment of new open dumps is prohibited.

(d) Shall have administrative and judicial enforcement capabilities, including enforceable orders, fines or other administrative procedures, as necessary to ensure compliance.

§ 256.22 Recommendations for State regulatory powers.

In order to assist compliance with section 4003(4), the following are recommendations for State regulatory powers as may be necessary to prohibit new open dumps and close or upgrade all existing open dumps.

(a) Solid waste disposal standards:

(1) Should be based on the health and environmental impacts of disposal facilities.

(2) Should specify design and operational standards.

(3) Should take into account the climatic, geologic, and other relevant characteristics of the State.

(b) Surveillance systems should establish monitoring requirements for facilities.

(1) Every facility should be evaluated for potential adverse health and environmental effects. Based on this evaluation, instrumentation, sampling, monitoring, and inspection requirements should be established.

(2) Every facility which produces leachate in quantities and concentrations that could contaminate ground water in an aquifer should be required to monitor to detect and predict contamination.

(3) Inspectors should be trained and provided detailed instructions for checking on the procedures and conditions that are specified in the engineering plan and site permit. Provisions should be made to ensure chain of custody for evidence.

(c) Facility assessment and prescription of remedial measures should be carried out by adequately trained or experienced professional staff, including engineers and geologists.

(d) The State permit system should provide the administrative control to prohibit the establishment of new open dumps and to assist in meeting the requirement that all wastes be used or disposed in an environmentally sound manner.

(1) Permitting procedures for new facilities should require applicants to demonstrate that the facility will comply with the criteria.

(2) The permit system should specify, for the facility operator, the location, design, construction, operational, monitoring, reporting, completion and maintenance requirements.

(3) Permit procedures should include provisions to ensure that future use of the property on which the facility is located is compatible with that property's use as a solid waste disposal facility. These procedures should include identification of future land use or the inclusion of a stipulation in the property deed which notifies future purchasers of precautions necessitated by the use of the property as a solid waste disposal facility.

(4) Permits should only be issued to facilities that are consistent with the State plan, or with substate plans developed under the State plan.

(e) The enforcement system should be designed to include both administrative procedures and judicial remedies to enforce the compliance schedules and closure procedures for open dumps.

(1) Permits, surveillance, and enforcement system capabilities should be designed for supporting court action.

(2) Detection capabilities and penalties for false reporting should be provided for.

§ 256.23 Requirements for closing or upgrading open dumps.

In meeting the requirement of section 4003(3) for closing or upgrading open dumps:

(a) The State plan shall provide for the classification of existing solid waste disposal facilities according to the criteria. This classification shall be submitted to EPA, and facilities classified as open dumps shall be published in the inventory of open dumps.

(b) The State plan shall provide for an orderly time-phasing of the disposal facility classifications described in paragraph (a) of this section. The determination of priorities for the classification of disposal facilities shall be based upon:

(1) The potential health and environmental impact of the solid waste disposal facility;

(2) The availability of State regulatory and enforcement powers; and

(3) The availability of Federal and State resources for this purpose.

(c) For each facility classified as an open dump the State shall take steps

to close or upgrade the facility. Evidence of that action shall be incorporated by reference into the annual work program and be made publicly available. When the State's actions concerning open dumps are modified, the changes shall be referenced in subsequent annual work programs.

(d) In providing for the closure of open dumps the State shall take steps necessary to eliminate health hazards and minimize potential health hazards. These steps shall include requirements for long-term monitoring or contingency plans where necessary.

§ 256.24 Recommendations for closing or upgrading open dumps.

(a) All sources of information available to the State should be used to aid in the classification of facilities. Records of previous inspections and monitoring, as well as new inspections and new monitoring, should be considered.

(b) The steps to close or upgrade open dumps established under § 256.23(c) should be coordinated with the facility needs assessment described in § 256.41.

(c) A determination should be made of the feasibility of resource recovery or resource conservation to reduce the solid waste volume entering a facility classified as an open dump; and feasible measures to achieve that reduction should be implemented.

(d) At the time of classification of existing solid waste disposal facilities pursuant to § 256.23, the State should consider developing appropriate timetables or schedules by which any responsible party can be brought into compliance with the open dumping prohibition pursuant to §§ 256.26 and 256.27.

[44 FR 45079, July 31, 1979, as amended at 46 FR 47051, Sept. 23, 1981]

§ 256.25 Recommendation for inactive facilities.

Inactive facilities that continue to produce adverse health or environmental effects should be evaluated according to the criteria. The State plan should provide for measures to ensure that adverse health or environmental effects from inactive facilities are minimized or eliminated. Such measures may include actions by disposal facility owners and operators, notification of the general public, adjacent residents and other affected parties and notification of agencies responsible for public health and safety.

§ 256.26 Requirement for schedules leading to compliance with the prohibition of open dumping.

In implementing the section 4005(c) prohibition on open dumping, the State plan shall provide that any entity which demonstrates that it has considered other public or private alternatives to comply with the prohibition on open dumping and is unable to utilize such alternatives to so comply, may obtain a timetable or schedule for compliance which specifies a schedule of remedial measures, and an enforceable sequence of actions, leading to compliance within a reasonable time (not to exceed 5 years from the date of publication of the inventory).

§ 256.27 Recommendation for schedules leading to compliance with the prohibition of open dumping.

In reviewing applications for compliance schedules under § 256.26, the State should consider the availability of processing and disposal facilities, the likelihood of environmental damage from disposal at available facilities, the existence of State or substate requirements (including other compliance schedules) applicable to available facilities, cost constraints, existing contractual agreements and other pertinent factors.

Subpart D—Resource Conservation and Resource Recovery Programs

§ 256.30 Requirements.

(a) In order to comply with sections 4003(2) and (6) as they pertain to resource conservation and recovery, the State plan shall provide for a policy and strategy for encouragement of resource recovery and conservation activities.

(b) In order to comply with section 4003(5), the State plan shall provide that no local government within the State is prohibited under State or local law from entering into long-term contracts for the supply of solid waste to resource recovery facilities.

§ 256.31 Recommendations for developing and implementing resource conservation and recovery programs.

(a) In order to encourage resource recovery and conservation, the State plan should provide for technical assistance, training, information development and dissemination, financial support programs, market studies and market development programs.

(b) In order to comply with the requirement of § 256.30(b) regarding long-term contract prohibitions, the State plan should provide for:

(1) Review of existing State and local laws and regulations pertinent to contracting for resource recovery services or facilities.

(2) Reporting of all laws and regulations found to be in violation of this requirement to the executive officer of the administrative agency responsible for the statute.

(3) Development of an administrative order or a revised law or regulation or any other preliminary step for the removal or amending of a law or regulation in violation of this requirement.

(4) Development of a strategy for the consideration of the legislature to prohibit and/or remove from State or local law provisions in violation of this requirement.

(c) The State plan should aid and encourage State procurement of products containing recovered materials in accord with section 6002 of the Act. To assist this effort, the State plan should provide for:

(1) The development of a policy statement encouraging the procurement of recovered materials, wherever feasible;

(2) The identification of the key purchasing agencies of the State, along with potential uses of recovered materials by these agencies; and,

(3) The development of a plan of action to promote the use of recovered materials through executive order, legislative initiative, or other action that the State deems necessary.

(d) In order to encourage resource recovery and conservation, the State plan should provide for the elimination, to the extent possible, of restrictions on the purchase of goods or services, especially negotiated procurements, for resource recovery facilities. This should include:

(1) Review of existing State and local laws pertinent to the procurement of equipment and services for the design, construction and operation of resource recovery facilities;

(2) Listing of all laws that limit the ability of localities to negotiate for the procurement of the design, construction, or operation of resource recovery facilities;

(3) Development of administrative orders or legislation or other action that would eliminate these restrictions; and

(4) Development of a strategy and plan of action for the consideration of the legislature for execution of administrative orders or other action that would eliminate these restrictions.

(e) The State plan should encourage the development of resource recovery and resource conservation facilities and practices as the preferred means of solid waste management whenever technically and economically feasible. The State plan should provide for the following activities:

(1) The composition of wastes should be analyzed with particular emphasis on recovery potential for material and energy, including fuel value, percentages of recoverable industrial wastes, grades of wastepaper, glass, and nonferrous and ferrous metals.

(2) Available and potential markets for recovered materials and energy should be identified, including markets for recoverable industrial wastes; wastepapers; ferrous and non-ferrous metals; glass; solid, liquid, or gaseous fuels; sludges; and tires. The following should be evaluated: location and transportation requirements, materials and energy specifications of user industries, minimum quantity requirements, pricing mechanisms and long-term contract availability.

(3) Resource recovery feasibility studies should be conducted in regions of the State in which uses or markets for recovered materials or energy are identified. These studies should review various technological approaches, environmental considerations, institutional and financial constraints, and economic feasibility.

(4) Source separation, recycling and resource conservation should be utilized whenever technically and economically feasible.

(5) Mixed waste processing facilities for the recovery of energy and materials should be utilized whenever technically and economically feasible.

(6) Source separation, resource conservation and mixed waste processing capacity should be combined to achieve the most effective resource conservation and economic balance.

Subpart E—Facility Planning and Implementation

§ 256.40 Requirements.

In order to comply with section 4003(6), the State plan shall provide for adequate resource conservation, recovery, storage, treatment and disposal facilities and practices necessary to use or dispose of solid and hazardous waste in an environmentally sound manner.

§ 256.41 Recommendations for assessing the need for facilities.

(a) In meeting the requirement for adequate resource conservation, recovery, storage, treatment and disposal facilities and practices, the State plan should provide for an assessment of the adequacy of existing facilities and practices and the need for new or expanded facilities and practices.

(1) The needs assessment should be based on current and projected waste generation rates and on the capacities of presently operating and planned facilities.

(2) Existing and planned resource conservation and recovery practices and their impact on facility needs should be assessed.

(3) Current and projected movement of solid and hazardous waste across State and local boundaries should be assessed.

(4) Special handling needs should be determined for all solid waste categories.

(5) Impact on facility capacities due to predictable changes in waste quantities and characteristics should be estimated.

(6) Environmental, economic, and other constraints on continued operation of facilities should be assessed.

(7) Diversion of wastes due to closure of open dumps should be anticipated.

(8) Facilities and practices planned or provided for by the private sector should be assessed.

(b) The State plan should provide for the identification of areas which require new capacity development, based on the needs assessment.

§ 256.42 Recommendations for assuring facility development.

(a) The State plan should address facility planning and acquisition for all areas which are determined to have insufficient recovery, storage, treatment and disposal capacity in the assessment of facility needs.

(b) Where facilities and practices are found to be inadequate, the State plan should provide for the necessary facilities and practices to be developed by responsible State and substate agencies or by the private sector.

(c) For all areas found to have five or fewer years of capacity remaining, the State plan should provide for:

(1) The development of estimates of waste generation by type and characteristic,

(2) The evaluation and selection of resource recovery, conservation or disposal methods,

(3) Selection of sites for facilities, and

(4) Development of schedules of implementation.

(d) The State plan should encourage private sector initiatives in order to meet the identified facility needs.

(e) In any area having fewer than 2 years of projected capacity, the State plan should provide for the State to take action such as acquiring facilities or causing facilities to be acquired.

(f) The State plan should provide for the initiation and development of environmentally sound facilities as soon as practicable to replace all open dumps.

(g) The State plan should provide for the State, in cooperation with substate agencies, to establish procedures for choosing which facilities will get priority for technical or financial assistance or other emphasis. Highest priority should be given to facilities developed to replace or upgrade open dumps.

(h) The State plan should provide for substate cooperation and policies for free and unrestricted movement of solid and hazardous waste across State and local boundaries.

Subpart F—Coordination With Other Programs

§ 256.50 Requirements.

Section 4003(1) requires the State solid waste management plan to idenifty means for coordinating regional planning and implementation under the State plan. Section 1006 requires the Administrator to integrate all provisions of this Act (including approval of State plans) with other Acts that grant regulatory authority to the Administrator in order to prevent duplication of administrative and enforcement efforts. In order to meet these requirements:

(a) The State solid waste management plan shall be developed in coordination with Federal, State, and substate programs for air quality, water quality, water supply, waste water treatment, pesticides, ocean protection, toxic substances control, noise control, and radiation control.

(b) The State plan shall provide for coordination with programs under section 208 of the Clean Water Act, as amended (33 U.S.C. 1288). In identifying agencies for solid waste management planning and implementation, the State shall review the solid waste management activities being conducted by water quality planning and management agencies designated under section 208 of the Clean Water Act. Where feasible, identification of such agencies should be considered during the identification of responsibilities under subpart B of this part. Where solid waste management and water quality agencies are separate entities, necessary coordination procedures shall be established.

(c) The State plan shall provide for coordination with the National Pollutant Discharge Elimination System (NPDES) established under section 402 of the Clean Water Act, as amended (33 U.S.C. 1342). The issuance of State facility permits and actions taken to close or upgrade open dumps shall be timed, where practicable, to coordinate closely with the issuance of a new or revised NPDES permit for such facility.

(d) The State plan shall provide for coordination with activities for municipal sewage sludge disposal and utilization conducted under the authority of section 405 of the Clean Water Act, as amended (33 U.S.C. 1345), and with the program for construction grants for publicly owned treatment works under section 201 of the Clean Water Act, as amended (33 U.S.C. 1281).

(e) The State plan shall provide for coordination with State pretreatment activities under section 307 of the Clean Water Act, as amended (33 U.S.C. 1317).

(f) The State plan shall provide for coordination with agencies conducting assessments of the impact of surface impoundments on underground sources of drinking water under the authority of section 1442(a)(8)(C) of the Safe Drinking Water Act (42 U.S.C. 300j–1).

(g) The State plan shall provide for coordination with State underground injection control programs (40 CFR Parts 122, 123, 124, and 146) carried out under the authority of the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*) and with the designation of sole source aquifers under section 1424 of that Act.

(h) The State plan shall provide for coordination with State implementation plans developed under the Clean Air Act (42 U.S.C. 7401 *et seq.*; incineration and open burning limitations; and, State implementation plan requirements impacting resource recovery systems).

(i) The State plan shall provide for coordination with the Army Corps of Engineers permit program (or authorized State program) under section 404 of the Clean Water Act, as amended (33 U.S.C. 1344) for dredge and fill activities in waters of the United States.

(j) The State plan shall provide for coordination with the Office of Endangered Species, Department of the Interior, to ensure that solid waste management activities, especially the siting of disposal facilities, do not jeopardize the continued existence of an endangered or threated species nor result in the destruction or adverse modification of a critical habitat.

(k) The State plan shall provide for coordination, where practicable, with programs under:

(1) The Toxic Substances Control Act (15 U.S.C. 2601 *et seq.*; disposal of chemical substances and mixtures).

(2) The Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. 1362 *et seq.;* disposal and storage of pesticides and pesticide containers).

(3) The Marine Protection, Research and Sanctuaries Act (33 U.S.C. 1420 *et seq.*; disposal in ocean waters).

(l) The State plan shall provide for coordination, where practicable, with programs of other Federal agencies, including:

(1) Department of the Interior.

(i) Fish and Wildlife Service (wetlands),

(ii) Bureau of Mines and Office of Surface Mining (mining waste disposal and use of sludge in reclamation),

(iii) U.S. Geological Survey (wetlands, floodplains, ground water);

(2) Department of Commerce, National Oceanic and Atmospheric Administration (coastal zone management plans);

(3) Water Resources Council (floodplains, surface and ground waters);

(4) Department of Agriculture, including Soil Conservation Service (land spreading solid waste on food chain croplands);

(5) Federal Aviation Administration (locating disposal facilities on or near airport property);

(6) Department of Housing and Urban Development (701 comprehensive planning program, flood plains mapping);

(7) Department of Defense (development and implementation of State and substate plans with regard to resource recovery and solid waste disposal programs at various installations);

(8) Department of Energy (State energy conservation plans under the Energy Policy and Conservation Act (42 U.S.C. 6321)); and

(9) Other programs.

(m) The State plan shall provide for coordination, where practicable, with solid waste management plans in neighboring States and with plans for Indian reservations in the State.

Subpart G—Public Participation

§ 256.60 Requirements for public participation in State and substate plans.

(a) State and substate planning agencies shall:

(1) Maintain a current list of agencies, organizations, and individuals affected by or interested in the plan, which shall include any parties that request to be on the list, the owner or operator of each facility classified as an open dump and any other parties which the State determines to be affected by or interested in the plan;

(2) Provide depositories of relevant information in one or more convenient locations; and

(3) Prepare a responsiveness summary, in accord with 40 CFR 25.8, where required by this subpart or by an approved public participation work plan, which describes matters on which the public was consulted, summarizes the public's views, and sets forth the agency's response to the public input.

(b) State and substate planning agencies shall provide information and consult with the public on plan development and implementation. Provision of information and consultation shall occur both early in the planning process (including the preparation and distribution of a summary of the proposed plan) and on major policy decisions made during the course of plan development, revision and implementation. To meet this requirement, planning agencies shall:

(1) Publicize information in news media having broad audiences in the geographic area;

(2) Place information in depositories maintained under paragraph (a)(2) of this section;

(3) Send information directly to agencies, organizations and individuals on the list maintained under paragraph (a)(1) of this section; and

(4) Prepare and make available to the public a responsiveness summary in accord with 40 CFR 25.8.

(c) State and substate planning agencies shall conduct public hearings (and public meetings, where the agency determines there is sufficient interest) in accord with 40 CFR 25.5 and 25.6. The purpose of the hearings and meetings is

to solicit reactions and recommendations from interested or affected parties and to explain major issues within the proposed plan. Following the public hearings, a responsiveness summary shall be prepared and made available to the public in accord with 40 CFR 25.8.

[44 FR 45079, July 31, 1979, as amended at 46 FR 47051, Sept. 23, 1981]

§ 256.61 Requirements for public participation in the annual State work program.

(a) A public participation work plan in accord with 40 CFR 25.11 shall be included in the annual State work program.

(b) The State shall consult with the public in the development of the annual work program. One month prior to submission of the draft work program to the Regional Administrator, as required by 40 CFR part 35, the draft work program shall be made available to the public at the State information depositories maintained under §256.60(a)(2). The public shall be notified of the availability of the draft work program, and a public meeting shall be held if the planning agency determines there is sufficient interest.

(c) The State shall comply with the requirements of Office of Management and Budget Circular No. A–95.

(d) Copies of the final work program shall be placed in the State information depositories maintained under §256.60(a)(2).

§ 256.62 Requirements for public participation in State regulatory development.

(a) The State shall conduct public hearings (and public meetings where the State determines there is sufficient interest) on State legislation and regulations, in accord with the State administrative procedures act, to solicit reactions and recommendations. Following the public hearings, a responsiveness summary shall be prepared and made available to the public in accord with 40 CFR 25.8.

(b) In advance of the hearings and meetings required by paragraph (a) of this section, the State shall prepare a fact sheet on proposed regulations or legislation, mail the fact sheet to agencies, organizations and individuals on the list maintained under §256.60(a)(1) and place the fact sheet in the State information depositories maintained under §256.60(a)(2).

§ 256.63 Requirements for public participation in the permitting of facilities.

(a) Before approving a permit application (or renewal of a permit) for a resource recovery or solid waste disposal facility the State shall hold a public hearing to solicit public reaction and recommendations on the proposed permit application if the State determines there is a significant degree of public interest in the proposed permit.

(b) This hearing shall be held in accord with 40 CFR 25.5.

§ 256.64 Requirements for public participation in the open dump inventory.

(a) The State shall provide an opportunity for public participation prior to submission of any classification of a facility as an open dump to the Federal Government. The State shall accomplish this by providing notice as specified in §256.64(b) or by using other State administrative procedures which provide equivalent public participation.

(b) The State may satisfy the requirement of §256.64(a) by providing written notice of the availability of the results of its classifications to all parties on the list required under §256.60(a)(1) at least 30 days before initial submission of these classifications to the Federal Government. For those parties on the list required under §256.60(a)(1) who are owners or operators of facilities classified as open dumps, such notice shall indicate that the facility has been so classified.

[46 FR 47052, Sept. 23, 1981]

§ 256.65 Recommendations for public participation.

(a) State and substate planning agencies should establish an advisory group, or utilize an existing group, to provide recommendations on major policy and program decisions. The advisory group's membership should reflect a balanced viewpoint in accord with 40 CFR 25.7(c).

(b) State and substate planning agencies should develop public education programs designed to encourage informed public participation in the development and implementation of solid waste management plans.

[44 FR 45079, July 31, 1979. Redesignated and amended at 46 FR 47052, Sept. 23, 1981]

PART 257—CRITERIA FOR CLASSIFICATION OF SOLID WASTE DISPOSAL FACILITIES AND PRACTICES

Subpart A—Classification of Solid Waste Disposal Facilities and Practices

Subpart B—Disposal Standards for the Receipt of Very Small Quantity Generator (VSQG) Wastes at Non-Municipal Non-Hazardous Waste Disposal Units

Subpart C [Reserved]

Subpart D—Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments

AUTHORITY: 42 U.S.C. 6907(a)(3), 6912(a)(1), 6944, 6945(a) and (d); 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 very small quantity generator (VSQG) 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. Unless otherwise provided, the criteria in §§ 257.50 through 257.107 are adopted for determining which CCR landfills and CCR surface impoundments pose a reasonable probability of adverse effects on health or the environment under sections 1008(a)(3) and 4004(a) of the Act.

(1) Facilities failing to satisfy any of the criteria in §§ 257.1 through 257.4 or §§ 257.5 through 257.30 or §§ 257.50 through 257.107 are considered open dumps, which are prohibited under section 4005 of the Act.

(2) Practices failing to satisfy any of the criteria in §§ 257.1 through 257.4 or §§ 257.5 through 257.30 or §§ 257.50 through 257.107 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.

(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.

(12) Except as otherwise specifically provided in subpart D of this part, the criteria in subpart A of this part do not apply to CCR landfills, CCR surface impoundments, and lateral expansions of CCR units, as those terms are defined in subpart D of this part. Such units are instead subject to subpart D of this part.

[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; 80 FR 21467, Apr. 17, 2015; 81 FR 85804, Nov. 28, 2016]

§ 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.

CCR landfill means an area of land or an excavation that receives CCR and which is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this subpart, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR.

CCR surface impoundment means a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR.

Construction and demolition (C&D) landfill means a solid waste disposal facility subject to the requirements of subparts A or B of this part that receives construction and demolition waste and does not receive hazardous waste (defined in § 261.3 of this chapter) or industrial solid waste (defined in § 258.2 of this chapter). Only a C&D landfill that meets the requirements of subpart B of this part may receive very small quantity generator waste (defined in § 260.10 of this chapter). A C&D landfill typically receives any one or more of the following types of solid wastes: Roadwork material, excavated material, demolition waste, construction/renovation waste, and site clearance waste.

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. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion. A construction and demolition landfill that receives residential lead-based paint waste and does not receive any other household waste is not a MSWLF unit.

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.

Residential lead-based paint waste means waste containing lead-based paint, which is generated as a result of activities such as abatement, rehabilitation, renovation and remodeling in homes and other residences. The term residential lead-based paint waste includes, but is not limited to, lead-based paint debris, chips, dust, and sludges.

Sanitary landfill means a facility for the disposal of solid waste which complies with this part.

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 noncontainerized 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; 68 FR 36495, June 18, 2003; 81 FR 85804, Nov. 28, 2016]

§ 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:

(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:

(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/1 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 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 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 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 purposes, 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:

(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 (CH_4).

(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 Very Small Quantity Generator (VSQG) 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 Very Small Quantity Generator (VSQG) waste.

(a) *Applicability.* (1) The requirements in this section apply to owners/operators of any non-municipal non-hazardous waste disposal unit that receives VSQG hazardous waste, as defined in 40 CFR 260.10. Non-municipal non-hazardous waste disposal units that meet the requirements of this section may receive VSQG wastes. Any owner/operator of a non-municipal non-hazardous waste disposal unit that receives VSQG 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 VSQG 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 VSQG wastes.

(4) Any non-municipal non-hazardous waste disposal unit that is not receiving VSQG 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 VSQG hazardous waste after January 1, 1998, must be in compliance with §§ 257.7 through 257.30 prior to the receipt of VSQG 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 VSQG 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 VSQG 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 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.

[61 FR 34269, July 1, 1996, as amended at 63 FR 57044, Oct. 23, 1998; 81 FR 85804, Nov. 28, 2016]

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 involved 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, muds 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 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 VSQG hazardous waste for disposal.

[61 FR 34269, July 1, 1996, as amended at 81 FR 85805, Nov. 28, 2016]

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 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 VSQG 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 surface 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.

(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.

[61 FR 34269, July 1, 1996, as amended at 81 FR 85805, Nov. 28, 2016]

§ 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 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 groundwater 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 groundwater 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.

(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 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 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 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 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;

(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 groundwater 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.

§ 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 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 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 §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 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.

§ 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 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.

§ 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 paragraphs (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 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.

§ 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 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:

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

(ii) Behavior characteristics of the hazardous constituents in the groundwater;

(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 groundwater.

(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 groundwater 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) and (b) of this section, except for the notification requirements in § 257.25(g)(1)(iii).

(d) The Director of an approved state program may receive electronic documents only if the state program includes the requirements of 40 CFR Part 3—(Electronic reporting).

[44 FR 53460, Sept. 13, 1979, as amended at 70 FR 59888, Oct. 13, 2005]

Subpart C [Reserved]

Subpart D—Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments

SOURCE: 80 FR 21468, Apr. 17, 2015, unless otherwise noted.

§ 257.50 Scope and purpose.

(a) This subpart establishes minimum national criteria for purposes of determining which solid waste disposal facilities and solid waste management practices do not 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.

(b) This subpart applies to owners and operators of new and existing landfills and surface impoundments, including any lateral expansions of such units that dispose or otherwise engage in solid waste management of CCR generated from the combustion of coal at electric utilities and independent power producers. Unless otherwise provided in this subpart, these requirements also apply to disposal units located off-site of the electric utility or independent power producer. This subpart also applies to any practice that does not meet the definition of a beneficial use of CCR.

(c) This subpart also applies to inactive CCR surface impoundments at active electric utilities or independent power producers, regardless of the fuel currently used at the facility to produce electricity.

(d) This subpart does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015.

(e) This subpart does not apply to electric utilities or independent power producers that have ceased producing electricity prior to October 19, 2015.

(f) This subpart does not apply to wastes, including fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated at facilities that are not part of an electric utility or independent power producer, such as manufacturing facilities, universities, and hospitals. This subpart also does not apply to fly ash, bottom ash, boiler slag, and flue gas desulfurization materials, generated primarily from the combustion of fuels (including other fossil fuels) other than coal, for the purpose of generating electricity unless the fuel burned consists of more than fifty percent (50%) coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal.

(g) This subpart does not apply to practices that meet the definition of a beneficial use of CCR.

(h) This subpart does not apply to CCR placement at active or abandoned underground or surface coal mines.

(i) This subpart does not apply to municipal solid waste landfills that receive CCR.

§ 257.51 Effective date of this subpart.

The requirements of this subpart take effect on October 19, 2015.

§ 257.52 Applicability of other regulations.

(a) Compliance with the requirements of this subpart does not affect the need for the owner or operator of a CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit to comply with all other applicable federal, state, tribal, or local laws or other requirements.

(b) Any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit continues to be subject to the requirements in §§ 257.3–1, 257.3–2, and 257.3–3.

§ 257.53 Definitions.

The following definitions apply to this subpart. Terms not defined in this section have the meaning given by RCRA.

Acre foot means the volume of one acre of surface area to a depth of one foot.

Active facility or *active electric utilities or independent power producers* means any facility subject to the requirements of this subpart that is in operation on October 19, 2015. An electric utility or independent power producer is in operation if it is generating electricity that is provided to electric power transmission systems or to electric power distribution systems on or after October 19, 2015. An off-site disposal facility is in operation if it is accepting or managing CCR on or after October 19, 2015.

Active life or *in operation* means the period of operation beginning with the initial placement of CCR in the CCR unit and ending at completion of closure activities in accordance with § 257.102.

Active portion means that part of the CCR unit that has received or is receiving CCR or non-CCR waste and that has not completed closure in accordance with § 257.102.

Aquifer means a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells or springs.

Area-capacity curves means graphic curves which readily show the reservoir water surface area, in acres, at different elevations from the bottom of the reservoir to the maximum water surface, and the capacity or volume, in acre-feet, of the water contained in the reservoir at various elevations.

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, because of natural or human-induced events, the movement of earthen material at, beneath, or adjacent to the CCR unit results in the downslope transport of soil and rock 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.

Beneficial use of CCR means the CCR meet all of the following conditions:

(1) The CCR must provide a functional benefit;

(2) The CCR must substitute for the use of a virgin material, conserving natural resources that would otherwise need to be obtained through practices, such as extraction;

(3) The use of the CCR must meet relevant product specifications, regulatory standards or design standards when available, and when such standards are not available, the CCR is not used in excess quantities; and

(4) When unencapsulated use of CCR involving placement on the land of 12,400 tons or more in non-roadway applications, the user must demonstrate and keep records, and provide such documentation upon request, that environmental releases to groundwater, surface water, soil and air are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, soil and air will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use.

Closed means placement of CCR in a CCR unit has ceased, and the owner or operator has completed closure of the CCR unit in accordance with § 257.102 and has initiated post-closure care in accordance with § 257.104.

Coal combustion residuals (CCR) means fly ash, bottom ash, boiler slag, and

flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.

CCR fugitive dust means solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than a stack or chimney.

CCR landfill or landfill means an area of land or an excavation that receives CCR and which is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this subpart, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR.

CCR pile or pile means any non-containerized accumulation of solid, nonflowing CCR that is placed on the land. CCR that is beneficially used off-site is not a CCR pile.

CCR surface impoundment or impoundment means a natural topographic depression, man-made excavation, or diked area, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR.

CCR unit means any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit, or a combination of more than one of these units, based on the context of the paragraph(s) in which it is used. This term includes both new and existing units, unless otherwise specified.

Dike means an embankment, berm, or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

Displacement means the relative movement of any two sides of a fault measured in any direction.

Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste as defined in section 1004(27) of the Resource Conservation and Recovery Act into or on any land or water so that such solid waste, or constituent thereof, may enter the environment or be emitted into the air or discharged into any waters, including groundwaters. For purposes of this subpart, disposal does not include the storage or the beneficial use of CCR.

Downstream toe means the junction of the downstream slope or face of the CCR surface impoundment with the ground surface.

Eligible unlined CCR surface impoundment means an existing CCR surface impoundment that meets all of the following conditions:

(1) The owner or operator has documented that the CCR unit is in compliance with the location restrictions specified under §§ 257.60 through 257.64;

(2) The owner or operator has documented that the CCR unit is in compliance with the periodic safety factor assessment requirements under § 257.73(e) and (f); and

(3) No constituent listed in Appendix IV to this part has been detected at a statistically significant level exceeding a groundwater protection standard defined under § 257.95(h).

Encapsulated beneficial use means a beneficial use of CCR that binds the CCR into a solid matrix that minimizes its mobilization into the surrounding environment.

Existing CCR landfill means a CCR landfill that receives CCR both before and after October 19, 2015, or for which construction commenced prior to October 19, 2015 and receives CCR on or after October 19, 2015. A CCR landfill has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun prior to October 19, 2015.

Existing CCR surface impoundment means a CCR surface impoundment that receives CCR both before and after October 19, 2015, or for which construction commenced prior to October 19, 2015 and receives CCR on or after October 19, 2015. A CCR surface impoundment has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun prior to October 19, 2015.

Facility means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, disposing, or otherwise conducting solid waste management of CCR. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

Factor of safety (Safety factor) means the ratio of the forces tending to resist the failure of a structure to the forces tending to cause such failure as determined by accepted engineering practice.

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.

Flood hydrograph means a graph showing, for a given point on a stream, the discharge, height, or other characteristic of a flood as a function of time.

Freeboard means the vertical distance between the lowest point on the crest of the impoundment dike and the surface of the waste contained therein.

Free liquids means liquids that readily separate from the solid portion of a waste under ambient temperature and pressure.

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

Hazard potential classification means the possible adverse incremental consequences that result from the release of water or stored contents due to failure of the diked CCR surface impoundment or mis-operation of the diked CCR surface impoundment or its appurtenances. The hazardous potential classifications include high hazard potential CCR surface impoundment, significant hazard potential CCR surface impoundment, and low hazard potential CCR surface impoundment, which terms mean:

(1) *High hazard potential CCR surface impoundment* means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.

(2) *Low hazard potential CCR surface impoundment* means a diked surface impoundment where failure or mis-operation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the surface impoundment owner's property.

(3) *Significant hazard potential CCR surface impoundment* means a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

Height means the vertical measurement from the downstream toe of the CCR surface impoundment at its lowest point to the lowest elevation of the crest of the CCR surface impoundment.

Holocene means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch, at 11,700 years before present, to present.

Hydraulic conductivity means the rate at which water can move through a permeable medium (*i.e.*, the coefficient of permeability).

Inactive CCR surface impoundment means a CCR surface impoundment that no longer receives CCR on or after October 19, 2015 and still contains both CCR and liquids on or after October 19, 2015.

Incised CCR surface impoundment means a CCR surface impoundment which is constructed by excavating entirely below the natural ground surface, holds an accumulation of CCR entirely below the adjacent natural ground surface, and does not consist of any constructed diked portion.

Indian country or *Indian lands* 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.

Inflow design flood means the flood hydrograph that is used in the design or modification of the CCR surface impoundments and its appurtenant works.

In operation means the same as *active life*.

Karst terrain means an area where karst topography, with its characteristic erosional 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, dolines, collapse shafts (sinkholes), sinking streams, caves, seeps, large springs, and blind valleys.

Lateral expansion means a horizontal expansion of the waste boundaries of an existing CCR landfill or existing CCR surface impoundment made after October 19, 2015.

Liquefaction factor of safety means the factor of safety (safety factor) determined using analysis under liquefaction conditions.

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.

Maximum horizontal acceleration in lithified earth material means the maximum expected horizontal acceleration at the ground surface as depicted on a seismic hazard map, with a 98% or greater probability that the acceleration will not be exceeded in 50 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

New CCR landfill means a CCR landfill or lateral expansion of a CCR landfill that first receives CCR or commences construction after October 19, 2015. A new CCR landfill has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun after October 19, 2015. Overfills are also considered new CCR landfills.

New CCR surface impoundment means a CCR surface impoundment or lateral expansion of an existing or new CCR surface impoundment that first receives CCR or commences construction after October 19, 2015. A new CCR surface impoundment has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun after October 19, 2015.

Nonparticipating State means a State—

(1) For which the Administrator has not approved a State permit program or other system of prior approval and conditions under RCRA section 4005(d)(1)(B);

(2) The Governor of which has not submitted to the Administrator for approval evidence to operate a State permit program or other system of prior approval and conditions under RCRA section 4005(d)(1)(A);

(3) The Governor of which provides notice to the Administrator that, not fewer than 90 days after the date on which the Governor provides the notice to the Administrator, the State will relinquish an approval under RCRA section 4005(d)(1)(B) to operate a permit program or other system of prior approval and conditions; or

(4) For which the Administrator has withdrawn approval for a permit program or other system of prior approval and conditions under RCRA section 4005(d)(1)(E).

Operator means the person(s) responsible for the overall operation of a CCR unit.

Overfill means a new CCR landfill constructed over a closed CCR surface impoundment.

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

Participating State means a state with a state program for control of CCR

that has been approved pursuant to RCRA section 4005(d).

Participating State Director means the chief administrative officer of any state agency operating the CCR permit program in a participating state or the delegated representative of the Participating State Director. If responsibility is divided among two or more state agencies, Participating State Director means the chief administrative officer of the state agency authorized to perform the particular function or procedure to which reference is made.

Poor foundation conditions mean those areas where features exist which indicate that a natural or human-induced event may result in inadequate foundation support for the structural components of an existing or new CCR unit. For example, failure to maintain static and seismic factors of safety as required in §§ 257.73(e) and 257.74(e) would cause a poor foundation condition.

Probable maximum flood means the flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the drainage basin.

Qualified person means a person or persons trained to recognize specific appearances of structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit by visual observation and, if applicable, to monitor instrumentation.

Qualified professional engineer means an individual who is licensed by a state as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the specific technical certifications required under this subpart. Professional engineers making these certifications must be currently licensed in the state where the CCR unit(s) is located.

Recognized and generally accepted good engineering practices means engineering maintenance or operation activities based on established codes, widely accepted standards, published technical reports, or a practice widely recommended throughout the industry. Such practices generally detail approved ways to perform specific engineering, inspection, or mechanical integrity activities.

Retrofit means to remove all CCR and contaminated soils and sediments from the CCR surface impoundment, and to ensure the unit complies with the requirements in § 257.72

Representative sample means a sample of a universe or whole (e.g., waste pile, lagoon, and groundwater) which can be expected to exhibit the average properties of the universe or whole. See EPA publication SW–846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Chapter 9 (available at *http://www.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm*) for a discussion and examples of representative samples.

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

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

Sand and gravel pit or quarry means an excavation for the extraction of aggregate, minerals or metals. The term sand and gravel pit and/or quarry does not include subsurface or surface coal mines.

Seismic factor of safety means the factor of safety (safety factor) determined using analysis under earthquake conditions using the peak ground acceleration for a seismic event with a 2% probability of exceedance in 50 years, equivalent to a return period of approximately 2,500 years, based on the U.S. Geological Survey (USGS) seismic hazard maps for seismic events with this return period for the region where the CCR surface impoundment is located.

Seismic impact zone means an area having a 2% or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 50 years.

Slope protection means engineered or non-engineered measures installed on the upstream or downstream slope of the CCR surface impoundment to protect the slope against wave action or erosion, including but not limited to rock riprap, wooden pile, or concrete

revetments, vegetated wave berms, concrete facing, gabions, geotextiles, or fascines.

Solid waste management or management means the systematic administration of the activities which provide for the collection, source separation, storage, transportation, processing, treatment, or disposal of solid waste.

State means any of the fifty States in addition to 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 program regulating disposal in CCR landfills, CCR surface impoundments, and all lateral expansions of a CCR unit.

Static factor of safety means the factor of safety (safety factor) determined using analysis under the long-term, maximum storage pool loading condition, the maximum surcharge pool loading condition, and under the end-of-construction loading condition.

Structural components mean liners, leachate collection and removal systems, final covers, run-on and run-off systems, inflow design flood control systems, and any other component used in the construction and operation of the CCR unit that is necessary to ensure the integrity of the unit and that the contents of the unit are not released into the environment.

Technically feasible means possible to do in a way that would likely be successful.

Technically infeasible means not possible to do in a way that would likely be successful.

Unstable area means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity, including structural components of some or all of the CCR unit that are responsible for preventing releases from such unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

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. Upper limit is measured at a point nearest to the natural ground surface to which the aquifer rises during the wet season.

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

[80 FR 21468, Apr. 17, 2015, as amended at 80 FR 37991, July 2, 2015; 83 FR 36451, July 30, 2018; 85 FR 53561, Aug. 28, 2020]

LOCATION RESTRICTIONS

§ 257.60 Placement above the uppermost aquifer.

(a) New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must be constructed with a base that is located no less than 1.52 meters (five feet) above the upper limit of the uppermost aquifer, or must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR unit and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table). The owner or operator must demonstrate by the dates specified in paragraph (c) of this section that the CCR unit meets the minimum requirements for placement above the uppermost aquifer.

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration meets the requirements of paragraph (a) of this section.

(c) The owner or operator of the CCR unit must complete the demonstration required by paragraph (a) of this section by the date specified in either paragraph (c)(1) or (2) of this section.

(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or

operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (c)(1) of this section is subject to the requirements of § 257.101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(e), the notification requirements specified in § 257.106(e), and the internet requirements specified in § 257.107(e).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36451, July 30, 2018]

§ 257.61 Wetlands.

(a) New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in wetlands, as defined in § 232.2 of this chapter, unless the owner or operator demonstrates by the dates specified in paragraph (c) of this section that the CCR unit meets the requirements of paragraphs (a)(1) through (5) of this section.

(1) Where applicable under section 404 of the Clean Water Act or applicable state wetlands laws, a clear and objective rebuttal of the presumption that an alternative to the CCR unit is reasonably available that does not involve wetlands.

(2) The construction and operation of the CCR unit will not cause or contribute to any of the following:

(i) A violation of any applicable state or federal water quality standard;

(ii) A violation of 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) A violation of any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

(3) The CCR unit will not cause or contribute to significant degradation of wetlands by addressing all of the following factors:

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

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

(iii) The volume and chemical nature of the CCR;

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

(v) The potential effects of catastrophic release of CCR 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 reasonable as required by paragraphs (a)(1) through (3) of this section, then minimizing unavoidable impacts to the maximum extent reasonable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and reasonable 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 reasoned determination with respect to the demonstrations in paragraphs (a)(1) through (4) of this section.

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration meets the requirements of paragraph (a) of this section.

(c) The owner or operator of the CCR unit must complete the demonstrations required by paragraph (a) of this section by the date specified in either paragraph (c)(1) or (2) of this section.

(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (c)(1) of this section is subject to the requirements of § 257.101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstrations showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(d) The owner or operator must comply with the recordkeeping requirements specified in § 257.105(e), the notification requirements specified in § 257.106(e), and the Internet requirements specified in § 257.107(e).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36451, July 30, 2018]

§ 257.62 Fault areas.

(a) New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located within 60 meters (200 feet) of the outermost damage zone of a fault that has had displacement in Holocene time unless the owner or operator demonstrates by the dates specified in paragraph (c) of this section that an alternative setback distance of less than 60 meters (200 feet) will prevent damage to the structural integrity of the CCR unit.

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration meets the requirements of paragraph (a) of this section.

(c) The owner or operator of the CCR unit must complete the demonstration required by paragraph (a) of this section by the date specified in either paragraph (c)(1) or (2) of this section.

(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (c)(1) of this section is subject to the requirements of § 257.101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in

§ 257.105(e), the notification requirements specified in § 257.106(e), and the Internet requirements specified in § 257.107(e).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36451, July 30, 2018]

§ 257.63 Seismic impact zones.

(a) New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in seismic impact zones unless the owner or operator demonstrates by the dates specified in paragraph (c) of this section that all structural components including liners, leachate collection and removal systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration meets the requirements of paragraph (a) of this section.

(c) The owner or operator of the CCR unit must complete the demonstration required by paragraph (a) of this section by the date specified in either paragraph (c)(1) or (2) of this section.

(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (c)(1) of this section is subject to the requirements of § 257.101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(e), the notification requirements specified in § 257.106(e), and the Internet requirements specified in § 257.107(e).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36451, July 30, 2018]

§ 257.64 Unstable areas.

(a) An existing or new CCR landfill, existing or new CCR surface impoundment, or any lateral expansion of a CCR unit must not be located in an unstable area unless the owner or operator demonstrates by the dates specified in paragraph (d) of this section that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted.

(b) The owner or operator must consider all of 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).

(c) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration meets the requirements of paragraph (a) of this section.

(d) The owner or operator of the CCR unit must complete the demonstration required by paragraph (a) of this section by the date specified in either paragraph (d)(1) or (2) of this section.

(1) For an existing CCR landfill or existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.

(2) For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.105(e).

(4) An owner or operator of an existing CCR surface impoundment or existing CCR landfill who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (d)(1) of this section is subject to the requirements of § 257.101(b)(1) or (d)(1), respectively.

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.

(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(e), the notification requirements specified in § 257.106(e), and the Internet requirements specified in § 257.107(e).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36451, July 30, 2018]

DESIGN CRITERIA

§ 257.70 Design criteria for new CCR landfills and any lateral expansion of a CCR landfill.

(a)(1) New CCR landfills and any lateral expansion of a CCR landfill must be designed, constructed, operated, and maintained with either a composite liner that meets the requirements of paragraph (b) of this section or an alternative composite liner that meets the requirements in paragraph (c) of this section, and a leachate collection and removal system that meets the requirements of paragraph (d) of this section.

(2) Prior to construction of an overfill the underlying surface impoundment must meet the requirements of § 257.102(d).

(b) A *composite liner* must consist of two components; the upper component consisting of, at a minimum, a 30-mil geomembrane liner (GM), and the lower component consisting of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second (cm/sec). GM components consisting of high density polyethylene (HDPE) must be at least 60-mil thick. The GM or upper liner component must be installed in direct and uniform contact with the compacted soil or lower liner component. The composite liner must be:

(1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the CCR or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) Constructed of materials that provide appropriate shear resistance of the upper and lower component interface to prevent sliding of the upper component including on slopes;

(3) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(4) Installed to cover all surrounding earth likely to be in contact with the CCR or leachate.

(c) If the owner or operator elects to install an alternative composite liner, all of the following requirements must be met:

(1) An *alternative composite liner* must consist of two components; the upper component consisting of, at a minimum, a 30-mil GM, and a lower component, that is not a geomembrane, with a liquid flow rate no greater than the liquid flow rate of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

GM components consisting of high density polyethylene (HDPE) must be at least 60-mil thick. If the lower component of the alternative liner is compacted soil, the GM must be installed in direct and uniform contact with the compacted soil.

(2) The owner or operator must obtain certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the liquid flow rate through the lower component of the alternative composite liner is no greater than the liquid flow rate through two feet of compacted soil with a hydraulic conductivity of $1x10^{-7}$ cm/sec. The hydraulic conductivity for the two feet of compacted soil used in the comparison shall be no greater than $1x10^{-7}$ cm/sec. The hydraulic conductivity of any alternative to the two feet of compacted soil must be determined using recognized and generally accepted methods. The liquid flow rate comparison must be made using Equation 1 of this section, which is derived from Darcy's Law for gravity flow through porous media.

(Eq. 1):

$$\frac{Q}{A} = q = k\left(\frac{h}{t} + 1\right)$$

Where:

Q = flow rate (cubic centimeters/second);
A = surface area of the liner (squared centimeters);
q = flow rate per unit area (cubic centimeters/second/squared centimeter);
k = hydraulic conductivity of the liner (centimeters/second);
h = hydraulic head above the liner (centimeters); and
t = thickness of the liner (centimeters).

(3) The alternative composite liner must meet the requirements specified in paragraphs (b)(1) through (4) of this section.

(d) The *leachate collection and removal system* must be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and post-closure care period. The leachate collection and removal system must be:

(1) Designed and operated to maintain less than a 30-centimeter depth of leachate over the composite liner or alternative composite liner;

(2) Constructed of materials that are chemically resistant to the CCR and any non-CCR waste managed in the CCR unit and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying waste, waste cover materials, and equipment used at the CCR unit; and

(3) Designed and operated to minimize clogging during the active life and post-closure care period.

(e) Prior to construction of the CCR landfill or any lateral expansion of a CCR landfill, the owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the design of the composite liner (or, if applicable, alternative composite liner) and the leachate collection and removal system meets the requirements of this section.

(f) Upon completion of construction of the CCR landfill or any lateral expansion of a CCR landfill, the owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the design of the composite liner (or, if applicable, alternative composite liner) and the leachate collection and removal system have been constructed in accordance with the requirements of this section.

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(f), the notification requirements specified in § 257.106(f), and the

Internet requirements specified in § 257.107(f).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36451, July 30, 2018]

§ 257.71 Liner design criteria for existing CCR surface impoundments.

(a)(1) No later than October 17, 2016, the owner or operator of an existing CCR surface impoundment must document whether or not such unit was constructed with any one of the following:

(i) [Reserved]

(ii) A composite liner that meets the requirements of § 257.70(b); or

(iii) An alternative composite liner that meets the requirements of § 257.70(c).

(2) The hydraulic conductivity of the compacted soil must be determined using recognized and generally accepted methods.

(3) An existing CCR surface impoundment is considered to be an existing unlined CCR surface impoundment if either:

(i) The owner or operator of the CCR unit determines that the CCR unit is not constructed with a liner that meets the requirements of paragraph (a)(1)(ii) or (iii) of this section; or

(ii) The owner or operator of the CCR unit fails to document whether the CCR unit was constructed with a liner that meets the requirements of paragraph (a)(1)(ii) or (iii) of this section.

(4) All existing unlined CCR surface impoundments are subject to the requirements of § 257.101(a).

(b) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority attesting that the documentation as to whether a CCR unit meets the requirements of paragraph (a) of this section is accurate.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(f), the notification requirements specified in § 257.106(f), and the Internet requirements specified in § 257.107(f).

(d) *Alternate Liner Demonstration.* An owner or operator of a CCR surface impoundment constructed without a composite liner or alternate composite liner, as defined in § 257.70(b) or (c), may submit an Alternate Liner Demonstration to the Administrator or the Participating State Director to demonstrate that based on the construction of the unit and surrounding site conditions, that there is no reasonable probability that continued operation of the surface impoundment will result in adverse effects to human health or the environment. The application and demonstration must be submitted to the Administrator or the Participating State Director no later than the relevant deadline in paragraph (d)(2) of this section. The Administrator or the Participating State Director will act on the submissions in accordance with the procedures in paragraph (d)(2) of this section.

(1) *Application and alternative liner demonstration submission requirements.* To obtain approval under this paragraph (d), the owner or operator of the CCR surface impoundment must submit all of the following:

(i) *Application.* The owner or operator of the CCR surface impoundment must submit a letter to the Administrator or the Participating State Director, announcing their intention to submit a demonstration under paragraph (d)(1)(ii) of this section. The application must include the location of the facility and identify the specific CCR surface impoundment for which the demonstration will be made. The letter must include all of the following:

(A) A certification signed by the owner or operator that the CCR unit is in full compliance with this subpart except for § 257.71(a)(1);

(B) Documentation supporting the certification required under paragraph (d)(1)(i)(A) of this section that includes all the following:

(*1*) Documentation that the groundwater monitoring network meets all the requirements of § 257.91. This must include documentation that the existing network of groundwater monitoring wells is sufficient to ensure detection of any groundwater contamination resulting from the impoundment,

based on direction of flow, well location, screening depth and other relevant factors. At a minimum, the documentation must include all of the following:

(*i*) Map(s) of groundwater monitoring well locations in relation to the CCR unit(s) that depict the elevation of the potentiometric surface and the direction(s) of groundwater flow across the site;

(*ii*) Well construction diagrams and drilling logs for all groundwater monitoring wells;

(*iii*) Maps that characterize the direction of groundwater flow accounting for temporal variations; and

(*iv*) Any other data and analyses the owner or operator of the CCR surface impoundment relied upon when determining the design and location of the groundwater monitoring network.

(*2*) Documentation that the CCR surface impoundment remains in detection monitoring pursuant to § 257.94 as a precondition for submitting an application. This includes documentation that the groundwater monitoring program meets the requirements of §§ 257.93 and 257.94. Such documentation includes data of constituent concentrations, summarized in table format, at each groundwater monitoring well monitored during each sampling event, and documentation of the most recent statistical tests conducted, analyses of the tests, and the rationale for the methods used in these comparisons. As part of this rationale, the owner or operator of the CCR surface impoundment must provide all data and analyses relied upon to comply with each of the requirements of this part;

(*3*) Documentation that the unit meets all the location restrictions under §§ 257.60 through 257.64;

(*4*) The most recent structural stability assessment required at § 257.73(d); and

(*5*) The most recent safety factor assessment required at § 257.73(e).

(C) Documentation of the design specifications for any engineered liner components, as well as all data and analyses the owner or operator of the CCR surface impoundment relied on when determining that the materials are suitable for use and that the construction of the liner is of good quality and in-line with proven and accepted engineering practices.

(D) Facilities with CCR surface impoundments located on properties adjacent to a water body must demonstrate that there is no reasonable probability that a complete and direct transport pathway (*i.e.*, not mediated by groundwater) can exist between the impoundment and any nearby water body. If the potential for such a pathway is identified, then the unit would not be eligible to submit a demonstration. If ongoing releases are identified, the owner or operator of the CCR unit must address these releases in accordance with § 257.96(a); and

(E) Upon submission of the application and any supplemental materials submitted in support of the application to the Administrator or the Participating State Director, the owner or operator must place the complete application in the facility's operating record as required by § 257.105(f)(14).

(ii) *Alternate Liner Demonstration Package*. The completed alternate liner demonstration package must be certified by a qualified professional engineer. The package must present evidence to demonstrate that, based on the construction of the unit and surrounding site conditions, there is no reasonable probability that operation of the surface impoundment will result in concentrations of constituents listed in appendix IV to this part in the uppermost aquifer at levels above a groundwater protection standard. For each line of evidence, as well as any other data and assumptions incorporated into the demonstration, the owner or operator of the CCR surface impoundment must include documentation on how the data were collected and why these data and assumptions adequately reflect potential contaminant transport from that specific impoundment. The alternate liner demonstration at a minimum must contain all of the following lines of evidence:

(A) *Characterization of site hydrogeology*. A characterization of the variability of site-specific soil and hydrogeology surrounding the surface impoundment that will control the rate and direction of contaminant transport from the impoundment. The

owner or operator must provide all of the following as part of this line of evidence:

(*1*) Measurements of the hydraulic conductivity in the uppermost aquifer from all monitoring wells associated with the impoundment(s) and discussion of the methods used to obtain these measurements;

(*2*) Measurements of the variability in subsurface soil characteristics collected from around the perimeter of the CCR surface impoundment to identify regions of substantially higher conductivity;

(*3*) Documentation that all sampling methods used are in line with recognized and generally accepted practices that can provide data at a spatial resolution necessary to adequately characterize the variability of subsurface conditions that will control contaminant transport;

(*4*) Explanation of how the specific number and location of samples collected are sufficient to capture subsurface variability if:

(*i*) Samples are advanced to a depth less than the top of the groundwater table or 20 feet beneath the bottom of the nearest water body, whichever is greater, and/or

(*ii*) Samples are spaced further apart than 200 feet around the impoundment perimeter;

(*5*) A narrative description of site geological history; and

(*6*) Conceptual site models with cross-sectional depictions of the site environmental sequence stratigraphy that include, at a minimum:

(*i*) The relative location of the impoundment with depth of ponded water noted;

(*ii*) Monitoring wells with screening depth noted;

(*iii*) Depiction of the location of other samples used in the development of the model;

(*iv*) The upper and lower limits of the uppermost aquifer across the site;

(*v*) The upper and lower limits of the depth to groundwater measured from monitoring wells if the uppermost aquifer is confined; and

(*vi*) Both the location and geometry of any nearby points of groundwater discharge or recharge (*e.g.*, surface water bodies) with potential to influence groundwater depth and flow measured around the unit.

(B) *Potential for infiltration.* A characterization of the potential for infiltration through any soil-based liner components and/or naturally occurring soil that control release and transport of leachate. All samples collected in the field for measurement of saturated hydraulic conductivity must be sent to a certified laboratory for analysis under controlled conditions and analyzed using recognized and generally accepted methodology. Facilities must document how the selected method is designed to simulate on-site conditions. The owner or operator must also provide documentation of the following as part of this line of evidence:

(*1*) The location, number, depth, and spacing of samples relied upon is supported by the data collected in paragraph (d)(1)(ii)(A) of this section and is sufficient to capture the variability of saturated hydraulic conductivity for the soil-based liner components and/or naturally occurring soil;

(*2*) The liquid used to pre-hydrate the samples and measure long-term hydraulic conductivity reflects the pH and major ion composition of the CCR surface impoundment porewater;

(*3*) That samples intended to represent the hydraulic conductivity of naturally occurring soils (*i.e.*, not mechanically compacted) are handled in a manner that will ensure the macrostructure of the soil is not disturbed during collection, transport, or analysis; and

(*4*) Any test for hydraulic conductivity relied upon includes, in addition to other relevant termination criteria specified by the method, criteria that equilibrium has been achieved between the inflow and outflow, within acceptable tolerance limits, for both electrical conductivity and pH.

(C) *Mathematical model to estimate the potential for releases.* Owners or operators must incorporate the data collected for paragraphs (d)(1)(ii)(A) and (d)(1)(ii)(B) of this section into a mathematical model to calculate the potential groundwater concentrations that may result in downgradient wells as a result of the impoundment. Facilities must also, where available, incorporate the national-scale data on constituent

concentrations and behavior provided by the existing risk record. Application of the model must account for the full range of site current and potential future conditions at and around the site to ensure that high-end groundwater concentrations have been effectively characterized. All of the data and assumptions incorporated into the model must be documented and justified.

(*1*) The models relied upon in this paragraph (d)(1)(ii)(C) must be well-established and validated, with documentation that can be made available for public review.

(*2*) The owner or operator must use the models to demonstrate that, for each constituent in appendix IV of this part, there is no reasonable probability that the peak groundwater concentration that may result from releases to groundwater from the CCR surface impoundment throughout its active life will exceed the groundwater protection standard at the waste boundary.

(*3*) The demonstration must include the peak groundwater concentrations modeled for all constituents in appendix IV of this part attributed both to the impoundment in isolation and in addition to background.

(D) Upon submission of the alternative liner demonstration to the Administrator or the Participating State Director, the owner or operator must place the complete demonstration in the facility's operating record as required by § 257.105(f)(15).

(2) *Procedures for adjudicating requests*—(i) *Deadline for application submission*. The owner or operator must submit the application under paragraph (d)(1)(i) of this section to EPA or the Participating State Director for approval no later than November 30, 2020.

(ii) *Deadline for demonstration submission*. If the application is approved the owner or operator must submit the demonstration required under paragraph (d)(1)(ii) of this section to EPA or the Participating State Director for approval no later than November 30, 2021.

(A) *Extension due to analytical limitations*. If the owner or operator cannot meet the demonstration deadline due to analytical limitations related to the measurement of hydraulic conductivity, the owner or operator must submit a request for an extension no later than September 1, 2021 that includes a summary of the data that have been analyzed to date for the samples responsible for the delay and an alternate timeline for completion that has been certified by the laboratory. The extension request must include all of the following:

(*1*) A timeline of fieldwork to confirm that samples were collected expeditiously;

(*2*) A chain of custody documenting when samples were sent to the laboratory;

(*3*) Written certification from the lab identifying how long it is projected for the tests to reach the relevant termination criteria related to solution chemistry, and

(*4*) Documentation of the progression towards all test termination metrics to date.

(B) *Length of extension*. If the extension is granted, the owner or operator will have 45 days beyond the timeframe certified by the laboratory to submit the completed demonstration.

(C) *Extension due to analytical limitations for chemical equilibrium*. If the measured hydraulic conductivity has not stabilized to within acceptable tolerance limits by the time the termination criteria for solution chemistry are met, the owner or operator must submit a preliminary demonstration no later than September 1, 2021 (with or without the one-time extension for analytical limitations).

(*1*) In this preliminary demonstration, the owner or operator must submit a justification of how the bounds of uncertainty applied to the available measurements of hydraulic conductivity ensure that the final value is not underestimated.

(*2*) EPA will review the preliminary demonstration to determine if it is complete and, if so, will propose to deny or to tentatively approve the demonstration. The proposed determination will be posted in the docket on *www.regulations.gov* and will be available for public comment for 30 days. After consideration of the comments, EPA will issue its decision on the application within four months of

receiving a complete preliminary demonstration.

(*3*) Once the final laboratory results are available, the owner or operator must submit a final demonstration that updates only the finalized hydraulic conductivity data to confirm that the model results in the preliminary demonstration are accurate.

(*4*) Until the time that EPA approves this final demonstration, the surface impoundment must remain in detection monitoring or the demonstration will be denied.

(*5*) If EPA tentatively approved the preliminary demonstration, EPA will then take action on the newly submitted final demonstration using the procedures in paragraphs (d)(2)(iv) through (vi) of this section.

(*6*) The public will have 30 days to comment but may comment only on the new information presented in the complete final demonstration or in EPA's tentative decision on the newly submitted demonstration.

(D) Upon submission of a request for an extension to the deadline for the demonstration due to analytical limitations pursuant to paragraph (d)(2)(ii)(A) of this section, the owner or operator must place the alternative liner demonstration extension request in the facility's operating record as required by § 257.105(f)(16).

(E) Upon submission of a preliminary demonstration pursuant to paragraph (d)(2)(ii)(C) of this section, the owner or operator must place the preliminary demonstration in the facility's operating record as required by § 257.105(f)(17).

(iii) *Application review*—(A) EPA will evaluate the application and may request additional information not required as part of the application as necessary to complete its review. Submission of a complete application will toll the facility's deadline to cease receipt of waste until issuance of a final decision under paragraph (d)(2)(iii)(C) of this section. Incomplete submissions will not toll the facility's deadline and will be rejected without further process.

(B) If the application is determined to be incomplete, EPA will notify the facility. The owner or operator must place the notification of an incomplete application in the facility's operating record as required by § 257.105(f)(18).

(C) EPA will publish a proposed decision on complete applications in a docket on *www.regulations.gov* for a 20-day comment period. After consideration of the comments, EPA will issue its decision on the application within sixty days of receiving a complete application.

(D) If the application is approved, the deadline to cease receipt of waste will be tolled until an alternate liner demonstration is determined to be incomplete or a final decision under paragraph (d)(2)(vi) of this section is issued.

(E) If the surface impoundment is determined by EPA to be ineligible to apply for an alternate liner demonstration, and the facility lacks alternative capacity to manage its CCR and/or non-CCR wastestreams, the owner or operator may apply for an alternative closure deadline in accordance with the procedures in § 257.103(f). The owner or operator will be given four months from the date of the ineligibility determination to apply for the alternative closure provisions in either § 257.103(f)(1) or (f)(2), during which time the facility's deadline to cease receipt of waste will be tolled.

(F) Upon receipt of a decision on the application pursuant to paragraph (d)(2)(iii)(C) of this section, the owner or operator must place the decision on the application in the facility's operating record as required by § 257.105(f)(19).

(iv) *Demonstration review*. EPA will evaluate the demonstration package and may request additional information not required as part of the demonstration as necessary to complete its review. Submission of a complete demonstration package will continue to toll the facility's deadline to cease receipt of waste into that CCR surface impoundment until issuance of a final decision under paragraph (d)(2)(vi) of this section. Upon a determination that a demonstration is incomplete the tolling of the facility's deadline will cease and the submission will be rejected without further process.

(v) *Proposed decision on demonstration*. EPA will publish a proposed decision on a complete demonstration package

in a docket on *www.regulations.gov* for a 30-day comment period.

(vi) *Final decision on demonstration.* After consideration of the comments, EPA will issue its decision on the alternate liner demonstration package within four months of receiving a complete demonstration package. Upon approval the facility may continue to operate the impoundment as long as the impoundment remains in detection monitoring. Upon detection of a statistically significant increase over background of a constituent listed on appendix III to this part, the facility must proceed in accordance with the requirements of paragraph (ix) of this section.

(vii) *Facility operating record requirements.* Upon receipt of the final decision on the alternate liner demonstration pursuant to paragraph (vi) of this section, the owner or operator must place the final decision in the facility's operating record as required by § 257.105(f)(20).

(viii) *Effect of Demonstration Denial.* If EPA determines that the CCR surface impoundment's alternate liner does not meet the standard for approval in this paragraph (d), the owner or operator must cease receipt of waste and initiate closure as determined in EPA's decision. If the owner or operator needs to obtain alternate capacity, they may do so in accordance with the procedures in § 257.103. The owner or operator will have four months from the date of EPA's decision to apply for an alternative closure deadline under either § 257.103(f)(1) or (f)(2), during which time the facility's deadline to cease receipt of waste will be tolled.

(ix) *Loss of authorization*–(A) The owner or operator of the CCR unit must comply with all of the following upon determining that there is a statistically significant increase over background levels for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):

(*1*) In addition to the requirements specified in this paragraph (d), comply with the groundwater monitoring and corrective action procedures specified in §§ 257.90 through 257.98;

(*2*) Submit the notification required by § 257.94(e)(3) to EPA within 14 days of placing the notification in the facility's operating record as required by § 257.105(h)(5);

(*3*) Conduct intra-well analysis on each downgradient well to identify any trends of increasing concentrations as required by paragraph (d)(2)(ix)(B) of this section. The owner and operator must conduct the initial groundwater sampling and analysis for all constituents listed in appendix IV to this part according to the timeframes specified in § 257.95(b);

(*4*) The owner or operator may elect to pursue an alternative source demonstration pursuant to § 257.94(e)(2) that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality, provided that such alternative source demonstration must be conducted simultaneously with the sampling and analysis required by paragraph (d)(2)(ix)(A)(*3*) of this section. If the owner or operator believes that a successful demonstration has been made, the demonstration must be submitted to EPA for review and approval. The owner or operator must place the demonstration in the facility's operating record within the deadlines specified in § 257.94(e)(2) and submit the demonstration to EPA within 14 days of placing the demonstration in the facility's operating record.

(*5*) The alternative source demonstration must be posted to the facility's publicly accessible CCR internet site and submitted to EPA within 14 days of completion. EPA will publish a proposed decision on the alternative source determination on *www.regulations.gov* for a 20-day comment period. After consideration of the comments, EPA will issue its decision. If the alternative source demonstration is approved, the owner or operator may cease conducting the trend analysis and return to detection monitoring. If the alternative source demonstration is denied, the owner or operator must either complete the trend analysis or cease receipt of waste. Upon receipt of the final decision on the alternative source demonstration, the owner or operator must place the final decision in

the facility's operating record as required by § 257.105(f)(22).

(B) *Trend analysis.* (*1*) Except as provided for in § 257.95(c), the owner or operator must collect a minimum of four independent samples from each well (background and downgradient) on a quarterly basis within the first year of triggering assessment monitoring and analyze each sample for all constituents listed in appendix IV to this part. Consistent with 257.95(b), the first samples must be collected within 90 days of triggering assessment monitoring. After the initial year of sampling, the owner or operator must then conduct sampling as prescribed in § 257.95(d)(1). After each sampling event, the owner or operator must update the trend analysis with the new sampling information.

(*2*) The owner or operator of the CCR surface impoundment must apply an appropriate statistical test to identify any trends of increasing concentrations within the monitoring data. For normally distributed datasets, linear regression will be used to identify trends and determine the associated magnitude. For non-normally distributed datasets, the Mann-Kendall test will be used to identify trends and the Theil-Sen trend line will be used to determine the associated magnitude. If a trend is identified, the owner or operator of the CCR surface impoundment will use the upper 95th percentile confidence limit on the trend line to estimate future concentrations. The owner or operator will project this trendline into the future for a duration set to the maximum number of years established in § 257.102 for closure of the surface impoundment.

(*3*) A report of the results of each sampling event, as well as the final trend analysis, must be posted to the facility's publicly accessible CCR internet site and submitted to EPA within 14 days of completion. The trend analysis submitted to EPA must include all data relied upon by the facility to support the analysis. EPA will publish a proposed decision on the trend analysis on *www.regulations.gov* for a 30-day comment period. After consideration of the comments, EPA will issue its decision. If the trend analysis shows the potential for a future exceedance of a groundwater protection standard, before the closure deadlines established in § 257.102, the CCR surface impoundment must cease receipt of waste by the date provided in the notice.

(C) If the trend analysis demonstrates the presence of a statistically significant trend of increasing concentration for one or more constituents listed in appendix IV of this part with potential to result in an exceedance of any groundwater protection standard before closure is complete, or if at any time one or more constituents listed in appendix IV of this part are detected at a statistically significant level above a groundwater protection standard, the authorization will be withdrawn. The provisions at § 257.96(g)(3) do not apply to CCR surface impoundments operating under an alternate liner demonstration. Upon receipt of a decision that the alternate liner demonstration has been withdrawn, the owner or operator must place the decision in the facility's operating record as required by § 257.105(f)(24).

(D) The onus remains on the owner or operator of the CCR surface impoundment at all times to demonstrate that the CCR surface impoundment meets the conditions for authorization under this section. If at any point, any condition for qualification under this section has not been met, EPA or the Participating State Director can without further notice or process deny or revoke the owner or operator's authorization under paragraph (d)(2)(ix) of this section.

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36452, July 30, 2018; 85 FR 53561, Aug. 28, 2020; 85 FR 72539, Nov. 12, 2020]

§ 257.72 Liner design criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment.

(a) New CCR surface impoundments and lateral expansions of existing and new CCR surface impoundments must be designed, constructed, operated, and maintained with either a composite liner or an alternative composite liner that meets the requirements of § 257.70(b) or (c).

(b) Any liner specified in this section must be installed to cover all surrounding earth likely to be in contact with CCR. Dikes shall not be constructed on top of the composite liner.

(c) Prior to construction of the CCR surface impoundment or any lateral expansion of a CCR surface impoundment, the owner or operator must obtain certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the design of the composite liner or, if applicable, the design of an alternative composite liner complies with the requirements of this section.

(d) Upon completion, the owner or operator must obtain certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the composite liner or if applicable, the alternative composite liner has been constructed in accordance with the requirements of this section.

(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(f), the notification requirements specified in § 257.106(f), and the Internet requirements specified in § 257.107(f).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36452, July 30, 2018]

§ 257.73 Structural integrity criteria for existing CCR surface impoundments.

(a) The requirements of paragraphs (a)(1) through (4) of this section apply to all existing CCR surface impoundments, except for those existing CCR surface impoundments that are incised CCR units. If an incised CCR surface impoundment is subsequently modified (e.g., a dike is constructed) such that the CCR unit no longer meets the definition of an incised CCR unit, the CCR unit is subject to the requirements of paragraphs (a)(1) through (4) of this section.

(1) No later than, December 17, 2015, the owner or operator of the CCR unit must place on or immediately adjacent to the CCR unit a permanent identification marker, at least six feet high showing the identification number of the CCR unit, if one has been assigned by the state, the name associated with the CCR unit and the name of the owner or operator of the CCR unit.

(2) *Periodic hazard potential classification assessments.* (i) The owner or operator of the CCR unit must conduct initial and periodic hazard potential classification assessments of the CCR unit according to the timeframes specified in paragraph (f) of this section. The owner or operator must document the hazard potential classification of each CCR unit as either a high hazard potential CCR surface impoundment, a significant hazard potential CCR surface impoundment, or a low hazard potential CCR surface impoundment. The owner or operator must also document the basis for each hazard potential classification.

(ii) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial hazard potential classification and each subsequent periodic classification specified in paragraph (a)(2)(i) of this section was conducted in accordance with the requirements of this section.

(3) *Emergency Action Plan (EAP)*—(i) *Development of the plan.* No later than April 17, 2017, the owner or operator of a CCR unit determined to be either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment under paragraph (a)(2) of this section must prepare and maintain a written EAP. At a minimum, the EAP must:

(A) Define the events or circumstances involving the CCR unit that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;

(B) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;

(C) Provide contact information of emergency responders;

(D) Include a map which delineates the downstream area which would be affected in the event of a CCR unit failure and a physical description of the CCR unit; and

(E) Include provisions for an annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders.

(ii) *Amendment of the plan.* (A) The owner or operator of a CCR unit subject to the requirements of paragraph (a)(3)(i) of this section may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by § 257.105(f)(6). The owner or operator must amend the written EAP whenever there is a change in conditions that would substantially affect the EAP in effect.

(B) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in paragraph (a)(3)(i) of this section is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by § 257.105(f)(6).

(iii) *Changes in hazard potential classification.* (A) If the owner or operator of a CCR unit determines during a periodic hazard potential assessment that the CCR unit is no longer classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit is no longer subject to the requirement to prepare and maintain a written EAP beginning on the date the periodic hazard potential assessment documentation is placed in the facility's operating record as required by § 257.105(f)(5).

(B) If the owner or operator of a CCR unit classified as a low hazard potential CCR surface impoundment subsequently determines that the CCR unit is properly re-classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit must prepare a written EAP for the CCR unit as required by paragraph (a)(3)(i) of this section within six months of completing such periodic hazard potential assessment.

(iv) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the written EAP, and any subsequent amendment of the EAP, meets the requirements of paragraph (a)(3) of this section.

(v) *Activation of the EAP.* The EAP must be implemented once events or circumstances involving the CCR unit that represent a safety emergency are detected, including conditions identified during periodic structural stability assessments, annual inspections, and inspections by a qualified person.

(4) The CCR unit and surrounding areas must be designed, constructed, operated, and maintained with vegetated slopes of dikes not to exceed a height of 6 inches above the slope of the dike, except for slopes which are protected with an alternate form(s) of slope protection.

(b) The requirements of paragraphs (c) through (e) of this section apply to an owner or operator of an existing CCR surface impoundment that either:

(1) Has a height of five feet or more and a storage volume of 20 acre-feet or more; or

(2) Has a height of 20 feet or more.

(c)(1) No later than October 17, 2016, the owner or operator of the CCR unit must compile a history of construction, which shall contain, to the extent feasible, the information specified in paragraphs (c)(1)(i) through (xi) of this section.

(i) The name and address of the person(s) owning or operating the CCR unit; the name associated with the CCR unit; and the identification number of the CCR unit if one has been assigned by the state.

(ii) The location of the CCR unit identified on the most recent U.S. Geological Survey (USGS) 7½ minute or 15 minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available.

(iii) A statement of the purpose for which the CCR unit is being used.

(iv) The name and size in acres of the watershed within which the CCR unit is located.

(v) A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed.

(vi) A statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR

unit; the method of site preparation and construction of each zone of the CCR unit; and the approximate dates of construction of each successive stage of construction of the CCR unit.

(vii) At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR unit, detailed dimensional drawings of the CCR unit, including a plan view and cross sections of the length and width of the CCR unit, showing all zones, foundation improvements, drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or mis-operation.

(viii) A description of the type, purpose, and location of existing instrumentation.

(ix) Area-capacity curves for the CCR unit.

(x) A description of each spillway and diversion design features and capacities and calculations used in their determination.

(xi) The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.

(xii) Any record or knowledge of structural instability of the CCR unit.

(2) *Changes to the history of construction.* If there is a significant change to any information compiled under paragraph (c)(1) of this section, the owner or operator of the CCR unit must update the relevant information and place it in the facility's operating record as required by § 257.105(f)(9).

(d) *Periodic structural stability assessments.* (1) The owner or operator of the CCR unit must conduct initial and periodic structural stability assessments and document whether the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded therein. The assessment must, at a minimum, document whether the CCR unit has been designed, constructed, operated, and maintained with:

(i) Stable foundations and abutments;

(ii) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;

(iii) Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;

(iv) Vegetated slopes of dikes and surrounding areas not to exceed a height of six inches above the slope of the dike, except for slopes which have an alternate form or forms of slope protection;

(v) A single spillway or a combination of spillways configured as specified in paragraph (d)(1)(v)(A) of this section. The combined capacity of all spillways must be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in paragraph (d)(1)(v)(B) of this section.

(A) All spillways must be either:

(*1*) Of non-erodible construction and designed to carry sustained flows; or

(*2*) Earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

(B) The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a:

(*1*) Probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or

(*2*) 1000-year flood for a significant hazard potential CCR surface impoundment; or

(*3*) 100-year flood for a low hazard potential CCR surface impoundment.

(vi) Hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure; and

(vii) For CCR units with downstream slopes which can be inundated by the pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.

(2) The periodic assessment described in paragraph (d)(1) of this section must identify any structural stability deficiencies associated with the CCR unit in addition to recommending corrective measures. If a deficiency or a release is identified during the periodic assessment, the owner or operator unit must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(3) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment was conducted in accordance with the requirements of this section.

(e) *Periodic safety factor assessments.* (1) The owner or operator must conduct an initial and periodic safety factor assessments for each CCR unit and document whether the calculated factors of safety for each CCR unit achieve the minimum safety factors specified in paragraphs (e)(1)(i) through (iv) of this section for the critical cross section of the embankment. The critical cross section is the cross section anticipated to be the most susceptible of all cross sections to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments must be supported by appropriate engineering calculations.

(i) The calculated static factor of safety under the long-term, maximum storage pool loading condition must equal or exceed 1.50.

(ii) The calculated static factor of safety under the maximum surcharge pool loading condition must equal or exceed 1.40.

(iii) The calculated seismic factor of safety must equal or exceed 1.00.

(iv) For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety must equal or exceed 1.20.

(2) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment specified in paragraph (e)(1) of this section meets the requirements of this section.

(f) *Timeframes for periodic assessments*—(1) *Initial assessments.* Except as provided by paragraph (f)(2) of this section, the owner or operator of the CCR unit must complete the initial assessments required by paragraphs (a)(2), (d), and (e) of this section no later than October 17, 2016. The owner or operator has completed an initial assessment when the owner or operator has placed the assessment required by paragraphs (a)(2), (d), and (e) of this section in the facility's operating record as required by § 257.105(f)(5), (10), and (12).

(2) *Use of a previously completed assessment(s) in lieu of the initial assessment(s).* The owner or operator of the CCR unit may elect to use a previously completed assessment to serve as the initial assessment required by paragraphs (a)(2), (d), and (e) of this section provided that the previously completed assessment(s):

(i) Was completed no earlier than 42 months prior to October 17, 2016; and

(ii) Meets the applicable requirements of paragraphs (a)(2), (d), and (e) of this section.

(3) *Frequency for conducting periodic assessments.* The owner or operator of the CCR unit must conduct and complete the assessments required by paragraphs (a)(2), (d), and (e) of this section every five years. The date of completing the initial assessment is the basis for establishing the deadline to complete the first subsequent assessment. If the owner or operator elects to use a previously completed assessment(s) in lieu of the initial assessment as provided by paragraph (f)(2) of this section, the date of the report for the previously completed assessment is the basis for establishing the deadline to complete the first subsequent assessment. The owner or operator may complete any required assessment prior to the required deadline provided the owner or operator places the completed assessment(s) into the facility's operating record within a reasonable

amount of time. In all cases, the deadline for completing subsequent assessments is based on the date of completing the previous assessment. For purposes of this paragraph (f)(3), the owner or operator has completed an assessment when the relevant assessment(s) required by paragraphs (a)(2), (d), and (e) of this section has been placed in the facility's operating record as required by § 257.105(f)(5), (10), and (12).

(4) *Closure of the CCR unit.* An owner or operator of a CCR unit who either fails to complete a timely safety factor assessment or fails to demonstrate minimum safety factors as required by paragraph (e) of this section is subject to the requirements of § 257.101(b)(2).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(f), the notification requirements specified in § 257.106(f), and the internet requirements specified in § 257.107(f).

§ 257.74 Structural integrity criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment.

(a) The requirements of paragraphs (a)(1) through (4) of this section apply to all new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, except for those new CCR surface impoundments that are incised CCR units. If an incised CCR surface impoundment is subsequently modified (e.g., a dike is constructed) such that the CCR unit no longer meets the definition of an incised CCR unit, the CCR unit is subject to the requirements of paragraphs (a)(1) through (4) of this section.

(1) No later than the initial receipt of CCR, the owner or operator of the CCR unit must place on or immediately adjacent to the CCR unit a permanent identification marker, at least six feet high showing the identification number of the CCR unit, if one has been assigned by the state, the name associated with the CCR unit and the name of the owner or operator of the CCR unit.

(2) *Periodic hazard potential classification assessments.* (i) The owner or operator of the CCR unit must conduct initial and periodic hazard potential classification assessments of the CCR unit according to the timeframes specified in paragraph (f) of this section. The owner or operator must document the hazard potential classification of each CCR unit as either a high hazard potential CCR surface impoundment, a significant hazard potential CCR surface impoundment, or a low hazard potential CCR surface impoundment. The owner or operator must also document the basis for each hazard potential classification.

(ii) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial hazard potential classification and each subsequent periodic classification specified in paragraph (a)(2)(i) of this section was conducted in accordance with the requirements of this section.

(3) *Emergency Action Plan (EAP)*—(i) *Development of the plan.* Prior to the initial receipt of CCR in the CCR unit, the owner or operator of a CCR unit determined to be either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment under paragraph (a)(2) of this section must prepare and maintain a written EAP. At a minimum, the EAP must:

(A) Define the events or circumstances involving the CCR unit that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;

(B) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;

(C) Provide contact information of emergency responders;

(D) Include a map which delineates the downstream area which would be affected in the event of a CCR unit failure and a physical description of the CCR unit; and

(E) Include provisions for an annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders.

(ii) *Amendment of the plan.* (A) The owner or operator of a CCR unit subject to the requirements of paragraph (a)(3)(i) of this section may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by § 257.105(f)(6). The owner or operator must amend the written EAP whenever there is a change in conditions that would substantially affect the EAP in effect.

(B) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in paragraph (a)(3)(i) of this section is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by § 257.105(f)(6).

(iii) *Changes in hazard potential classification.* (A) If the owner or operator of a CCR unit determines during a periodic hazard potential assessment that the CCR unit is no longer classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit is no longer subject to the requirement to prepare and maintain a written EAP beginning on the date the periodic hazard potential assessment documentation is placed in the facility's operating record as required by § 257.105(f)(5).

(B) If the owner or operator of a CCR unit classified as a low hazard potential CCR surface impoundment subsequently determines that the CCR unit is properly re-classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit must prepare a written EAP for the CCR unit as required by paragraph (a)(3)(i) of this section within six months of completing such periodic hazard potential assessment.

(iv) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the written EAP, and any subsequent amendment of the EAP, meets the requirements of paragraph (a)(3) of this section.

(v) *Activation of the EAP.* The EAP must be implemented once events or circumstances involving the CCR unit that represent a safety emergency are detected, including conditions identified during periodic structural stability assessments, annual inspections, and inspections by a qualified person.

(4) The CCR unit and surrounding areas must be designed, constructed, operated, and maintained with vegetated slopes of dikes not to exceed a height of six inches above the slope of the dike, except for slopes which are protected with an alternate form(s) of slope protection.

(b) The requirements of paragraphs (c) through (e) of this section apply to an owner or operator of a new CCR surface impoundment and any lateral expansion of a CCR surface impoundment that either:

(1) Has a height of five feet or more and a storage volume of 20 acre-feet or more; or

(2) Has a height of 20 feet or more.

(c)(1) No later than the initial receipt of CCR in the CCR unit, the owner or operator unit must compile the design and construction plans for the CCR unit, which must include, to the extent feasible, the information specified in paragraphs (c)(1)(i) through (xi) of this section.

(i) The name and address of the person(s) owning or operating the CCR unit; the name associated with the CCR unit; and the identification number of the CCR unit if one has been assigned by the state.

(ii) The location of the CCR unit identified on the most recent U.S. Geological Survey (USGS) 7½ minute or 15 minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available.

(iii) A statement of the purpose for which the CCR unit is being used.

(iv) The name and size in acres of the watershed within which the CCR unit is located.

(v) A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed.

(vi) A statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR unit; the method of site preparation and construction of each zone of the

CCR unit; and the dates of construction of each successive stage of construction of the CCR unit.

(vii) At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR unit, detailed dimensional drawings of the CCR unit, including a plan view and cross sections of the length and width of the CCR unit, showing all zones, foundation improvements, drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or mis-operation.

(viii) A description of the type, purpose, and location of existing instrumentation.

(ix) Area-capacity curves for the CCR unit.

(x) A description of each spillway and diversion design features and capacities and calculations used in their determination.

(xi) The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.

(xii) Any record or knowledge of structural instability of the CCR unit.

(2) *Changes in the design and construction.* If there is a significant change to any information compiled under paragraph (c)(1) of this section, the owner or operator of the CCR unit must update the relevant information and place it in the facility's operating record as required by § 257.105(f)(13).

(d) *Periodic structural stability assessments.* (1) The owner or operator of the CCR unit must conduct initial and periodic structural stability assessments and document whether the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded therein. The assessment must, at a minimum, document whether the CCR unit has been designed, constructed, operated, and maintained with:

(i) Stable foundations and abutments;

(ii) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;

(iii) Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;

(iv) Vegetated slopes of dikes and surrounding areas not to exceed a height of six inches above the slope of the dike, except for slopes which have an alternate form or forms of slope protection;

(v) A single spillway or a combination of spillways configured as specified in paragraph (d)(1)(v)(A) of this section. The combined capacity of all spillways must be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in paragraph (d)(1)(v)(B) of this section.

(A) All spillways must be either:

(*1*) Of non-erodible construction and designed to carry sustained flows; or

(*2*) Earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

(B) The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a:

(*1*) Probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or

(*2*) 1000-year flood for a significant hazard potential CCR surface impoundment; or

(*3*) 100-year flood for a low hazard potential CCR surface impoundment.

(vi) Hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure; and

(vii) For CCR units with downstream slopes which can be inundated by the

pool of an adjacent water body, such as a river, stream or lake, downstream slopes that maintain structural stability during low pool of the adjacent water body or sudden drawdown of the adjacent water body.

(2) The periodic assessment described in paragraph (d)(1) of this section must identify any structural stability deficiencies associated with the CCR unit in addition to recommending corrective measures. If a deficiency or a release is identified during the periodic assessment, the owner or operator unit must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(3) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment was conducted in accordance with the requirements of this section.

(e) *Periodic safety factor assessments.* (1) The owner or operator must conduct an initial and periodic safety factor assessments for each CCR unit and document whether the calculated factors of safety for each CCR unit achieve the minimum safety factors specified in paragraphs (e)(1)(i) through (v) of this section for the critical cross section of the embankment. The critical cross section is the cross section anticipated to be the most susceptible of all cross sections to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments must be supported by appropriate engineering calculations.

(i) The calculated static factor of safety under the end-of-construction loading condition must equal or exceed 1.30. The assessment of this loading condition is only required for the initial safety factor assessment and is not required for subsequent assessments.

(ii) The calculated static factor of safety under the long-term, maximum storage pool loading condition must equal or exceed 1.50.

(iii) The calculated static factor of safety under the maximum surcharge pool loading condition must equal or exceed 1.40.

(iv) The calculated seismic factor of safety must equal or exceed 1.00.

(v) For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety must equal or exceed 1.20.

(2) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment specified in paragraph (e)(1) of this section meets the requirements of this section.

(f) *Timeframes for periodic assessments*—(1) *Initial assessments.* Except as provided by paragraph (f)(2) of this section, the owner or operator of the CCR unit must complete the initial assessments required by paragraphs (a)(2), (d), and (e) of this section prior to the initial receipt of CCR in the unit. The owner or operator has completed an initial assessment when the owner or operator has placed the assessment required by paragraphs (a)(2), (d), and (e) of this section in the facility's operating record as required by § 257.105(f)(5), (10), and (12).

(2) *Frequency for conducting periodic assessments.* The owner or operator of the CCR unit must conduct and complete the assessments required by paragraphs (a)(2), (d), and (e) of this section every five years. The date of completing the initial assessment is the basis for establishing the deadline to complete the first subsequent assessment. The owner or operator may complete any required assessment prior to the required deadline provided the owner or operator places the completed assessment(s) into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent assessments is based on the date of completing the previous assessment. For purposes of this paragraph (f)(2), the owner or operator has completed an assessment when the relevant assessment(s) required by paragraphs (a)(2), (d), and (e) of this section has been placed in the facility's operating record as required by § 257.105(f)(5), (10), and (12).

(3) *Failure to document minimum safety factors during the initial assessment.* Until the date an owner or operator of

a CCR unit documents that the calculated factors of safety achieve the minimum safety factors specified in paragraphs (e)(1)(i) through (v) of this section, the owner or operator is prohibited from placing CCR in such unit.

(4) *Closure of the CCR unit.* An owner or operator of a CCR unit who either fails to complete a timely periodic safety factor assessment or fails to demonstrate minimum safety factors as required by paragraph (e) of this section is subject to the requirements of § 257.101(c).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(f), the notification requirements specified in § 257.106(f), and the internet requirements specified in § 257.107(f).

OPERATING CRITERIA

§ 257.80 Air criteria.

(a) The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit must adopt measures that will effectively minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management and material handling activities.

(b) *CCR fugitive dust control plan.* The owner or operator of the CCR unit must prepare and operate in accordance with a CCR fugitive dust control plan as specified in paragraphs (b)(1) through (7) of this section. This requirement applies in addition to, not in place of, any applicable standards under the Occupational Safety and Health Act.

(1) The CCR fugitive dust control plan must identify and describe the CCR fugitive dust control measures the owner or operator will use to minimize CCR from becoming airborne at the facility. The owner or operator must select, and include in the CCR fugitive dust control plan, the CCR fugitive dust control measures that are most appropriate for site conditions, along with an explanation of how the measures selected are applicable and appropriate for site conditions. Examples of control measures that may be appropriate include: Locating CCR inside an enclosure or partial enclosure; operating a water spray or fogging system; reducing fall distances at material drop points; using wind barriers, compaction, or vegetative covers; establishing and enforcing reduced vehicle speed limits; paving and sweeping roads; covering trucks transporting CCR; reducing or halting operations during high wind events; or applying a daily cover.

(2) If the owner or operator operates a CCR landfill or any lateral expansion of a CCR landfill, the CCR fugitive dust control plan must include procedures to emplace CCR as conditioned CCR. Conditioned CCR means wetting CCR with water to a moisture content that will prevent wind dispersal, but will not result in free liquids. In lieu of water, CCR conditioning may be accomplished with an appropriate chemical dust suppression agent.

(3) The CCR fugitive dust control plan must include procedures to log citizen complaints received by the owner or operator involving CCR fugitive dust events at the facility.

(4) The CCR fugitive dust control plan must include a description of the procedures the owner or operator will follow to periodically assess the effectiveness of the control plan.

(5) The owner or operator of a CCR unit must prepare an initial CCR fugitive dust control plan for the facility no later than October 19, 2015, or by initial receipt of CCR in any CCR unit at the facility if the owner or operator becomes subject to this subpart after October 19, 2015. The owner or operator has completed the initial CCR fugitive dust control plan when the plan has been placed in the facility's operating record as required by § 257.105(g)(1).

(6) *Amendment of the plan.* The owner or operator of a CCR unit subject to the requirements of this section may amend the written CCR fugitive dust control plan at any time provided the revised plan is placed in the facility's operating record as required by § 257.105(g)(1). The owner or operator must amend the written plan whenever there is a change in conditions that would substantially affect the written plan in effect, such as the construction and operation of a new CCR unit.

(7) The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the initial CCR fugitive dust control plan, or any subsequent amendment of it, meets the requirements of this section.

(c) *Annual CCR fugitive dust control report.* The owner or operator of a CCR unit must prepare an annual CCR fugitive dust control report that includes a description of the actions taken by the owner or operator to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken. The initial annual report must be completed no later than 14 months after placing the initial CCR fugitive dust control plan in the facility's operating record. The deadline for completing a subsequent report is one year after the date of completing the previous report. For purposes of this paragraph (c), the owner or operator has completed the annual CCR fugitive dust control report when the plan has been placed in the facility's operating record as required by § 257.105(g)(2).

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(g), the notification requirements specified in § 257.106(g), and the internet requirements specified in § 257.107(g).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36452, July 30, 2018]

§ 257.81 Run-on and run-off controls for CCR landfills.

(a) The owner or operator of an existing or new CCR landfill or any lateral expansion of a CCR landfill must design, construct, operate, and maintain:

(1) A run-on control system to prevent flow onto the active portion of the CCR unit during the peak discharge from a 24-hour, 25-year storm; and

(2) A run-off control system from the active portion of the CCR unit 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 CCR unit must be handled in accordance with the surface water requirements under § 257.3–3.

(c) *Run-on and run-off control system plan*—(1) *Content of the plan.* The owner or operator must prepare initial and periodic run-on and run-off control system plans for the CCR unit according to the timeframes specified in paragraphs (c)(3) and (4) of this section. These plans must document how the run-on and run-off control systems have been designed and constructed to meet the applicable requirements of this section. Each plan must be supported by appropriate engineering calculations. The owner or operator has completed the initial run-on and run-off control system plan when the plan has been placed in the facility's operating record as required by § 257.105(g)(3).

(2) *Amendment of the plan.* The owner or operator may amend the written run-on and run-off control system plan at any time provided the revised plan is placed in the facility's operating record as required by § 257.105(g)(3). The owner or operator must amend the written run-on and run-off control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.

(3) *Timeframes for preparing the initial plan*—(i) *Existing CCR landfills.* The owner or operator of the CCR unit must prepare the initial run-on and run-off control system plan no later than October 17, 2016.

(ii) *New CCR landfills and any lateral expansion of a CCR landfill.* The owner or operator must prepare the initial run-on and run-off control system plan no later than the date of initial receipt of CCR in the CCR unit.

(4) *Frequency for revising the plan.* The owner or operator of the CCR unit must prepare periodic run-on and run-off control system plans required by paragraph (c)(1) of this section every five years. The date of completing the initial plan is the basis for establishing the deadline to complete the first subsequent plan. The owner or operator may complete any required plan prior to the required deadline provided the owner or operator places the completed plan into the facility's operating record within a reasonable amount of

time. In all cases, the deadline for completing a subsequent plan is based on the date of completing the previous plan. For purposes of this paragraph (c)(4), the owner or operator has completed a periodic run-on and run-off control system plan when the plan has been placed in the facility's operating record as required by § 257.105(g)(3).

(5) The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the initial and periodic run-on and run-off control system plans meet the requirements of this section.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(g), the notification requirements specified in § 257.106(g), and the internet requirements specified in § 257.107(g).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36452, July 30, 2018]

§ 257.82 Hydrologic and hydraulic capacity requirements for CCR surface impoundments.

(a) The owner or operator of an existing or new CCR surface impoundment or any lateral expansion of a CCR surface impoundment must design, construct, operate, and maintain an inflow design flood control system as specified in paragraphs (a)(1) and (2) of this section.

(1) The inflow design flood control system must adequately manage flow into the CCR unit during and following the peak discharge of the inflow design flood specified in paragraph (a)(3) of this section.

(2) The inflow design flood control system must adequately manage flow from the CCR unit to collect and control the peak discharge resulting from the inflow design flood specified in paragraph (a)(3) of this section.

(3) The inflow design flood is:

(i) For a high hazard potential CCR surface impoundment, as determined under § 257.73(a)(2) or § 257.74(a)(2), the probable maximum flood;

(ii) For a significant hazard potential CCR surface impoundment, as determined under § 257.73(a)(2) or § 257.74(a)(2), the 1,000-year flood;

(iii) For a low hazard potential CCR surface impoundment, as determined under § 257.73(a)(2) or § 257.74(a)(2), the 100-year flood; or

(iv) For an incised CCR surface impoundment, the 25-year flood.

(b) Discharge from the CCR unit must be handled in accordance with the surface water requirements under § 257.3–3.

(c) *Inflow design flood control system plan*—(1) *Content of the plan.* The owner or operator must prepare initial and periodic inflow design flood control system plans for the CCR unit according to the timeframes specified in paragraphs (c)(3) and (4) of this section. These plans must document how the inflow design flood control system has been designed and constructed to meet the requirements of this section. Each plan must be supported by appropriate engineering calculations. The owner or operator of the CCR unit has completed the inflow design flood control system plan when the plan has been placed in the facility's operating record as required by § 257.105(g)(4).

(2) *Amendment of the plan.* The owner or operator of the CCR unit may amend the written inflow design flood control system plan at any time provided the revised plan is placed in the facility's operating record as required by § 257.105(g)(4). The owner or operator must amend the written inflow design flood control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.

(3) *Timeframes for preparing the initial plan*—(i) *Existing CCR surface impoundments.* The owner or operator of the CCR unit must prepare the initial inflow design flood control system plan no later than October 17, 2016.

(ii) *New CCR surface impoundments and any lateral expansion of a CCR surface impoundment.* The owner or operator must prepare the initial inflow design flood control system plan no later than the date of initial receipt of CCR in the CCR unit.

(4) *Frequency for revising the plan.* The owner or operator must prepare periodic inflow design flood control system plans required by paragraph (c)(1) of

this section every five years. The date of completing the initial plan is the basis for establishing the deadline to complete the first periodic plan. The owner or operator may complete any required plan prior to the required deadline provided the owner or operator places the completed plan into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing a subsequent plan is based on the date of completing the previous plan. For purposes of this paragraph (c)(4), the owner or operator has completed an inflow design flood control system plan when the plan has been placed in the facility's operating record as required by § 257.105(g)(4).

(5) The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the initial and periodic inflow design flood control system plans meet the requirements of this section.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(g), the notification requirements specified in § 257.106(g), and the internet requirements specified in § 257.107(g).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36451, July 30, 2018]

§ 257.83 Inspection requirements for CCR surface impoundments.

(a) *Inspections by a qualified person.* (1) All CCR surface impoundments and any lateral expansion of a CCR surface impoundment must be examined by a qualified person as follows:

(i) At intervals not exceeding seven days, inspect for any appearances of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit;

(ii) At intervals not exceeding seven days, inspect the discharge of all outlets of hydraulic structures which pass underneath the base of the surface impoundment or through the dike of the CCR unit for abnormal discoloration, flow or discharge of debris or sediment; and

(iii) At intervals not exceeding 30 days, monitor all CCR unit instrumentation.

(iv) The results of the inspection by a qualified person must be recorded in the facility's operating record as required by § 257.105(g)(5).

(2) *Timeframes for inspections by a qualified person*—(i) *Existing CCR surface impoundments.* The owner or operator of the CCR unit must initiate the inspections required under paragraph (a) of this section no later than October 19, 2015.

(ii) *New CCR surface impoundments and any lateral expansion of a CCR surface impoundment.* The owner or operator of the CCR unit must initiate the inspections required under paragraph (a) of this section upon initial receipt of CCR by the CCR unit.

(b) Annual i*nspections by a qualified professional engineer.* (1) If the existing or new CCR surface impoundment or any lateral expansion of the CCR surface impoundment is subject to the periodic structural stability assessment requirements under § 257.73(d) or § 257.74(d), the CCR unit must additionally be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

(i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., CCR unit design and construction information required by §§ 257.73(c)(1) and 257.74(c)(1), previous periodic structural stability assessments required under §§ 257.73(d) and 257.74(d), the results of inspections by a qualified person, and results of previous annual inspections);

(ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures; and

(iii) A visual inspection of any hydraulic structures underlying the base of the CCR unit or passing through the

dike of the CCR unit for structural integrity and continued safe and reliable operation.

(2) *Inspection report.* The qualified professional engineer must prepare a report following each inspection that addresses the following:

(i) Any changes in geometry of the impounding structure since the previous annual inspection;

(ii) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection;

(iii) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;

(iv) The storage capacity of the impounding structure at the time of the inspection;

(v) The approximate volume of the impounded water and CCR at the time of the inspection;

(vi) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures; and

(vii) Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.

(3) *Timeframes for conducting the initial inspection*—(i) *Existing CCR surface impoundments.* The owner or operator of the CCR unit must complete the initial inspection required by paragraphs (b)(1) and (2) of this section no later than January 19, 2016.

(ii) *New CCR surface impoundments and any lateral expansion of a CCR surface impoundment.* The owner or operator of the CCR unit must complete the initial annual inspection required by paragraphs (b)(1) and (2) of this section is completed no later than 14 months following the date of initial receipt of CCR in the CCR unit.

(4) *Frequency of inspections.* (i) Except as provided for in paragraph (b)(4)(ii) of this section, the owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by § 257.105(g)(6).

(ii) In any calendar year in which both the periodic inspection by a qualified professional engineer and the quinquennial (occurring every five years) structural stability assessment by a qualified professional engineer required by §§ 257.73(d) and 257.74(d) are required to be completed, the annual inspection is not required, provided the structural stability assessment is completed during the calendar year. If the annual inspection is not conducted in a year as provided by this paragraph (b)(4)(ii), the deadline for completing the next annual inspection is one year from the date of completing the quinquennial structural stability assessment.

(5) If a deficiency or release is identified during an inspection, the owner or operator must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(g), the notification requirements specified in § 257.106(g), and the internet requirements specified in § 257.107(g).

[80 FR 21468, Apr. 17, 2015, as amended at 80 FR 37992, July 2, 2015]

§ 257.84 Inspection requirements for CCR landfills.

(a) *Inspections by a qualified person.* (1) All CCR landfills and any lateral expansion of a CCR landfill must be examined by a qualified person as follows:

(i) At intervals not exceeding seven days, inspect for any appearances of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit; and

(ii) The results of the inspection by a qualified person must be recorded in the facility's operating record as required by §257.105(g)(8).

(2) *Timeframes for inspections by a qualified person*—(i) *Existing CCR landfills.* The owner or operator of the CCR unit must initiate the inspections required under paragraph (a) of this section no later than October 19, 2015.

(ii) *New CCR landfills and any lateral expansion of a CCR landfill.* The owner or operator of the CCR unit must initiate the inspections required under paragraph (a) of this section upon initial receipt of CCR by the CCR unit.

(b) *Annual inspections by a qualified professional engineer.* (1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

(i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections); and

(ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

(2) *Inspection report.* The qualified professional engineer must prepare a report following each inspection that addresses the following:

(i) Any changes in geometry of the structure since the previous annual inspection;

(ii) The approximate volume of CCR contained in the unit at the time of the inspection;

(iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and

(iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

(3) *Timeframes for conducting the initial inspection*—(i) *Existing CCR landfills.* The owner or operator of the CCR unit must complete the initial inspection required by paragraphs (b)(1) and (2) of this section no later than January 19, 2016.

(ii) *New CCR landfills and any lateral expansion of a CCR landfill.* The owner or operator of the CCR unit must complete the initial annual inspection required by paragraphs (b)(1) and (2) of this section no later than 14 months following the date of initial receipt of CCR in the CCR unit.

(4) *Frequency of inspections.* The owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by §257.105(g)(9).

(5) If a deficiency or release is identified during an inspection, the owner or operator must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in §257.105(g), the notification requirements specified in §257.106(g), and the internet requirements specified in §257.107(g).

[80 FR 21468, Apr. 17, 2015, as amended at 80 FR 37992, July 2, 2015]

GROUNDWATER MONITORING AND CORRECTIVE ACTION

§ 257.90 Applicability.

(a) All CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under §§ 257.90 through 257.99, except as provided in paragraph (g) of this section.

(b) *Initial timeframes*—(1) *Existing CCR landfills and existing CCR surface impoundments.* No later than October 17, 2017, the owner or operator of the CCR unit must be in compliance with the following groundwater monitoring requirements:

(i) Install the groundwater monitoring system as required by § 257.91;

(ii) Develop the groundwater sampling and analysis program to include selection of the statistical procedures to be used for evaluating groundwater monitoring data as required by § 257.93;

(iii) Initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient well as required by § 257.94(b); and

(iv) Begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in appendix III of this part as required by § 257.94.

(2) *New CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units.* Prior to initial receipt of CCR by the CCR unit, the owner or operator must be in compliance with the groundwater monitoring requirements specified in paragraph (b)(1)(i) and (ii) of this section. In addition, the owner or operator of the CCR unit must initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background well as required by § 257.94(b).

(c) Once a groundwater monitoring system and groundwater monitoring program has been established at the CCR unit as required by this subpart, the owner or operator must conduct groundwater monitoring and, if necessary, corrective action throughout the active life and post-closure care period of the CCR unit.

(d) In the event of a release from a CCR unit, the owner or operator must immediately take all necessary measures to control the source(s) of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of contaminants into the environment. The owner or operator of the CCR unit must comply with all applicable requirements in §§ 257.96, 257.97, and 257.98.

(e) *Annual groundwater monitoring and corrective action report.* For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

(1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

(2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

(3) In addition to all the monitoring data obtained under §§ 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

(4) A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and

(5) Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.

(6) A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:

(i) At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;

(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;

(iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):

(A) Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and

(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.

(iv) If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following:

(A) Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase;

(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;

(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and

(D) Provide the date when the assessment of corrective measures was completed for the CCR unit.

(v) Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection; and

(vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

(g) *Suspension of groundwater monitoring requirements.* (1) The Participating State Director or EPA where EPA is the permitting authority may suspend the groundwater monitoring requirements under §§ 257.90 through 257.95 for a CCR unit for a period of up to ten years, if the owner or operator provides written documentation that, based on the characteristics of the site in which the CCR unit is located, there is no potential for migration of any of the constituents listed in appendices III and IV to this part from that CCR unit to the uppermost aquifer during the active life of the CCR unit and the post-closure care period. This demonstration must be certified by a qualified professional engineer and approved by the Participating State Director or EPA where EPA is the permitting authority, and must be based upon:

(i) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport, including at a minimum, the information necessary to evaluate or interpret the effects of the following

properties or processes on contaminant fate and transport:

(A) Aquifer Characteristics, including hydraulic conductivity, hydraulic gradient, effective porosity, aquifer thickness, degree of saturation, stratigraphy, degree of fracturing and secondary porosity of soils and bedrock, aquifer heterogeneity, groundwater discharge, and groundwater recharge areas;

(B) Waste Characteristics, including quantity, type, and origin;

(C) Climatic Conditions, including annual precipitation, leachate generation estimates, and effects on leachate quality;

(D) Leachate Characteristics, including leachate composition, solubility, density, the presence of immiscible constituents, Eh, and pH; and

(E) Engineered Controls, including liners, cover systems, and aquifer controls (*e.g.*, lowering the water table). These must be evaluated under design and failure conditions to estimate their long-term residual performance.

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

(2) The owner or operator of the CCR unit may renew this suspension for additional ten year periods by submitting written documentation that the site characteristics continue to ensure there will be no potential for migration of any of the constituents listed in Appendices III and IV of this part. The documentation must include, at a minimum, the information specified in paragraphs (g)(1)(i) and (g)(1)(ii) of this section and a certification by a qualified professional engineer and approved by the State Director or EPA where EPA is the permitting authority. The owner or operator must submit the documentation supporting their renewal request for the state's or EPA's review and approval of their extension one year before the groundwater monitoring suspension is due to expire. If the existing groundwater monitoring extension expires or is not approved, the owner or operator must begin groundwater monitoring according to paragraph (a) of this section within 90 days. The owner or operator may continue to renew the suspension for ten-year periods, provided the owner or operator demonstrate that the standard in paragraph (g)(1) of this section continues to be met for the unit. The owner or operator must place each completed demonstration in the facility's operating record.

(3) The owner or operator of the CCR unit must include in the annual groundwater monitoring and corrective action report required by § 257.90(e) or § 257.100(e)(5)(ii) any approved no migration demonstration.

[80 FR 21468, Apr. 17, 2015, as amended at 81 FR 51807, Aug. 5, 2016; 83 FR 36452, July 30, 2018; 85 FR 53561, Aug. 28, 2020]

§ 257.91 Groundwater monitoring systems.

(a) *Performance standard.* The owner or operator of a CCR unit must install a groundwater monitoring system that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer that:

(1) Accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the CCR management area where:

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

(ii) Sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells; and

(2) Accurately represent the quality of groundwater passing the waste boundary of the CCR unit. The downgradient monitoring system must be installed at the waste boundary that ensures detection of groundwater contamination in the uppermost aquifer. All potential contaminant pathways must be monitored.

(b) The number, spacing, and depths of monitoring systems shall be determined based upon site-specific technical information that must include thorough characterization of:

(1) Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and

(2) 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.

(c) The groundwater monitoring system must include the minimum number of monitoring wells necessary to meet the performance standards specified in paragraph (a) of this section, based on the site-specific information specified in paragraph (b) of this section. The groundwater monitoring system must contain:

(1) A minimum of one upgradient and three downgradient monitoring wells; and

(2) Additional monitoring wells as necessary to accurately represent the quality of background groundwater that has not been affected by leakage from the CCR unit and the quality of groundwater passing the waste boundary of the CCR unit.

(d) The owner or operator of multiple CCR units may install a multiunit groundwater monitoring system instead of separate groundwater monitoring systems for each CCR unit.

(1) The multiunit groundwater monitoring system must be equally as capable of detecting monitored constituents at the waste boundary of the CCR unit as the individual groundwater monitoring system specified in paragraphs (a) through (c) of this section for each CCR unit based on the following factors:

(i) Number, spacing, and orientation of each CCR unit;

(ii) Hydrogeologic setting;

(iii) Site history; and

(iv) Engineering design of the CCR unit.

(2) [Reserved]

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

(1) The owner or operator of the CCR unit must document and include in the operating record the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices. The qualified professional engineer must be given access to this documentation when completing the groundwater monitoring system certification required under paragraph (f) of this section.

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

(f) The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the groundwater monitoring system has been designed and constructed to meet the requirements of this section. If the groundwater monitoring system includes the minimum number of monitoring wells specified in paragraph (c)(1) of this section, the certification must document the basis supporting this determination.

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in §257.105(h), the notification requirements specified in §257.106(h), and the internet requirements specified in §257.107(h).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36453, July 30, 2018; 85 FR 53561, Aug. 28, 2020]

§257.92 [Reserved]

§257.93 Groundwater sampling and analysis requirements.

(a) The groundwater monitoring program must include consistent sampling

and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells required by § 257.91. The owner or operator of the CCR unit must develop a sampling and analysis program that includes 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 groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples. For purposes of §§ 257.90 through 257.98, the term *constituent* refers to both hazardous constituents and other monitoring parameters listed in either appendix III or IV of this part.

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

(d) The owner or operator of the CCR unit must establish background groundwater quality in a hydraulically upgradient or background well(s) for each of the constituents required in the particular groundwater monitoring program that applies to the CCR unit as determined under § 257.94(a) or § 257.95(a). Background groundwater quality may be established at wells that are not located hydraulically upgradient from the CCR unit if it meets the requirements of § 257.91(a)(1).

(e) The number of samples collected when conducting detection monitoring and assessment monitoring (for both downgradient and background wells) must be consistent with the statistical procedures chosen under paragraph (f) of this section and the performance standards under paragraph (g) of this section. The sampling procedures shall be those specified under § 257.94(b) through (d) for detection monitoring, § 257.95(b) through (d) for assessment monitoring, and § 257.96(b) for corrective action.

(f) The owner or operator of the CCR unit must select one of the statistical methods specified in paragraphs (f)(1) through (5) of this section to be used in evaluating groundwater monitoring data for each specified constituent. The statistical test chosen shall be conducted separately for each constituent in each monitoring well.

(1) A parametric analysis of variance followed by multiple comparison 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 based on ranks followed by multiple comparison 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 (g) of this section.

(6) The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the

CCR management area. The certification must include a narrative description of the statistical method selected to evaluate the groundwater monitoring data.

(g) Any statistical method chosen under paragraph (f) of this section shall comply with the following performance standards, as appropriate, based on the statistical test method used:

(1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of constituents. Normal distributions of data values shall use parametric methods. Non-normal distributions shall use non-parametric methods. If the distribution of the constituents is shown by the owner or operator of the CCR unit to be inappropriate for a normal theory test, then the data must be transformed or a distribution-free (non-parametric) theory test must 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 groundwater 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 comparison 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 groundwater monitoring data, the specific type of control chart and its associated parameter values shall be such that this approach is at least as effective as any other approach in this section for evaluating groundwater data. The parameter values 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 groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be such that this approach is at least as effective as any other approach in this section for evaluating groundwater data. 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 must account for data below the limit of detection with one or more statistical procedures that shall at least as effective as any other approach in this section for evaluating groundwater data. Any practical quantitation limit 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 must include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(h) The owner or operator of the CCR unit must determine whether or not there is a statistically significant increase over background values for each constituent required in the particular groundwater monitoring program that applies to the CCR unit, as determined under § 257.94(a) or § 257.95(a).

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the groundwater quality of each constituent at each monitoring well designated pursuant to § 257.91(a)(2) or (d)(1) to the background value of that constituent, according to the statistical procedures and performance standards specified under paragraphs (f) and (g) of this section.

(2) Within 90 days after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background for any constituent at each monitoring well.

(i) The owner or operator must measure ''total recoverable metals'' concentrations in measuring groundwater

quality. Measurement of total recoverable metals captures both the particulate fraction and dissolved fraction of metals in natural waters. Groundwater samples shall not be field-filtered prior to analysis.

(j) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the Internet requirements specified in § 257.107(h).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36453, July 30, 2018]

§ 257.94 Detection monitoring program.

(a) The owner or operator of a CCR unit must conduct detection monitoring at all groundwater monitoring wells consistent with this section. At a minimum, a detection monitoring program must include groundwater monitoring for all constituents listed in appendix III to this part.

(b) Except as provided in paragraph (d) of this section, the monitoring frequency for the constituents listed in appendix III to this part shall be at least semiannual during the active life of the CCR unit and the post-closure period. For existing CCR landfills and existing CCR surface impoundments, a minimum of eight independent samples from each background and downgradient well must be collected and analyzed for the constituents listed in appendix III and IV to this part no later than October 17, 2017. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, a minimum of eight independent samples for each background well must be collected and analyzed for the constituents listed in appendices III and IV to this part during the first six months of sampling.

(c) The number of samples collected and analyzed for each background well and downgradient well during subsequent semiannual sampling events must be consistent with § 257.93(e), and must account for any unique characteristics of the site, but must be at least one sample from each background and downgradient well.

(d) The owner or operator of a CCR unit may demonstrate the need for an alternative monitoring frequency for repeated sampling and analysis for constituents listed in appendix III to this part during the active life and the post-closure care period based on the availability of groundwater. If there is not adequate groundwater flow to sample wells semiannually, the alternative frequency shall be no less than annual. The need to vary monitoring frequency must be evaluated on a site-specific basis. The demonstration must be supported by, at a minimum, the information specified in paragraphs (d)(1) and (2) of this section.

(1) Information documenting that the need for less frequent sampling. The alternative frequency must be based on consideration of the following factors:

(i) Lithology of the aquifer and unsaturated zone;

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

(iii) Groundwater flow rates.

(2) Information documenting that the alternative frequency will be no less effective in ensuring that any leakage from the CCR unit will be discovered within a timeframe that will not materially delay establishment of an assessment monitoring program.

(3) The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).

(e) If the owner or operator of the CCR unit determines, pursuant to § 257.93(h) that there is a statistically significant increase over background levels for one or more of the constituents listed in appendix III to this part at any monitoring well at the waste

boundary specified under §257.91(a)(2), the owner or operator must:

(1) Except as provided for in paragraph (e)(2) of this section, within 90 days of detecting a statistically significant increase over background levels for any constituent, establish an assessment monitoring program meeting the requirements of §257.95.

(2) The owner or operator may demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator must complete the written demonstration within 90 days of detecting a statistically significant increase over background levels to include obtaining a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority verifying the accuracy of the information in the report. If a successful demonstration is completed within the 90-day period, the owner or operator of the CCR unit may continue with a detection monitoring program under this section. If a successful demonstration is not completed within the 90-day period, the owner or operator of the CCR unit must initiate an assessment monitoring program as required under §257.95. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority.

(3) The owner or operator of a CCR unit must prepare a notification stating that an assessment monitoring program has been established. The owner or operator has completed the notification when the notification is placed in the facility's operating record as required by §257.105(h)(5).

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in §257.105(h), the notification requirements specified in §257.106(h), and the Internet requirements specified in §257.107(h).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36453, July 30, 2018]

§257.95 Assessment monitoring program.

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

(b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator of the CCR unit must sample and analyze the groundwater for all constituents listed in appendix IV to this part. The number of samples collected and analyzed for each well during each sampling event must be consistent with §257.93(e), and must account for any unique characteristics of the site, but must be at least one sample from each well.

(c) The owner or operator of a CCR unit may demonstrate the need for an alternative monitoring frequency for repeated sampling and analysis for constituents listed in appendix IV to this part during the active life and the post-closure care period based on the availability of groundwater. If there is not adequate groundwater flow to sample wells semiannually, the alternative frequency shall be no less than annual. The need to vary monitoring frequency must be evaluated on a site-specific basis. The demonstration must be supported by, at a minimum, the information specified in paragraphs (c)(1) and (2) of this section.

(1) Information documenting that the need for less frequent sampling. The alternative frequency must be based on consideration of the following factors:

(i) Lithology of the aquifer and unsaturated zone;

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

(iii) Groundwater flow rates.

(2) Information documenting that the alternative frequency will be no less effective in ensuring that any leakage from the CCR unit will be discovered

within a timeframe that will not materially delay the initiation of any necessary remediation measures.

(3) The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of this section. The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority in the annual groundwater monitoring and corrective action report required by § 257.90(e).

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

(1) Within 90 days of obtaining the results, and on at least a semiannual basis thereafter, resample all wells that were installed pursuant to the requirements of § 257.91, conduct analyses for all parameters in appendix III to this part and for those constituents in appendix IV to this part that are detected in response to paragraph (b) of this section, and record their concentrations in the facility operating record. The number of samples collected and analyzed for each background well and downgradient well during subsequent semiannual sampling events must be consistent with § 257.93(e), and must account for any unique characteristics of the site, but must be at least one sample from each background and downgradient well;

(2) Establish groundwater protection standards for all constituents detected pursuant to paragraph (b) or (d) of this section. The groundwater protection standards must be established in accordance with paragraph (h) of this section; and

(3) Include the recorded concentrations required by paragraph (d)(1) of this section, identify the background concentrations established under § 257.94(b), and identify the groundwater protection standards established under paragraph (d)(2) of this section in the annual groundwater monitoring and corrective action report required by § 257.90(e).

(e) If the concentrations of all constituents listed in appendices III and IV to this part are shown to be at or below background values, using the statistical procedures in § 257.93(g), for two consecutive sampling events, the owner or operator may return to detection monitoring of the CCR unit. The owner or operator must prepare a notification stating that detection monitoring is resuming for the CCR unit. The owner or operator has completed the notification when the notification is placed in the facility's operating record as required by § 257.105(h)(7).

(f) If the concentrations of any constituent in appendices III and IV to this part are above background values, but all concentrations are below the groundwater protection standard established under paragraph (h) of this section, using the statistical procedures in § 257.93(g), the owner or operator must continue assessment monitoring in accordance with this section.

(g) If one or more constituents in appendix IV to this part are detected at statistically significant levels above the groundwater protection standard established under paragraph (h) of this section in any sampling event, the owner or operator must prepare a notification identifying the constituents in appendix IV to this part that have exceeded the groundwater protection standard. The owner or operator has completed the notification when the notification is placed in the facility's operating record as required by § 257.105(h)(8). The owner or operator of the CCR unit also must:

(1) Characterize the nature and extent of the release and any relevant site conditions that may affect the remedy ultimately selected. The characterization must be sufficient to support a complete and accurate assessment of the corrective measures necessary to effectively clean up all releases from the CCR unit pursuant to § 257.96. Characterization of the release includes the following minimum measures:

(i) Install additional monitoring wells necessary to define the contaminant plume(s);

(ii) Collect data on the nature and estimated quantity of material released including specific information on the constituents listed in appendix IV of this part and the levels at which they are present in the material released;

(iii) 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)(1) of this section; and

(iv) Sample all wells in accordance with paragraph (d)(1) of this section to characterize the nature and extent of the release.

(2) 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 paragraph (g)(1) of this section. The owner or operator has completed the notifications when they are placed in the facility's operating record as required by § 257.105(h)(8).

(3) Within 90 days of finding that any of the constituents listed in appendix IV to this part have been detected at a statistically significant level exceeding the groundwater protection standards the owner or operator must either:

(i) Initiate an assessment of corrective measures as required by § 257.96; or

(ii) Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in Appendix III and Appendix IV of this part are at or below background as specified in paragraph (e) of this section. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority.

(4) If a successful demonstration has not been made at the end of the 90 day period provided by paragraph (g)(3)(ii) of this section, the owner or operator of the CCR unit must initiate the assessment of corrective measures requirements under § 257.96.

(5) The owner or operator must prepare a notification stating that an assessment of corrective measures has been initiated.

(h) The owner or operator of the CCR unit must establish a groundwater protection standard for each constituent in appendix IV to this part detected in the groundwater. The groundwater protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been established under §§ 141.62 and 141.66 of this title, the MCL for that constituent;

(2) For the following constituents:

(i) Cobalt 6 micrograms per liter (μg/l);

(ii) Lead 15 μg/l;

(iii) Lithium 40 μg/l; and

(iv) Molybdenum 100 μg/l.

(3) For constituents for which the background level is higher than the levels identified under paragraphs (h)(1) and (h)(2) of this section, the background concentration.

(i) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the Internet requirements specified in § 257.107(h).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36453, July 30, 2018; 85 FR 53561, Aug. 28, 2020]

§ 257.96 Assessment of corrective measures.

(a) Within 90 days of finding that any constituent listed in Appendix IV to this part has been detected at a statistically significant level exceeding the groundwater protection standard defined under § 257.95(h), or immediately upon detection of a release from a CCR unit, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore affected area to original conditions. The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measures due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority attesting that the demonstration is accurate. The 90-day deadline to complete the assessment of corrective measures may be extended for no longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by § 257.90(e), in addition to the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority.

(b) The owner or operator of the CCR unit must continue to monitor groundwater in accordance with the assessment monitoring program as specified in § 257.95.

(c) The assessment under paragraph (a) of this section must include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under § 257.97 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 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 place the completed assessment of corrective measures in the facility's operating record. The assessment has been completed when it is placed in the facility's operating record as required by § 257.105(h)(10).

(e) The owner or operator must discuss the results of the corrective measures assessment at least 30 days prior to the selection of remedy, in a public meeting with interested and affected parties.

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the Internet requirements specified in § 257.107(h).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36454, July 30, 2018]

§ 257.97 Selection of remedy.

(a) Based on the results of the corrective measures assessment conducted under § 257.96, the owner or operator must, as soon as feasible, select a remedy that, at a minimum, meets the standards listed in paragraph (b) of this section. This requirement applies in addition to, not in place of, any applicable standards under the Occupational Safety and Health Act. The owner or operator must prepare a semiannual report describing the progress in selecting and designing the remedy. Upon selection of a remedy, the owner or operator must prepare a final report describing the selected remedy and how it meets the standards specified in paragraph (b) of this section. The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the remedy selected meets the requirements of this section. The report has been completed when it is

placed in the operating record as required by § 257.105(h)(12).

(b) Remedies must:

(1) Be protective of human health and the environment;

(2) Attain the groundwater protection standard as specified pursuant to § 257.95(h);

(3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of constituents in appendix IV to this part into the environment;

(4) Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems;

(5) Comply with standards for management of wastes as specified in § 257.98(d).

(c) In selecting a remedy that meets the standards of paragraph (b) of this section, the owner or operator of the CCR unit 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 CCR 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 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 of contaminant;

(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; and

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

(d) The owner or operator must specify as part of the selected remedy a schedule(s) for implementing and completing remedial activities. Such a schedule must require the completion of remedial activities within a reasonable period of time taking into consideration the factors set forth in paragraphs (d)(1) through (6) of this section. The owner or operator of the CCR unit must consider the following factors in determining the schedule of remedial activities:

(1) Extent and nature of contamination, as determined by the characterization required under § 257.95(g);

(2) Reasonable probabilities of remedial technologies in achieving compliance with the groundwater protection standards established under § 257.95(h) and other objectives of the remedy;

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

(4) Potential risks to human health and the environment from exposure to

contamination prior to completion of the remedy;

(5) Resource value of the aquifer including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users;

(iii) Groundwater quantity and quality;

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

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

(vi) The availability of alternative water supplies; and

(6) Other relevant factors.

(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the Internet requirements specified in § 257.107(h).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36454, July 30, 2018]

§ 257.98 Implementation of the corrective action program.

(a) Within 90 days of selecting a remedy under § 257.97, the owner or operator must initiate remedial activities. Based on the schedule established under § 257.97(d) for implementation and completion of remedial activities the owner or operator must:

(1) Establish and implement a corrective action groundwater monitoring program that:

(i) At a minimum, meets the requirements of an assessment monitoring program under § 257.95;

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

(iii) Demonstrates compliance with the groundwater protection standard pursuant to paragraph (c) of this section.

(2) Implement the corrective action remedy selected under § 257.97; and

(3) Take any interim measures necessary to reduce the contaminants leaching from the CCR unit, and/or potential exposures to human or ecological receptors. Interim measures must, to the greatest extent feasible, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to § 257.97. 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 any of the constituents listed in appendix IV of this part;

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

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

(v) Weather conditions that may cause any of the constituents listed in appendix IV to this part to migrate or be released;

(vi) Potential for exposure to any of the constituents listed in appendix IV to this part 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) If an owner or operator of the CCR unit, determines, at any time, that compliance with the requirements of § 257.97(b) is not being achieved through the remedy selected, the owner or operator must implement other methods or techniques that could feasibly achieve compliance with the requirements.

(c) Remedies selected pursuant to § 257.97 shall be considered complete when:

(1) The owner or operator of the CCR unit demonstrates compliance with the groundwater protection standards established under § 257.95(h) has been achieved at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under § 257.91.

(2) Compliance with the groundwater protection standards established under § 257.95(h) has been achieved by demonstrating that concentrations of constituents listed in appendix IV to this part have not exceeded the groundwater protection standard(s) for a period of three consecutive years using

the statistical procedures and performance standards in § 257.93(f) and (g).

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

(d) All CCR that are managed pursuant to a remedy required under § 257.97, or an interim measure required under paragraph (a)(3) of this section, shall be managed in a manner that complies with all applicable RCRA requirements.

(e) Upon completion of the remedy, the owner or operator must prepare a notification stating that the remedy has been completed. The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority attesting that the remedy has been completed in compliance with the requirements of paragraph (c) of this section. The report has been completed when it is placed in the operating record as required by § 257.105(h)(13).

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36454, July 30, 2018]

CLOSURE AND POST-CLOSURE CARE

§ 257.100 Inactive CCR surface impoundments.

(a) Inactive CCR surface impoundments are subject to all of the requirements of this subpart applicable to existing CCR surface impoundments.

(b)–(d) [Reserved]

(e) *Timeframes for certain inactive CCR surface impoundments.* (1) An inactive CCR surface impoundment for which the owner or operator has completed the actions by the deadlines specified in paragraphs (e)(1)(i) through (iii) of this section is eligible for the alternative timeframes specified in paragraphs (e)(2) through (6) of this section. The owner or operator of the CCR unit must comply with the applicable recordkeeping, notification, and internet requirements associated with these provisions. For the inactive CCR surface impoundment:

(i) The owner or operator must have prepared and placed in the facility's operating record by December 17, 2015, a notification of intent to initiate closure of the inactive CCR surface impoundment pursuant to § 257.105(i)(1);

(ii) The owner or operator must have provided notification to the State Director and/or appropriate Tribal authority by January 19, 2016, of the intent to initiate closure of the inactive CCR surface impoundment pursuant to § 257.106(i)(1); and

(iii) The owner or operator must have placed on its CCR Web site by January 19, 2016, the notification of intent to initiate closure of the inactive CCR surface impoundment pursuant to § 257.107(i)(1).

(2) *Location restrictions.* (i) No later than April 16, 2020, the owner or operator of the inactive CCR surface impoundment must:

(A) Complete the demonstration for placement above the uppermost aquifer as set forth by § 257.60(a), (b), and (c)(3);

(B) Complete the demonstration for wetlands as set forth by § 257.61(a), (b), and (c)(3);

(C) Complete the demonstration for fault areas as set forth by § 257.62(a), (b), and (c)(3);

(D) Complete the demonstration for seismic impact zones as set forth by § 257.63(a), (b), and (c)(3); and

(E) Complete the demonstration for unstable areas as set forth by § 257.64(a), (b), (c), and (d)(3).

(ii) An owner or operator of an inactive CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (e)(2)(i) of this section is subject to the closure requirements of § 257.101(b)(1).

(3) *Design criteria.* The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 17, 2018, complete the documentation of liner type as set forth by § 257.71(a) and (b).

(ii) No later than June 16, 2017, place on or immediately adjacent to the CCR unit the permanent identification marker as set forth by § 257.73(a)(1).

(iii) No later than October 16, 2018, prepare and maintain an Emergency

Action Plan as set forth by § 257.73(a)(3).

(iv) No later than April 17, 2018, compile a history of construction as set forth by § 257.73(b) and (c).

(v) No later than April 17, 2018, complete the initial hazard potential classification, structural stability, and safety factor assessments as set forth by § 257.73(a)(2), (b), (d), (e), and (f).

(4) *Operating criteria.* The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 18, 2017, prepare the initial CCR fugitive dust control plan as set forth in § 257.80(b).

(ii) No later than April 17, 2018, prepare the initial inflow design flood control system plan as set forth in § 257.82(c).

(iii) No later than April 18, 2017, initiate the inspections by a qualified person as set forth by § 257.83(a).

(iv) No later than July 19, 2017, complete the initial annual inspection by a qualified professional engineer as set forth by § 257.83(b).

(5) *Groundwater monitoring and corrective action.* The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 17, 2019, comply with groundwater monitoring requirements set forth in §§ 257.90(b) and 257.94(b); and

(ii) No later than August 1, 2019, prepare the initial groundwater monitoring and corrective action report as set forth in § 257.90(e).

(6) *Closure and post-closure care.* The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 17, 2018, prepare an initial written closure plan as set forth in § 257.102(b); and

(ii) No later than April 17, 2018, prepare an initial written post-closure care plan as set forth in § 257.104(d).

[80 FR 21468, Apr. 17, 2015, as amended at 81 FR 51807, Aug. 5, 2016]

§ 257.101 Closure or retrofit of CCR units.

(a) The owner or operator of an existing unlined CCR surface impoundment, as determined under § 257.71(a), is subject to the requirements of paragraph (a)(1) of this section.

(1) Except as provided by paragraph (a)(3) of this section, as soon as technically feasible, but not later than April 11, 2021, an owner or operator of an existing unlined CCR surface impoundment must cease placing CCR and non-CCR wastestreams into such CCR surface impoundment and either retrofit or close the CCR unit in accordance with the requirements of § 257.102.

(2) An owner or operator of an existing unlined CCR surface impoundment that closes in accordance with paragraph (a)(1) of this section must include a statement in the notification required under § 257.102(g) or (k)(5) that the CCR surface impoundment is closing or retrofitting under the requirements of paragraph (a)(1) of this section.

(3) The timeframe specified in paragraph (a)(1) of this section does not apply if the owner or operator complies with the alternate liner demonstration provisions specified in § 257.71(d) or the alternative closure procedures specified in § 257.103.

(4) At any time after the initiation of closure under paragraph (a)(1) of this section, the owner or operator may cease closure activities and initiate a retrofit of the CCR unit in accordance with the requirements of § 257.102(k).

(b) The owner or operator of an existing CCR surface impoundment is subject to the requirements of paragraph (b)(1) of this section.

(1)(i) *Location standard under § 257.60.* Except as provided by paragraph (b)(4) of this section, the owner or operator of an existing CCR surface impoundment that has not demonstrated compliance with the location standard specified in § 257.60(a) must cease placing CCR and non-CCR wastestreams into such CCR unit as soon as technically feasible, but no later than April 11, 2021, and close the CCR unit in accordance with the requirements of § 257.102.

(ii) *Location standards under §§ 257.61 through 257.64.* Except as provided by paragraph (b)(4) of this section, within six months of determining that an existing CCR surface impoundment has not demonstrated compliance with any location standard specified in §§ 257.61(a), 257.62(a), 257.63(a), and

257.64(a), the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR wastestreams into such CCR unit and close the CCR unit in accordance with the requirements of §257.102.

(2) Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by §257.73(e) by the deadlines specified in §257.73(f)(1) through (3) or failing to document that the calculated factors of safety for the existing CCR surface impoundment achieve the minimum safety factors specified in §257.73(e)(1)(i) through (iv), the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR wastestreams into such CCR unit and close the CCR unit in accordance with the requirements of §257.102.

(3) An owner or operator of an existing CCR surface impoundment that closes in accordance with paragraphs (b)(1) or (2) of this section must include a statement in the notification required under §257.102(g) that the CCR surface impoundment is closing under the requirements of paragraphs (b)(1) or (2) of this section.

(4) The timeframe specified in paragraph (b)(1) of this section does not apply if the owner or operator complies with the alternative closure procedures specified in §257.103.

(c) The owner or operator of a new CCR surface impoundment is subject to the requirements of paragraph (c)(1) of this section.

(1) Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by §257.74(e) by the deadlines specified in §257.74(f)(1) through (3) or failing to document that the calculated factors of safety for the new CCR surface impoundment achieve the minimum safety factors specified in §257.74(e)(1)(i) through (v), the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR wastestreams into such CCR unit and close the CCR unit in accordance with the requirements of §257.102.

(2) An owner or operator of an new CCR surface impoundment that closes in accordance with paragraph (c)(1) of this section must include a statement in the notification required under §257.102(g) that the CCR surface impoundment is closing under the requirements of paragraph (c)(1) of this section.

(d) The owner or operator of an existing CCR landfill is subject to the requirements of paragraph (d)(1) of this section.

(1) Except as provided by paragraph (d)(3) of this section, within six months of determining that an existing CCR landfill has not demonstrated compliance with the location restriction for unstable areas specified in §257.64(a), the owner or operator of the CCR unit must cease placing CCR and non-CCR waste streams into such CCR landfill and close the CCR unit in accordance with the requirements of §257.102.

(2) An owner or operator of an existing CCR landfill that closes in accordance with paragraph (d)(1) of this section must include a statement in the notification required under §257.102(g) that the CCR landfill is closing under the requirements of paragraph (d)(1) of this section.

(3) The timeframe specified in paragraph (d)(1) of this section does not apply if the owner or operator complies with the alternative closure procedures specified in §257.103.

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36454, July 30, 2018; 85 FR 53561, Aug. 28, 2020; 85 FR 72542, Nov. 12, 2020]

§257.102 Criteria for conducting the closure or retrofit of CCR units.

(a) Closure of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit must be completed either by leaving the CCR in place and installing a final cover system or through removal of the CCR and decontamination of the CCR unit, as described in paragraphs (b) through (j) of this section. Retrofit of a CCR surface impoundment must be completed in accordance with the requirements in paragraph (k) of this section.

(b) *Written closure plan*—(1) *Content of the plan.* The owner or operator of a CCR unit must prepare a written closure plan that describes the steps necessary to close the CCR unit at any point during the active life of the CCR unit consistent with recognized and

generally accepted good engineering practices. The written closure plan must include, at a minimum, the information specified in paragraphs (b)(1)(i) through (vi) of this section.

(i) A narrative description of how the CCR unit will be closed in accordance with this section.

(ii) If closure of the CCR unit will be accomplished through removal of CCR from the CCR unit, a description of the procedures to remove the CCR and decontaminate the CCR unit in accordance with paragraph (c) of this section.

(iii) If closure of the CCR unit will be accomplished by leaving CCR in place, a description of the final cover system, designed in accordance with paragraph (d) of this section, and the methods and procedures to be used to install the final cover. The closure plan must also discuss how the final cover system will achieve the performance standards specified in paragraph (d) of this section.

(iv) An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.

(v) An estimate of the largest area of the CCR unit ever requiring a final cover as required by paragraph (d) of this section at any time during the CCR unit's active life.

(vi) A schedule for completing all activities necessary to satisfy the closure criteria in this section, including an estimate of the year in which all closure activities for the CCR unit will be completed. The schedule should provide sufficient information to describe the sequential steps that will be taken to close the CCR unit, including identification of major milestones such as coordinating with and obtaining necessary approvals and permits from other agencies, the dewatering and stabilization phases of CCR surface impoundment closure, or installation of the final cover system, and the estimated timeframes to complete each step or phase of CCR unit closure. When preparing the written closure plan, if the owner or operator of a CCR unit estimates that the time required to complete closure will exceed the timeframes specified in paragraph (f)(1) of this section, the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under paragraph (f)(2) of this section.

(2) *Timeframes for preparing the initial written closure plan*—(i) *Existing CCR landfills and existing CCR surface impoundments.* No later than October 17, 2016, the owner or operator of the CCR unit must prepare an initial written closure plan consistent with the requirements specified in paragraph (b)(1) of this section.

(ii) *New CCR landfills and new CCR surface impoundments, and any lateral expansion of a CCR unit.* No later than the date of the initial receipt of CCR in the CCR unit, the owner or operator must prepare an initial written closure plan consistent with the requirements specified in paragraph (b)(1) of this section.

(iii) The owner or operator has completed the written closure plan when the plan, including the certification required by paragraph (b)(4) of this section, has been placed in the facility's operating record as required by § 257.105(i)(4).

(3) *Amendment of a written closure plan.* (i) The owner or operator may amend the initial or any subsequent written closure plan developed pursuant to paragraph (b)(1) of this section at any time.

(ii) The owner or operator must amend the written closure plan whenever:

(A) There is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; or

(B) Before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan.

(iii) The owner or operator must amend the closure plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written closure plan. If a written closure plan is revised after closure activities have commenced for a CCR unit, the owner or operator must amend the current closure plan no later than 30 days following the triggering event.

(4) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the initial and any amendment of the written closure plan meets the requirements of this section.

(c) *Closure by removal of CCR.* An owner or operator may elect to close a CCR unit by removing and decontaminating all areas affected by releases from the CCR unit. CCR removal and decontamination of the CCR unit are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed and groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to § 257.95(h) for constituents listed in appendix IV to this part.

(d) *Closure performance standard when leaving CCR in place*—(1) The owner or operator of a CCR unit must ensure that, at a minimum, the CCR unit is closed in a manner that will:

(i) Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere;

(ii) Preclude the probability of future impoundment of water, sediment, or slurry;

(iii) Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period;

(iv) Minimize the need for further maintenance of the CCR unit; and

(v) Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.

(2) *Drainage and stabilization of CCR surface impoundments.* The owner or operator of a CCR surface impoundment or any lateral expansion of a CCR surface impoundment must meet the requirements of paragraphs (d)(2)(i) and (ii) of this section prior to installing the final cover system required under paragraph (d)(3) of this section.

(i) Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.

(ii) Remaining wastes must be stabilized sufficient to support the final cover system.

(3) *Final cover system.* If a CCR unit is closed by leaving CCR in place, the owner or operator must install a final cover system that is designed to minimize infiltration and erosion, and at a minimum, meets the requirements of paragraph (d)(3)(i) of this section, or the requirements of the alternative final cover system specified in paragraph (d)(3)(ii) of this section.

(i) The final cover system must be designed and constructed to meet the criteria in paragraphs (d)(3)(i)(A) through (D) of this section. The design of the final cover system must be included in the written closure plan required by paragraph (b) of this section.

(A) The permeability of the final cover system must be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less.

(B) The infiltration of liquids through the closed CCR unit must be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material.

(C) The erosion of the final cover system must be minimized by the use of an erosion layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth.

(D) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

(ii) The owner or operator may select an alternative final cover system design, provided the alternative final cover system is designed and constructed to meet the criteria in paragraphs (d)(3)(ii)(A) through (C) of this section. The design of the final cover system must be included in the written closure plan required by paragraph (b) of this section.

(A) The design of the final cover system must include an infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer

specified in paragraphs (d)(3)(i)(A) and (B) of this section.

(B) The design of the final cover system must include an erosion layer that provides equivalent protection from wind or water erosion as the erosion layer specified in paragraph (d)(3)(i)(C) of this section.

(C) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

(iii) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority that the design of the final cover system meets the requirements of this section.

(e) *Initiation of closure activities.* Except as provided for in paragraph (e)(4) of this section and § 257.103, the owner or operator of a CCR unit must commence closure of the CCR unit no later than the applicable timeframes specified in either paragraph (e)(1) or (2) of this section.

(1) The owner or operator must commence closure of the CCR unit no later than 30 days after the date on which the CCR unit either:

(i) Receives the known final receipt of waste, either CCR or any non-CCR waste stream; or

(ii) Removes the known final volume of CCR from the CCR unit for the purpose of beneficial use of CCR.

(2)(i) Except as provided by paragraph (e)(2)(ii) of this section, the owner or operator must commence closure of a CCR unit that has not received CCR or any non-CCR waste stream or is no longer removing CCR for the purpose of beneficial use within two years of the last receipt of waste or within two years of the last removal of CCR material for the purpose of beneficial use.

(ii) Notwithstanding paragraph (e)(2)(i) of this section, the owner or operator of the CCR unit may secure an additional two years to initiate closure of the idle unit provided the owner or operator provides written documentation that the CCR unit will continue to accept wastes or will start removing CCR for the purpose of beneficial use. The documentation must be supported by, at a minimum, the information specified in paragraphs (e)(2)(ii)(A) and (B) of this section. The owner or operator may obtain two-year extensions provided the owner or operator continues to be able to demonstrate that there is reasonable likelihood that the CCR unit will accept wastes in the foreseeable future or will remove CCR from the unit for the purpose of beneficial use. The owner or operator must place each completed demonstration, if more than one time extension is sought, in the facility's operating record as required by § 257.105(i)(5) prior to the end of any two-year period.

(A) Information documenting that the CCR unit has remaining storage or disposal capacity or that the CCR unit can have CCR removed for the purpose of beneficial use; and

(B) Information demonstrating that that there is a reasonable likelihood that the CCR unit will resume receiving CCR or non-CCR waste streams in the foreseeable future or that CCR can be removed for the purpose of beneficial use. The narrative must include a best estimate as to when the CCR unit will resume receiving CCR or non-CCR waste streams. The situations listed in paragraphs (e)(2)(ii)(B)(*1*) through (*4*) of this section are examples of situations that would support a determination that the CCR unit will resume receiving CCR or non-CCR waste streams in the foreseeable future.

(*1*) Normal plant operations include periods during which the CCR unit does not receive CCR or non-CCR waste streams, such as the alternating use of two or more CCR units whereby at any point in time one CCR unit is receiving CCR while CCR is being removed from a second CCR unit after its dewatering.

(*2*) The CCR unit is dedicated to a coal-fired boiler unit that is temporarily idled (e.g., CCR is not being generated) and there is a reasonable likelihood that the coal-fired boiler will resume operations in the future.

(*3*) The CCR unit is dedicated to an operating coal-fired boiler (*i.e.*, CCR is being generated); however, no CCR are being placed in the CCR unit because the CCR are being entirely diverted to

beneficial uses, but there is a reasonable likelihood that the CCR unit will again be used in the foreseeable future.

(*4*) The CCR unit currently receives only non-CCR waste streams and those non-CCR waste streams are not generated for an extended period of time, but there is a reasonable likelihood that the CCR unit will again receive non-CCR waste streams in the future.

(iii) In order to obtain additional time extension(s) to initiate closure of a CCR unit beyond the two years provided by paragraph (e)(2)(i) of this section, the owner or operator of the CCR unit must include with the demonstration required by paragraph (e)(2)(ii) of this section the following statement signed by the owner or operator or an authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(3) For purposes of this subpart, closure of the CCR unit has commenced if the owner or operator has ceased placing waste and completes any of the following actions or activities:

(i) Taken any steps necessary to implement the written closure plan required by paragraph (b) of this section;

(ii) Submitted a completed application for any required state or agency permit or permit modification; or

(iii) Taken any steps necessary to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the closure of a CCR unit.

(4) The timeframes specified in paragraphs (e)(1) and (2) of this section do not apply to any of the following owners or operators:

(i) [Reserved]

(ii) An owner or operator of an existing unlined CCR surface impoundment closing the CCR unit as required by §257.101(a);

(iii) An owner or operator of an existing CCR surface impoundment closing the CCR unit as required by §257.101(b);

(iv) An owner or operator of a new CCR surface impoundment closing the CCR unit as required by §257.101(c); or

(v) An owner or operator of an existing CCR landfill closing the CCR unit as required by §257.101(d).

(f) *Completion of closure activities.* (1) Except as provided for in paragraph (f)(2) of this section, the owner or operator must complete closure of the CCR unit:

(i) For existing and new CCR landfills and any lateral expansion of a CCR landfill, within six months of commencing closure activities.

(ii) For existing and new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, within five years of commencing closure activities.

(2)(i) *Extensions of closure timeframes.* The timeframes for completing closure of a CCR unit specified under paragraphs (f)(1) of this section may be extended if the owner or operator can demonstrate that it was not feasible to complete closure of the CCR unit within the required timeframes due to factors beyond the facility's control. If the owner or operator is seeking a time extension beyond the time specified in the written closure plan as required by paragraph (b)(1) of this section, the demonstration must include a narrative discussion providing the basis for additional time beyond that specified in the closure plan. The owner or operator must place each completed demonstration, if more than one time extension is sought, in the facility's operating record as required by §257.105(i)(6) prior to the end of any two-year period. Factors that may support such a demonstration include:

(A) Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;

(B) Time required to dewater a surface impoundment due to the volume of CCR contained in the CCR unit or the characteristics of the CCR in the unit;

(C) The geology and terrain surrounding the CCR unit will affect the

amount of material needed to close the CCR unit; or

(D) Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.

(ii) *Maximum time extensions.* (A) CCR surface impoundments of 40 acres or smaller may extend the time to complete closure by no longer than two years.

(B) CCR surface impoundments larger than 40 acres may extend the timeframe to complete closure of the CCR unit multiple times, in two-year increments. For each two-year extension sought, the owner or operator must substantiate the factual circumstances demonstrating the need for the extension. No more than a total of five two-year extensions may be obtained for any CCR surface impoundment.

(C) CCR landfills may extend the timeframe to complete closure of the CCR unit multiple times, in one-year increments. For each one-year extension sought, the owner or operator must substantiate the factual circumstances demonstrating the need for the extension. No more than a total of two one-year extensions may be obtained for any CCR landfill.

(iii) In order to obtain additional time extension(s) to complete closure of a CCR unit beyond the times provided by paragraph (f)(1) of this section, the owner or operator of the CCR unit must include with the demonstration required by paragraph (f)(2)(i) of this section the following statement signed by the owner or operator or an authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(3) Upon completion, the owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority verifying that closure has been completed in accordance with the closure plan specified in paragraph (b) of this section and the requirements of this section.

(g) No later than the date the owner or operator initiates closure of a CCR unit, the owner or operator must prepare a notification of intent to close a CCR unit. The notification must include the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority for the design of the final cover system as required by § 257.102(d)(3)(iii), if applicable. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(i)(7).

(h) Within 30 days of completion of closure of the CCR unit, the owner or operator must prepare a notification of closure of a CCR unit. The notification must include the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority as required by § 257.102(f)(3). The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(i)(8).

(i) *Deed notations.* (1) Except as provided by paragraph (i)(4) of this section, following closure of a CCR unit, the owner or operator must record a notation on the deed to the property, or some other instrument that is normally examined during title search.

(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 CCR unit; and

(ii) Its use is restricted under the post-closure care requirements as provided by § 257.104(d)(1)(iii).

(3) Within 30 days of recording a notation on the deed to the property, the owner or operator must prepare a notification stating that the notation has been recorded. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(i)(9).

(4) An owner or operator that closes a CCR unit in accordance with paragraph (c) of this section is not subject to the requirements of paragraphs (i)(1) through (3) of this section.

(j) The owner or operator of the CCR unit must comply with the closure recordkeeping requirements specified in § 257.105(i), the closure notification requirements specified in § 257.106(i), and the closure Internet requirements specified in § 257.107(i).

(k) *Criteria to retrofit an existing CCR surface impoundment.* (1) To retrofit an existing CCR surface impoundment, the owner or operator must:

(i) First remove all CCR, including any contaminated soils and sediments from the CCR unit; and

(ii) Comply with the requirements in § 257.72.

(iii) A CCR surface impoundment undergoing a retrofit remains subject to all other requirements of this subpart, including the requirement to conduct any necessary corrective action.

(2) *Written retrofit plan*—(i) *Content of the plan.* The owner or operator must prepare a written retrofit plan that describes the steps necessary to retrofit the CCR unit consistent with recognized and generally accepted good engineering practices. The written retrofit plan must include, at a minimum, all of the following information:

(A) A narrative description of the specific measures that will be taken to retrofit the CCR unit in accordance with this section.

(B) A description of the procedures to remove all CCR and contaminated soils and sediments from the CCR unit.

(C) An estimate of the maximum amount of CCR that will be removed as part of the retrofit operation.

(D) An estimate of the largest area of the CCR unit that will be affected by the retrofit operation.

(E) A schedule for completing all activities necessary to satisfy the retrofit criteria in this section, including an estimate of the year in which retrofit activities of the CCR unit will be completed.

(ii) *Timeframes for preparing the initial written retrofit plan.* (A) No later than 60 days prior to date of initiating retrofit activities, the owner or operator must prepare an initial written retrofit plan consistent with the requirements specified in paragraph (k)(2) of this section. For purposes of this subpart, initiation of retrofit activities has commenced if the owner or operator has ceased placing waste in the unit and completes any of the following actions or activities:

(*1*) Taken any steps necessary to implement the written retrofit plan;

(*2*) Submitted a completed application for any required state or agency permit or permit modification; or

(*3*) Taken any steps necessary to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the retrofit of a CCR unit.

(B) The owner or operator has completed the written retrofit plan when the plan, including the certification required by paragraph (k)(2)(iv) of this section, has been placed in the facility's operating record as required by § 257.105(j)(1).

(iii) *Amendment of a written retrofit plan.* (A) The owner or operator may amend the initial or any subsequent written retrofit plan at any time.

(B) The owner or operator must amend the written retrofit plan whenever:

(*1*) There is a change in the operation of the CCR unit that would substantially affect the written retrofit plan in effect; or

(*2*) Before or after retrofit activities have commenced, unanticipated events necessitate a revision of the written retrofit plan.

(C) The owner or operator must amend the retrofit plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the revision of an existing written retrofit plan. If a written retrofit plan is revised after retrofit activities have commenced for a CCR unit, the owner or operator must amend the current retrofit plan no later than 30 days following the triggering event.

(iv) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer or an approval from the Participating State Director or an approval

from EPA where EPA is the permitting authority that the activities outlined in the written retrofit plan, including any amendment of the plan, meet the requirements of this section.

(3) *Deadline for completion of activities related to the retrofit of a CCR unit.* Any CCR surface impoundment that is being retrofitted must complete all retrofit activities within the same time frames and procedures specified for the closure of a CCR surface impoundment in § 257.102(f) or, where applicable, § 257.103.

(4) Upon completion, the owner or operator must obtain a written certification from a qualified professional engineer or an approval from the Participating State Director or an approval from EPA where EPA is the permitting authority verifying that the retrofit activities have been completed in accordance with the retrofit plan specified in paragraph (k)(2) of this section and the requirements of this section.

(5) No later than the date the owner or operator initiates the retrofit of a CCR unit, the owner or operator must prepare a notification of intent to retrofit a CCR unit. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(j)(5).

(6) Within 30 days of completing the retrofit activities specified in paragraph (k)(1) of this section, the owner or operator must prepare a notification of completion of retrofit activities. The notification must include the certification from a qualified professional engineer or an approval from the Participating State Director or an approval from EPA where EPA is the permitting authority has is required by paragraph (k)(4) of this section. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(j)(6).

(7) At any time after the initiation of a CCR unit retrofit, the owner or operator may cease the retrofit and initiate closure of the CCR unit in accordance with the requirements of § 257.102.

(8) The owner or operator of the CCR unit must comply with the retrofit recordkeeping requirements specified in § 257.105(j), the retrofit notification requirements specified in § 257.106(j), and the retrofit Internet requirements specified in § 257.107(j).

[80 FR 21468, Apr. 17, 2015, as amended at 81 FR 51808, Aug. 5, 2016; 83 FR 36455, July 30, 2018; 85 FR 72542, Nov. 12, 2020]

§ 257.103 Alternative closure requirements.

The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit that is subject to closure pursuant to § 257.101(a), (b)(1), or (d) may nevertheless continue to receive the wastes specified in either paragraph (a), (b), (f)(1), or (f)(2) of this section in the unit provided the owner or operator meets all of the requirements contained in the respective paragraph.

(a) *CCR landfills*—(1) *No alternative CCR disposal capacity.* Notwithstanding the provisions of § 257.101(d), a CCR landfill may continue to recieve CCR if the owner or operator of the CCR landfill certifies that the CCR must continue to be managed in that CCR landfill due to the absence of alternative disposal capacity both on and off-site of the facility. To qualify under this paragraph, the owner or operator of the CCR landfill must document that all of the following conditions have been met:

(i) No alternative disposal capacity is available on or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section;

(ii) The owner or operator has made, and continues to make, efforts to obtain additional capacity. Qualification under this paragraph (a) lasts only as long as no alternative capacity is available. Once alternative capacity is identified, the owner or operator must arrange to use such capacity as soon as feasible;

(iii) The owner or operator must remain in compliance with all other requirements of this subpart, including the requirement to conduct any necessary corrective action; and

(iv) The owner or operator must prepare the annual progress report specified in paragraph (c) of this section

documenting the continued lack of alternative capacity and the progress towards the development of alternative CCR disposal capacity.

(2) Once alternative capacity is available, the CCR landfill must cease receiving CCR and initiate closure following the timeframes in § 257.102(e).

(3) If no alternative capacity is identified within five years after the initial certification, the CCR landfill must cease receiving CCR and close in accordance with the timeframes in § 257.102(e) and (f).

(b) *CCR landfills*—(1) *Permanent cessation of a coal-fired boiler(s) by a date certain.* Notwithstanding the provisions of § 257.101(d), a CCR landfill may continue to receive CCR if the owner or operator certifies that the facility will cease operation of the coal-fired boilers within the timeframe specified in paragraph (b)(4) of this section, but in the interim period (prior to closure of the coal-fired boiler), the facility must continue to use the CCR landfill due to the absence of alternative disposal capacity both on and off-site of the facility. To qualify under this paragraph, the owner or operator of the CCR landfill must document that all of the following conditions have been met:

(i) No alternative disposal capacity is available on or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section.

(ii) The owner or operator must remain in compliance with all other requirements of this subpart, including the requirement to conduct any necessary corrective action; and

(iii) The owner or operator must prepare the annual progress report specified in paragraph (c) of this section documenting the continued lack of alternative capacity and the progress towards the closure of the coal-fired boiler.

(2)–(3) [Reserved]

(4) For a CCR landfill, the coal-fired boiler must cease operation, and the CCR landfill must complete closure no later than April 19, 2021.

(c) *Required notices and progress reports for CCR landfills.* An owner or operator of a CCR landfill that closes in accordance with paragraph (a) or (b) of this section must complete the notices and progress reports specified in paragraphs (c)(1) through (3) of this section.

(1) Within six months of becoming subject to closure pursuant to § 257.101(d), the owner or operator must prepare and place in the facility's operating record a notification of intent to comply with the alternative closure requirements of this section. The notification must describe why the CCR landfill qualifies for the alternative closure provisions under either paragraph (a) or (b) of this section, in addition to providing the documentation and certifications required by paragraph (a) or (b) of this section.

(2) The owner or operator must prepare the periodic progress reports required by paragraph (a)(1)(iv) or (b)(1)(iii) of this section, in addition to describing any problems encountered and a description of the actions taken to resolve the problems. The annual progress reports must be completed according to the following schedule:

(i) The first annual progress report must be prepared no later than 13 months after completing the notification of intent to comply with the alternative closure requirements required by paragraph (c)(1) of this section.

(ii) The second annual progress report must be prepared no later than 12 months after completing the first annual progress report. Subsequent annual progress reports must be prepared within 12 months of completing the previous annual progress report.

(iii) The owner or operator has completed the progress reports specified in this paragraph (c)(2) when the reports are placed in the facility's operating record as required by § 257.105(i)(11).

(3) An owner or operator of a CCR landfill must also prepare the notification of intent to close a CCR landfill as required by § 257.102(g).

(d) *CCR landfill recordkeeping.* The owner or operator of the CCR landfill must comply with the recordkeeping requirements specified in § 257.105(i), the notification requirements specified in § 257.106(i), and the internet requirements specified in § 257.107(i).

(e) [Reserved]

(f) *Site-specific alternative deadlines to initiate closure of CCR surface impoundments.* Notwithstanding the provisions of § 257.101(a) and (b)(1), a CCR surface

impoundment may continue to receive the waste specified in paragraph (f)(1) or (2) of this section, provided the owner or operator submits a demonstration that the criteria in either paragraph (f)(1) or (2) of this section have been met. The demonstration must be submitted to the Administrator or the Participating State Director no later than the relevant deadline in paragraph (f)(3) of this section. The Administrator or the Participating State Director will act on the submission in accordance with the procedures in paragraph (f)(3) of this section.

(1) *Development of alternative capacity is technically infeasible.* Notwithstanding the provisions of § 257.101(a) and (b)(1), a CCR surface impoundment may continue to receive the waste specified in paragraph (f)(1)(ii)(A) or (B) of this section, provided the owner or operator demonstrates the wastestream(s) must continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to provide alternative disposal capacity on or off-site of the facility by April 11, 2021. To obtain approval under this paragraph all of the following criteria must be met:

(i) No alternative disposal capacity is available on or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section;

(ii)(A) For units closing pursuant to § 257.101(a) and (b)(1)(i), CCR and/or non-CCR wastestreams must continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to obtain alternative disposal capacity either on or off-site of the facility by April 11, 2021.

(B) For units closing pursuant to § 257.101(b)(1)(ii), CCR must continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to obtain alternative disposal capacity either on or off-site of the facility by April 11, 2021.

(iii) The facility is in compliance with all of the requirements of this subpart.

(iv) The owner or operator of the CCR surface impoundment must submit documentation that the criteria in paragraphs (f)(1)(i) through (iii) of this section have been met by submitting to the Administrator or the Participating State Director all of the following:

(A) To demonstrate that the criteria in paragraphs (f)(1)(i) and (ii) of this section have been met the owner or operator must submit a workplan that contains all of the following elements:

(*1*) A written narrative discussing the options considered both on and off-site to obtain alternative capacity for each CCR and/or non-CCR wastestreams, the technical infeasibility of obtaining alternative capacity prior to April 11, 2021, and the option selected and justification for the alternative capacity selected. The narrative must also include all of the following:

(*i*) An in-depth analysis of the site and any site-specific conditions that led to the decision to select the alternative capacity being developed;

(*ii*) An analysis of the adverse impact to plant operations if the CCR surface impoundment in question were to no longer be available for use; and

(*iii*) A detailed explanation and justification for the amount of time being requested and how it is the fastest technically feasible time to complete the development of the alternative capacity;

(*2*) A detailed schedule of the fastest technically feasible time to complete the measures necessary for alternative capacity to be available including a visual timeline representation. The visual timeline must clearly show all of the following:

(*i*) How each phase and the steps within that phase interact with or are dependent on each other and the other phases;

(*ii*) All of the steps and phases that can be completed concurrently;

(*iii*) The total time needed to obtain the alternative capacity and how long each phase and step within each phase will take; and

(*iv*) At a minimum, the following phases: Engineering and design, contractor selection, equipment fabrication and delivery, construction, and start up and implementation.;

(*3*) A narrative discussion of the schedule and visual timeline representation, which must discuss all of the following:

(*i*) Why the length of time for each phase and step is needed and a discussion of the tasks that occur during the specific step;

(*ii*) Why each phase and step shown on the chart must happen in the order it is occurring;

(*iii*) The tasks that occur during each of the steps within the phase; and

(*iv*) Anticipated worker schedules; and

(*4*) A narrative discussion of the progress the owner or operator has made to obtain alternative capacity for the CCR and/or non-CCR wastestreams. The narrative must discuss all the steps taken, starting from when the owner or operator initiated the design phase up to the steps occurring when the demonstration is being compiled. It must discuss where the facility currently is on the timeline and the efforts that are currently being undertaken to develop alternative capacity.

(B) To demonstrate that the criteria in paragraph (f)(1)(iii) of this section have been met, the owner or operator must submit all of the following:

(*1*) A certification signed by the owner or operator that the facility is in compliance with all of the requirements of this subpart;

(*2*) Visual representation of hydrogeologic information at and around the CCR unit(s) that supports the design, construction and installation of the groundwater monitoring system. This includes all of the following:

(*i*) Map(s) of groundwater monitoring well locations in relation to the CCR unit(s);

(*ii*) Well construction diagrams and drilling logs for all groundwater monitoring wells; and

(*iii*) Maps that characterize the direction of groundwater flow accounting for seasonal variations;

(*3*) Constituent concentrations, summarized in table form, at each groundwater monitoring well monitored during each sampling event;

(*4*) A description of site hydrogeology including stratigraphic cross-sections;

(*5*) Any corrective measures assessment conducted as required at § 257.96;

(*6*) Any progress reports on corrective action remedy selection and design and the report of final remedy selection required at § 257.97(a);

(*7*) The most recent structural stability assessment required at § 257.73(d); and

(*8*) The most recent safety factor assessment required at § 257.73(e).

(v) As soon as alternative capacity for any CCR or non-CCR wastestream is available, the CCR surface impoundment must cease receiving that CCR or non-CCR wastestream. Once the CCR surface impoundment ceases receipt of all CCR and/or non-CCR wastestreams, the CCR surface impoundment must initiate closure following the timeframes in § 257.102(e) and (f).

(vi) *Maximum time frames.* All CCR surface impoundments covered by paragraph (f)(1) must cease receiving waste by the deadlines specified in paragraphs (f)(1)(vi)(A) and (B) of this section and close in accordance with the timeframes in § 257.102(e) and (f).

(A) Except as provided by paragraph (f)(1)(vi)(B) of this section, no later than October 15, 2023.

(B) An eligible unlined CCR surface impoundment must cease receiving CCR and/or non-CCR wastestreams no later than October 15, 2024. In order to continue to operate until October 15, 2024, the owner or operator must demonstrate that the unit meets the definition of an eligible unlined CCR surface impoundment.

(vii) An owner or operator may seek additional time beyond the time granted in the initial approval by making the showing in paragraphs (f)(1)(i) through (iv) of this section, provided that no facility may be granted time to operate the impoundment beyond the maximum allowable time frames provided in § 257.103(f)(1)(vi).

(viii) The owner or operator at all times bears responsibility for demonstrating qualification under this section. Failure to remain in compliance with any of the requirements of this subpart will result in the automatic loss of authorization under this section.

(ix) The owner or operator must:

(A) Upon submission of the demonstration to the Administrator or the Participating State Director, prepare and place in the facility's operating record a notification that it has submitted the demonstration, along with a copy of the demonstration. An owner or operator that claims CBI in the demonstration may post a redacted version of the demonstration to its publicly accessible CCR internet site provided that it contains sufficient detail so that the public can meaningfully comment on the demonstration.

(B) Upon receipt of a decision pursuant to paragraph (f)(3) of this section, must prepare and place in the facility's operating record a copy of the decision.

(C) If an extension of an approved deadline pursuant to paragraph (f)(1)(vii) of this section has been requested, place a copy of the request submitted to the Administrator or the Participating State Director in the facility's operating record.

(x) The owner or operator must prepare semi-annual progress reports. The semi-annual progress reports must contain all of the following elements:

(A) Discussion of the progress made to date in obtaining alternative capacity, including:

(*1*) Discussion of the current stage of obtaining the capacity in reference to the timeline required under paragraph (f)(1)(iv)(A) of this section;

(*2*) Discussion of whether the owner or operator is on schedule for obtaining alternative capacity;

(*3*) If the owner or operator is not on or ahead of schedule for obtaining alternative capacity, the following must be included:

(*i*) Discussion of any problems encountered, and a description of the actions taken or planned to resolve the problems and get back on schedule; and

(*ii*) Discussion of the goals for the next six months and major milestones to be achieved for obtaining alternative capacity; and

(B) Discussion of any planned operational changes at the facility.

(xi) The progress reports must be completed according to the following schedule:

(A) The semi-annual progress reports must be prepared no later than April 30 and October 31 of each year for the duration of the alternative cease receipt of waste deadline.

(B) The first semi-annual progress report must be prepared by whichever date, April 30 or October 31, is soonest after receiving approval from the Administrator or the Participating State Director; and

(C) The owner or operator has completed the progress reports specified in paragraph (f)(1)(x) of this section when the reports have been placed in the facility's operating record as required by § 257.105(i)(17).

(xii) The owner or operator must prepare the notification of intent to close a CCR surface impoundment as required by § 257.102(g).

(xiii) The owner or operator must comply with the recordkeeping requirements specified in § 257.105(i), the notification requirements specified in § 257.106(i), and the internet posting requirements in § 257.107(i).

(2) *Permanent cessation of a coal-fired boiler(s) by a date certain.* Notwithstanding the provisions of § 257.101(a), and (b)(1), a CCR surface impoundment may continue to receive CCR and/or non-CCR wastestreams if the facility will cease operation of the coal-fired boiler(s) and complete closure of the impoundment within the timeframes specified in paragraph (f)(2)(iv) of this section, but in the interim period (prior to closure of the coal-fired boiler), the facility must continue to use the CCR surface impoundment due to the absence of alternative disposal capacity both on and off-site of the facility. To qualify under this paragraph all of the following criteria must be met:

(i) No alternative disposal capacity is available on or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under this section.

(ii) Potential risks to human health and the environment from the continued operation of the CCR surface impoundment have been adequately mitigated;

(iii) The facility is in compliance with all other requirements of this subpart, including the requirement to conduct any necessary corrective action; and

(iv) The coal-fired boilers must cease operation and closure of the impoundment must be completed within the following timeframes:

(A) For a CCR surface impoundment that is 40 acres or smaller, the coal-fired boiler(s) must cease operation and the CCR surface impoundment must complete closure no later than October 17, 2023.

(B) For a CCR surface impoundment that is larger than 40 acres, the coal-fired boiler(s) must cease operation, and the CCR surface impoundment must complete closure no later than October 17, 2028.

(v) The owner or operator of the CCR surface impoundment must submit the following documentation that the criteria in paragraphs (f)(2)(i) through (iv) of this section have been met as specified in paragraphs (f)(2)(v)(A) through (D) of this section.

(A) To demonstrate that the criteria in paragraph (f)(2)(i) of this section have been met the owner or operator must submit a narrative that explains the options considered to obtain alternative capacity for CCR and/or non-CCR wastestreams both on and off-site.

(B) To demonstrate that the criteria in paragraph (f)(2)(ii) of this section have been met the owner or operator must submit a risk mitigation plan describing the measures that will be taken to expedite any required corrective action, and that contains all of the following elements:

(*1*) A discussion of any physical or chemical measures a facility can take to limit any future releases to groundwater during operation.

(*2*) A discussion of the surface impoundment's groundwater monitoring data and any found exceedances; the delineation of the plume (if necessary based on the groundwater monitoring data); identification of any nearby receptors that might be exposed to current or future groundwater contamination; and how such exposures could be promptly mitigated.

(*3*) A plan to expedite and maintain the containment of any contaminant plume that is either present or identified during continued operation of the unit.

(C) To demonstrate that the criteria in paragraph (f)(2)(iii) of this section have been met, the owner or operator must submit all of the following:

(*1*) A certification signed by the owner or operator that the facility is in compliance with all of the requirements of this subpart;

(*2*) Visual representation of hydrogeologic information at and around the CCR unit(s) that supports the design, construction and installation of the groundwater monitoring system. This includes all of the following:

(*i*) Map(s) of groundwater monitoring well locations in relation to the CCR unit;

(*ii*) Well construction diagrams and drilling logs for all groundwater monitoring wells; and

(*iii*) Maps that characterize the direction of groundwater flow accounting for seasonal variations;

(*3*) Constituent concentrations, summarized in table form, at each groundwater monitoring well monitored during each sampling event;

(*4*) Description of site hydrogeology including stratigraphic cross-sections;

(*5*) Any corrective measures assessment required at § 257.96;

(*6*) Any progress reports on remedy selection and design and the report of final remedy selection required at § 257.97(a);

(*7*) The most recent structural stability assessment required at § 257.73(d); and

(*8*) The most recent safety factor assessment required at § 257.73(e).

(D) To demonstrate that the criteria in paragraph (f)(2)(iv) of this section have been met, the owner or operator must submit the closure plan required by § 257.102(b) and a narrative that specifies and justifies the date by which they intend to cease receipt of waste into the unit in order to meet the closure deadlines.

(vi) The owner or operator at all times bears responsibility for demonstrating qualification for authorization under this section. Failure to remain in compliance with any of the requirements of this subpart will result in the automatic loss of authorization under this section.

(vii) The owner or operator must comply with the recordkeeping requirements specified in § 257.105(i), the

notification requirements specified in § 257.106(i), and the internet posting requirements in § 257.107(i).

(viii) Upon submission of the demonstration to the Administrator or the Participating State Director the owner or operator must prepare and place in the facility's operating record and on its publicly accessible CCR internet site a notification that is has submitted a demonstration along with a copy of the demonstration.

(ix) Upon receipt of a decision pursuant to paragraph (f)(3) of this section, the owner or operator must place a copy of the decision in the facility's operating record and on the facility's publicly accessible CCR internet site.

(x) The owner or operator must prepare an annual progress report documenting the continued lack of alternative capacity and the progress towards the closure of the CCR surface impoundment. The owner or operator has completed the progress report when the report has been placed in the facility's operating record as required by § 257.105(i)(20).

(3) *Process to Obtain Authorization.* (i) *Deadlines for Submission.* (A) Except as provided by § 257.71(d)(2)(iii)(E) and (viii), the owner or operator must submit the demonstration required under paragraph (f)(1)(iv) of this section, for an alternative deadline to cease receipt of waste pursuant to paragraph (f)(1) of this section, to the Administrator or the Participating State Director for approval no later than November 30, 2020.

(B) An owner or operator may seek additional time beyond the time granted in the initial approval, in accordance with paragraph (f)(1)(vii) of this section, by submitting a new demonstration, as required under paragraph (f)(1)(iv) of this section, to the Administrator or the Participating State Director for approval, no later than fourteen days from determining that the cease receipt of waste deadline will not be met.

(C) Except as provided by § 257.71(d)(2)(iii)(E) and (viii), the owner or operator must submit the demonstration required under paragraph (f)(2)(v) of this section to the Administrator for approval no later than November 30, 2020.

(ii) EPA will evaluate the demonstration and may request additional information to complete its review. Submission of a complete demonstration will toll the facility's deadline to cease receipt of waste until issuance of a decision under paragraph (f)(3)(iv) of this section. Incomplete submissions will not toll the facility's deadline and will be rejected without further process. All decisions issued under this paragraph or paragraph (f)(3)(iv) of this section will contain the facility's deadline to cease receipt of waste.

(iii) EPA will publish its proposed decision on a complete demonstration in a docket on *www.regulations.gov* for a 15-day comment period. If the demonstration is particularly complex, EPA will provide a comment period of 20 to 30 days.

(iv) After consideration of the comments, EPA will issue its decision on the alternative compliance deadline within four months of receiving a complete demonstration.

(4) *Transferring between site-specific alternatives.* An owner or operator authorized to continue operating a CCR surface impoundment under this section may at any time request authorization to continue operating the impoundment pursuant to another paragraph of subsection (f), by submitting the information in paragraph (f)(4)(i) or (ii) of this section.

(i) *Transfer from § 257.103(f)(1) to § 257.103(f)(2).* The owner or operator of a surface impoundment authorized to operate pursuant to paragraph (f)(1) of this section may request authorization to instead operate the surface impoundment in accordance with the requirements of paragraph (f)(2) of this section, by submitting a new demonstration that meets the requirements of paragraph (f)(2)(v) of this section to the Administrator or the Participating State Director. EPA will approve the request only upon determining that the criteria at paragraphs (f)(2)(i) through (iv) have been met.

(ii) *Transfer from § 257.103(f)(2) to § 257.103(f)(1).* The owner or operator of a surface impoundment authorized to operate pursuant to paragraph (f)(2) of this section may request authorization

to instead operate the surface impoundment in accordance with the requirements of paragraph (f)(1) of this section, by submitting a new demonstration that meets the requirements of paragraph (f)(1)(iv) of this section to the Administrator or the Participating State Director. EPA will approve the request only upon determining that the criteria at paragraphs (f)(1)(i) through (iii) and (vi) of this section have been met.

(iii) The procedures in paragraph (f)(3) of this section will apply to all requests for transfer under this paragraph.

[85 FR 53561, Aug. 28, 2020, as amended at 85 FR 72542, Nov. 12, 2020]

§ 257.104 Post-closure care requirements.

(a) *Applicability*. (1) Except as provided by paragraph (a)(2) of this section, § 257.104 applies to the owners or operators of CCR landfills, CCR surface impoundments, and all lateral expansions of CCR units that are subject to the closure criteria under § 257.102.

(2) An owner or operator of a CCR unit that elects to close a CCR unit by removing CCR as provided by § 257.102(c) is not subject to the post-closure care criteria under this section.

(b) *Post-closure care maintenance requirements.* Following closure of the CCR unit, the owner or operator must conduct post-closure care for the CCR unit, which must consist of at least the following:

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

(2) If the CCR unit is subject to the design criteria under § 257.70, maintaining the integrity and effectiveness of the leachate collection and removal system and operating the leachate collection and removal system in accordance with the requirements of § 257.70; and

(3) Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of §§ 257.90 through 257.98.

(c) *Post-closure care period.* (1) Except as provided by paragraph (c)(2) of this section, the owner or operator of the CCR unit must conduct post-closure care for 30 years.

(2) If at the end of the post-closure care period the owner or operator of the CCR unit is operating under assessment monitoring in accordance with § 257.95, the owner or operator must continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with § 257.95.

(d) *Written post-closure plan*—(1) *Content of the plan.* The owner or operator of a CCR unit must prepare a written post-closure plan that includes, at a minimum, the information specified in paragraphs (d)(1)(i) through (iii) of this section.

(i) A description of the monitoring and maintenance activities required in paragraph (b) of this section for the CCR unit, and the frequency at which these activities will be performed;

(ii) The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure care period; and

(iii) 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 component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this subpart. Any other disturbance is allowed if the owner or operator of the CCR unit demonstrates that disturbance of the final cover, liner, or other component of the containment system, including any removal of CCR, will not increase the potential threat to human health or the environment. The demonstration must be certified by a qualified professional engineer or approved by the Participating State Director or approved from EPA where EPA is the permitting authority, and notification shall be provided to the State Director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible internet site.

(2) *Deadline to prepare the initial written post-closure plan*—(i) *Existing CCR landfills and existing CCR surface impoundments.* No later than October 17, 2016, the owner or operator of the CCR unit must prepare an initial written post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section.

(ii) *New CCR landfills, new CCR surface impoundments, and any lateral expansion of a CCR unit.* No later than the date of the initial receipt of CCR in the CCR unit, the owner or operator must prepare an initial written post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section.

(iii) The owner or operator has completed the written post-closure plan when the plan, including the certification required by paragraph (d)(4) of this section, has been placed in the facility's operating record as required by § 257.105(i)(4).

(3) *Amendment of a written post-closure plan.* (i) The owner or operator may amend the initial or any subsequent written post-closure plan developed pursuant to paragraph (d)(1) of this section at any time.

(ii) The owner or operator must amend the written closure plan whenever:

(A) There is a change in the operation of the CCR unit that would substantially affect the written post-closure plan in effect; or

(B) After post-closure activities have commenced, unanticipated events necessitate a revision of the written post-closure plan.

(iii) The owner or operator must amend the written post-closure plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written post-closure plan. If a written post-closure plan is revised after post-closure activities have commenced for a CCR unit, the owner or operator must amend the written post-closure plan no later than 30 days following the triggering event.

(4) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer or an approval from the Participating State Director or an approval from EPA where EPA is the permitting authority that the initial and any amendment of the written post-closure plan meets the requirements of this section.

(e) *Notification of completion of post-closure care period.* No later than 60 days following the completion of the post-closure care period, the owner or operator of the CCR unit must prepare a notification verifying that post-closure care has been completed. The notification must include the certification by a qualified professional engineer or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority verifying that post-closure care has been completed in accordance with the closure plan specified in paragraph (d) of this section and the requirements of this section. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by § 257.105(i)(13).

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(i), the notification requirements specified in § 257.106(i), and the Internet requirements specified in § 257.107(i).

[80 FR 21468, Apr. 17, 2015, as amended at 81 FR 51808, Aug. 5, 2016; 83 FR 36455, July 30, 2018]

RECORDKEEPING, NOTIFICATION, AND POSTING OF INFORMATION TO THE INTERNET

§ 257.105 Recordkeeping requirements.

(a) Each owner or operator of a CCR unit subject to the requirements of this subpart must maintain files of all information required by this section in a written operating record at their facility.

(b) Unless specified otherwise, each file must be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, record, or study.

(c) An owner or operator of more than one CCR unit subject to the provisions of this subpart may comply with the requirements of this section in one

recordkeeping system provided the system identifies each file by the name of each CCR unit. The files may be maintained on microfilm, on a computer, on computer disks, on a storage system accessible by a computer, on magnetic tape disks, or on microfiche.

(d) The owner or operator of a CCR unit must submit to the State Director and/or appropriate Tribal authority any demonstration or documentation required by this subpart, if requested, when such information is not otherwise available on the owner or operator's publicly accessible Internet site.

(e) *Location restrictions.* The owner or operator of a CCR unit subject to this subpart must place the demonstrations documenting whether or not the CCR unit is in compliance with the requirements under §§ 257.60(a), 257.61(a), 257.62(a), 257.63(a), and 257.64(a), as it becomes available, in the facility's operating record.

(f) *Design criteria.* The owner or operator of a CCR unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

(1) The design and construction certifications as required by § 257.70(e) and (f).

(2) The documentation of liner type as required by § 257.71(a).

(3) The design and construction certifications as required by § 257.72(c) and (d).

(4) Documentation prepared by the owner or operator stating that the permanent identification marker was installed as required by §§ 257.73(a)(1) and 257.74(a)(1).

(5) The initial and periodic hazard potential classification assessments as required by §§ 257.73(a)(2) and 257.74(a)(2).

(6) The emergency action plan (EAP), and any amendment of the EAP, as required by §§ 257.73(a)(3) and 257.74(a)(3), except that only the most recent EAP must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.

(7) Documentation prepared by the owner or operator recording the annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders as required by §§ 257.73(a)(3)(i)(E) and 257.74(a)(3)(i)(E).

(8) Documentation prepared by the owner or operator recording all activations of the emergency action plan as required by §§ 257.73(a)(3)(v) and 257.74(a)(3)(v).

(9) The history of construction, and any revisions of it, as required by § 257.73(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with § 257.102.

(10) The initial and periodic structural stability assessments as required by §§ 257.73(d) and 257.74(d).

(11) Documentation detailing the corrective measures taken to remedy the deficiency or release as required by §§ 257.73(d)(2) and 257.74(d)(2).

(12) The initial and periodic safety factor assessments as required by §§ 257.73(e) and 257.74(e).

(13) The design and construction plans, and any revisions of it, as required by § 257.74(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with § 257.102.

(14) The application and any supplemental materials submitted in support of the application as required by § 257.71(d)(1)(i)(E).

(15) The alternative liner demonstration as required by § 257.71(d)(1)(ii)(D).

(16) The alternative liner demonstration extension request as required by § 257.71(d)(2)(ii)(D).

(17) The documentation prepared for the preliminary demonstration as required by § 257.71(d)(2)(ii)(E).

(18) The notification of an incomplete application as required by § 257.71(d)(2)(iii)(B).

(19) The decision on the application as required by § 257.71(d)(2)(iii)(F).

(20) The final decision on the alternative liner demonstration as required by § 257.71(d)(2)(vii).

(21) The alternative source demonstration as required under § 257.71(d)(2)(ix)(A)(*4*).

(22) The final decision on the alternative source demonstration as required under § 257.71(d)(2)(ix)(A)(*5*).

(23) The final decision on the trend analysis as required under § 257.71(d)(2)(ix)(B)(*3*).

(24) The decision that the alternative source demonstration has been withdrawn as required under § 257.71(d)(2)(ix)(C).

(g) *Operating criteria.* The owner or operator of a CCR unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

(1) The CCR fugitive dust control plan, and any subsequent amendment of the plan, required by § 257.80(b), except that only the most recent control plan must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.

(2) The annual CCR fugitive dust control report required by § 257.80(c).

(3) The initial and periodic run-on and run-off control system plans as required by § 257.81(c).

(4) The initial and periodic inflow design flood control system plan as required by § 257.82(c).

(5) Documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by § 257.83(a).

(6) The periodic inspection report as required by § 257.83(b)(2).

(7) Documentation detailing the corrective measures taken to remedy the deficiency or release as required by §§ 257.83(b)(5) and 257.84(b)(5).

(8) Documentation recording the results of the weekly inspection by a qualified person as required by § 257.84(a).

(9) The periodic inspection report as required by § 257.84(b)(2).

(h) *Groundwater monitoring and corrective action.* The owner or operator of a CCR unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

(1) The annual groundwater monitoring and corrective action report as required by § 257.90(e).

(2) Documentation of the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices as required by § 257.91(e)(1).

(3) The groundwater monitoring system certification as required by § 257.91(f).

(4) The selection of a statistical method certification as required by § 257.93(f)(6).

(5) Within 30 days of establishing an assessment monitoring program, the notification as required by § 257.94(e)(3).

(6) The results of appendices III and IV to this part constituent concentrations as required by § 257.95(d)(1).

(7) Within 30 days of returning to a detection monitoring program, the notification as required by § 257.95(e).

(8) Within 30 days of detecting one or more constituents in appendix IV to this part at statistically significant levels above the groundwater protection standard, the notifications as required by § 257.95(g).

(9) Within 30 days of initiating the assessment of corrective measures requirements, the notification as required by § 257.95(g)(5).

(10) The completed assessment of corrective measures as required by § 257.96(d).

(11) Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by § 257.96(e).

(12) The semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report as required by § 257.97(a), except that the selection of remedy report must be maintained until the remedy has been completed.

(13) Within 30 days of completing the remedy, the notification as required by § 257.98(e).

(14) The demonstration, including long-term performance data, supporting the suspension of groundwater monitoring requirements as required by § 257.90(g).

(i) *Closure and post-closure care.* The owner or operator of a CCR unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

(1) The notification of intent to initiate closure of the CCR unit as required by § 257.100(c)(1).

(2) The annual progress reports of closure implementation as required by § 257.100(c)(2)(i) and (ii).

(3) The notification of closure completion as required by § 257.100(c)(3).

(4) The written closure plan, and any amendment of the plan, as required by §257.102(b), except that only the most recent closure plan must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.

(5) The written demonstration(s), including the certification required by §257.102(e)(2)(iii), for a time extension for initiating closure as required by §257.102(e)(2)(ii).

(6) The written demonstration(s), including the certification required by §257.102(f)(2)(iii), for a time extension for completing closure as required by §257.102(f)(2)(i).

(7) The notification of intent to close a CCR unit as required by §257.102(g).

(8) The notification of completion of closure of a CCR unit as required by §257.102(h).

(9) The notification recording a notation on the deed as required by §257.102(i).

(10) The notification of intent to comply with the alternative closure requirements as required by §257.103(c)(1).

(11) The annual progress reports under the alternative closure requirements as required by §257.103(c)(2).

(12) The written post-closure plan, and any amendment of the plan, as required by §257.104(d), except that only the most recent closure plan must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.

(13) The notification of completion of post-closure care period as required by §257.104(e).

(14) The notification of intent to comply with the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by §257.103(f)(1)(ix)(A).

(15) The approved or denied demonstration for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by §257.103(f)(1)(ix)(B).

(16) The notification for requesting additional time to the alternative cease receipt of waste deadline as required by §257.103(f)(1)(ix)(C).

(17) The semi-annual progress reports for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by §257.103(f)(1)(xi).

(18) The notification of intent to comply with the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by §257.103(f)(2)(viii).

(19) The approved or denied demonstration for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by §257.103(f)(2)(ix).

(20) The annual progress report for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by §257.103(f)(2)(x).

(j) *Retrofit criteria.* The owner or operator of a CCR unit subject to this subpart must place the following information, as it becomes available, in the facility's operating record:

(1) The written retrofit plan, and any amendment of the plan, as required by §257.102(k)(2), except that only the most recent retrofit plan must be maintained in the facility's operating record irrespective of the time requirement specified in paragraph (b) of this section.

(2) The notification of intent that the retrofit activities will proceed in accordance with the alternative procedures in §257.103.

(3) The annual progress reports required under the alternative requirements as required by §257.103.

(4) The written demonstration(s), including the certification in §257.102(f)(2)(iii), for a time extension for completing retrofit activities as required by §257.102(k)(3).

(5) The notification of intent to initiate retrofit of a CCR unit as required by §257.102(k)(5).

(6) The notification of completion of retrofit activities as required by §257.102(k)(6).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36456, July 30, 2018; 85 FR 53565, Aug. 28, 2020; 85 FR 72543, Nov. 12, 2020; 85 FR 80626, Dec. 14, 2020]

§ 257.106 Notification requirements.

(a) The notifications required under paragraphs (e) through (i) of this section must be sent to the relevant State Director and/or appropriate Tribal authority before the close of business on the day the notification is required to be completed. For purposes of this section, *before the close of business* means the notification must be postmarked or sent by electronic mail (email). If a notification deadline falls on a weekend or federal holiday, the notification deadline is automatically extended to the next business day.

(b) If any CCR unit is located in its entirety within Indian Country, the notifications of this section must be sent to the appropriate Tribal authority. If any CCR unit is located in part within Indian Country, the notifications of this section must be sent both to the appropriate State Director and Tribal authority.

(c) Notifications may be combined as long as the deadline requirement for each notification is met.

(d) Unless otherwise required in this section, the notifications specified in this section must be sent to the State Director and/or appropriate Tribal authority within 30 days of placing in the operating record the information required by § 257.105.

(e) *Location restrictions.* The owner or operator of a CCR unit subject to the requirements of this subpart must notify the State Director and/or appropriate Tribal authority that each demonstration specified under § 257.105(e) has been placed in the operating record and on the owner or operator's publicly accessible internet site.

(f) *Design criteria.* The owner or operator of a CCR unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

(1) Within 60 days of commencing construction of a new CCR unit, provide notification of the availability of the design certification specified under § 257.105(f)(1) or (3). If the owner or operator of the CCR unit elects to install an alternative composite liner, the owner or operator must also submit to the State Director and/or appropriate Tribal authority a copy of the alternative composite liner design.

(2) No later than the date of initial receipt of CCR by a new CCR unit, provide notification of the availability of the construction certification specified under § 257.105(f)(1) or (3).

(3) Provide notification of the availability of the documentation of liner type specified under § 257.105(f)(2).

(4) Provide notification of the availability of the initial and periodic hazard potential classification assessments specified under § 257.105(f)(5).

(5) Provide notification of the availability of emergency action plan (EAP), and any revisions of the EAP, specified under § 257.105(f)(6).

(6) Provide notification of the availability of documentation prepared by the owner or operator recording the annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders specified under § 257.105(f)(7).

(7) Provide notification of documentation prepared by the owner or operator recording all activations of the emergency action plan specified under § 257.105(f)(8).

(8) Provide notification of the availability of the history of construction, and any revision of it, specified under § 257.105(f)(9).

(9) Provide notification of the availability of the initial and periodic structural stability assessments specified under § 257.105(f)(10).

(10) Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.105(f)(11).

(11) Provide notification of the availability of the initial and periodic safety factor assessments specified under § 257.105(f)(12).

(12) Provide notification of the availability of the design and construction plans, and any revision of them, specified under § 257.105(f)(13).

(13) Provide notification of the availability of the application and any supplemental materials submitted in support of the application specified under § 257.105(f)(14).

(14) Provide notification of the availability of the alternative liner demonstration specified under § 257.105(f)(15).

(15) Provide notification of the availability of the alternative liner demonstration extension request specified under § 257.105(f)(16).

(16) Provide notification of the availability of the documentation prepared for the preliminary demonstration specified under § 257.105(f)(17).

(17) Provide notification of the availability of the notification of an incomplete application specified under § 257.105(f)(18).

(18) Provide notification of the availability of the decision on the application specified under § 257.105(f)(19).

(19) Provide notification of the availability of the final decision on the alternative liner demonstration specified under § 257.105(f)(20).

(20) Provide notification of the availability of the alternative source demonstration specified under § 257.105(f)(21).

(21) Provide notification of the availability of the final decision on the alternative source demonstration specified under § 257.105(f)(22).

(22) Provide notification of the final decision on the trend analysis specified under § 257.105(f)(23).

(23) Provide notification of the decision that the alternative source demonstration has been withdrawn specified under § 257.105(f)(24).

(g) *Operating criteria*. The owner or operator of a CCR unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

(1) Provide notification of the availability of the CCR fugitive dust control plan, or any subsequent amendment of the plan, specified under § 257.105(g)(1).

(2) Provide notification of the availability of the annual CCR fugitive dust control report specified under § 257.105(g)(2).

(3) Provide notification of the availability of the initial and periodic run-on and run-off control system plans specified under § 257.105(g)(3).

(4) Provide notification of the availability of the initial and periodic inflow design flood control system plans specified under § 257.105(g)(4).

(5) Provide notification of the availability of the periodic inspection reports specified under § 257.105(g)(6).

(6) Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.105(g)(7).

(7) Provide notification of the availability of the periodic inspection reports specified under § 257.105(g)(9).

(h) *Groundwater monitoring and corrective action*. The owner or operator of a CCR unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible internet site. The owner or operator must:

(1) Provide notification of the availability of the annual groundwater monitoring and corrective action report specified under § 257.105(h)(1).

(2) Provide notification of the availability of the groundwater monitoring system certification specified under § 257.105(h)(3).

(3) Provide notification of the availability of the selection of a statistical method certification specified under § 257.105(h)(4).

(4) Provide notification that an assessment monitoring programs has been established specified under § 257.105(h)(5).

(5) Provide notification that the CCR unit is returning to a detection monitoring program specified under § 257.105(h)(7).

(6) Provide notification that one or more constituents in appendix IV to this part have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under § 257.105(h)(8).

(7) Provide notification that an assessment of corrective measures has been initiated specified under § 257.105(h)(9).

(8) Provide notification of the availability of assessment of corrective measures specified under § 257.105(h)(10).

(9) Provide notification of the availability of the semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report specified under § 257.105(h)(12).

(10) Provide notification of the completion of the remedy specified under § 257.105(h)(13).

(11) Provide the demonstration supporting the suspension of groundwater monitoring requirements specified under § 257.105(h)(14).

(i) *Closure and post-closure care.* The owner or operator of a CCR unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible Internet site. The owner or operator must:

(1) Provide notification of the intent to initiate closure of the CCR unit specified under § 257.105(i)(1).

(2) Provide notification of the availability of the annual progress reports of closure implementation specified under § 257.105(i)(2).

(3) Provide notification of closure completion specified under § 257.105(i)(3).

(4) Provide notification of the availability of the written closure plan, and any amendment of the plan, specified under § 257.105(i)(4).

(5) Provide notification of the availability of the demonstration(s) for a time extension for initiating closure specified under § 257.105(i)(5).

(6) Provide notification of the availability of the demonstration(s) for a time extension for completing closure specified under § 257.105(i)(6).

(7) Provide notification of intent to close a CCR unit specified under § 257.105(i)(7).

(8) Provide notification of completion of closure of a CCR unit specified under § 257.105(i)(8).

(9) Provide notification of the deed notation as required by § 257.105(i)(9).

(10) Provide notification of intent to comply with the alternative closure requirements specified under § 257.105(i)(10).

(11) The annual progress reports under the alternative closure requirements as required by § 257.105(i)(11).

(12) Provide notification of the availability of the written post-closure plan, and any amendment of the plan, specified under § 257.105(i)(12).

(13) Provide notification of completion of post-closure care specified under § 257.105(i)(13).

(14) Provide the notification of intent to comply with the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as specified under § 257.105(i)(14).

(15) Provide the approved or denied demonstration for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by as specified under § 257.105(i)(15).

(16) Provide the notification for requesting additional time to the alternative cease receipt of waste deadline as required by § 257.105(i)(16).

(17) The semi-annual progress reports for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as specified under § 257.105(i)(17).

(18) Provide the notification of intent to comply with the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as specified under § 257.105(i)(18).

(19) Provide the approved or denied demonstration for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by § 257.105(i)(19).

(20) The annual progress report for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by § 257.105(i)(20).

(j) *Retrofit criteria.* The owner or operator of a CCR unit subject to this subpart must notify the State Director and/or appropriate Tribal authority when information has been placed in the operating record and on the owner or operator's publicly accessible Internet site. The owner or operator must:

(1) Provide notification of the availability of the written retrofit plan, and any amendment of the plan, specified under § 257.105(j)(1).

(2) Provide notification of intent to comply with the alternative retrofit requirements specified under § 257.105(j)(2).

(3) The annual progress reports under the alternative retrofit requirements as required by § 257.105(j)(3).

(4) Provide notification of the availability of the demonstration(s) for a time extension for completing retrofit activities specified under § 257.105(j)(4).

(5) Provide notification of intent to initiate retrofit of a CCR unit specified under § 257.105(j)(5).

(6) Provide notification of completion of retrofit activities specified under § 257.105(j)(6).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36456, July 30, 2018; 85 FR 53565, Aug. 28, 2020; 85 FR 72543, Nov. 12, 2020]

§ 257.107 Publicly accessible Internet site requirements.

(a) Each owner or operator of a CCR unit subject to the requirements of this subpart must maintain a publicly accessible internet site (CCR website) containing the information specified in this section. The owner or operator's website must be titled ''CCR Rule Compliance Data and Information.'' The website must ensure that all information required to be posted is immediately available to anyone visiting the site, without requiring any prerequisite, such as registration or a requirement to submit a document request. All required information must be clearly identifiable and must be able to be immediately printed and downloaded by anyone accessing the site. If the owner/operator changes the web address (*i.e.*, Uniform Resource Locator (URL)) at any point, they must notify EPA via the ''contact us'' form on EPA's CCR website and the state director within 14 days of making the change. The facility's CCR website must also have a ''contact us'' form or a specific email address posted on the website for the public to use to submit questions and issues relating to the availability of information on the website.

(b) An owner or operator of more than one CCR unit subject to the provisions of this subpart may comply with the requirements of this section by using the same Internet site for multiple CCR units provided the CCR Web site clearly delineates information by the name or identification number of each unit.

(c) Unless otherwise required in this section, the information required to be posted to the CCR Web site must be made available to the public for at least five years following the date on which the information was first posted to the CCR Web site.

(d) Unless otherwise required in this section, the information must be posted to the CCR Web site within 30 days of placing the pertinent information required by § 257.105 in the operating record.

(e) *Location restrictions.* The owner or operator of a CCR unit subject to this subpart must place each demonstration specified under § 257.105(e) on the owner or operator's CCR Web site.

(f) *Design criteria.* The owner or operator of a CCR unit subject to this subpart must place the following information on the owner or operator's CCR Web site:

(1) Within 60 days of commencing construction of a new unit, the design certification specified under § 257.105(f)(1) or (3).

(2) No later than the date of initial receipt of CCR by a new CCR unit, the construction certification specified under § 257.105(f)(1) or (3).

(3) The documentation of liner type specified under § 257.105(f)(2).

(4) The initial and periodic hazard potential classification assessments specified under § 257.105(f)(5).

(5) The emergency action plan (EAP) specified under § 257.105(f)(6), except that only the most recent EAP must be maintained on the CCR Web site irrespective of the time requirement specified in paragraph (c) of this section.

(6) Documentation prepared by the owner or operator recording the annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders specified under § 257.105(f)(7).

(7) Documentation prepared by the owner or operator recording any activation of the emergency action plan specified under § 257.105(f)(8).

(8) The history of construction, and any revisions of it, specified under § 257.105(f)(9).

(9) The initial and periodic structural stability assessments specified under § 257.105(f)(10).

(10) The documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.105(f)(11).

(11) The initial and periodic safety factor assessments specified under § 257.105(f)(12).

(12) The design and construction plans, and any revisions of them, specified under § 257.105(f)(13).

(13) The application and any supplemental materials submitted in support of the application specified under § 257.105(f)(14).

(14) The alternative liner demonstration specified under § 257.105(f)(15).

(15) The alternative liner demonstration specified under § 257.105(f)(16).

(16) The documentation prepared for the preliminary demonstration specified under § 257.105(f)(17).

(17) The notification of an incomplete application specified under § 257.105(f)(18).

(18) The decision on the application specified under § 257.105(f)(19).

(19) The final decision on the alternative liner demonstration specified under § 257.105(f)(20).

(20) The alternative source demonstration specified under § 257.105(f)(21).

(21) The final decision on the alternative source demonstration specified under § 257.105(f)(22).

(22) The final decision on the trend analysis specified under § 257.105(f)(23).

(23) The decision that the alternative source demonstration has been withdrawn specified under § 257.105(f)(24).

(g) *Operating criteria.* The owner or operator of a CCR unit subject to this subpart must place the following information on the owner or operator's CCR Web site:

(1) The CCR fugitive dust control plan, or any subsequent amendment of the plan, specified under § 257.105(g)(1) except that only the most recent plan must be maintained on the CCR Web site irrespective of the time requirement specified in paragraph (c) of this section.

(2) The annual CCR fugitive dust control report specified under § 257.105(g)(2).

(3) The initial and periodic run-on and run-off control system plans specified under § 257.105(g)(3).

(4) The initial and periodic inflow design flood control system plans specified under § 257.105(g)(4).

(5) The periodic inspection reports specified under § 257.105(g)(6).

(6) The documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.105(g)(7).

(7) The periodic inspection reports specified under § 257.105(g)(9).

(h) *Groundwater monitoring and corrective action.* The owner or operator of a CCR unit subject to this subpart must place the following information on the owner or operator's CCR Web site:

(1) The annual groundwater monitoring and corrective action report specified under § 257.105(h)(1).

(2) The groundwater monitoring system certification specified under § 257.105(h)(3).

(3) The selection of a statistical method certification specified under § 257.105(h)(4).

(4) The notification that an assessment monitoring programs has been established specified under § 257.105(h)(5).

(5) The notification that the CCR unit is returning to a detection monitoring program specified under § 257.105(h)(7).

(6) The notification that one or more constituents in appendix IV to this part have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under § 257.105(h)(8).

(7) The notification that an assessment of corrective measures has been initiated specified under § 257.105(h)(9).

(8) The assessment of corrective measures specified under § 257.105(h)(10).

(9) The semiannual reports describing the progress in selecting and designing remedy and the selection of remedy report specified under § 257.105(h)(12), except that the selection of the remedy report must be maintained until the remedy has been completed.

(10) The notification that the remedy has been completed specified under § 257.105(h)(13).

(11) The demonstration supporting the suspension of groundwater monitoring requirements specified under § 257.105(h)(14).

(i) *Closure and post-closure care.* The owner or operator of a CCR unit subject to this subpart must place the following information on the owner or operator's CCR Web site:

(1) The notification of intent to initiate closure of the CCR unit specified under § 257.105(i)(1).

(2) The annual progress reports of closure implementation specified under § 257.105(i)(2).

(3) The notification of closure completion specified under § 257.105(i)(3).

(4) The written closure plan, and any amendment of the plan, specified under § 257.105(i)(4).

(5) The demonstration(s) for a time extension for initiating closure specified under § 257.105(i)(5).

(6) The demonstration(s) for a time extension for completing closure specified under § 257.105(i)(6).

(7) The notification of intent to close a CCR unit specified under § 257.105(i)(7).

(8) The notification of completion of closure of a CCR unit specified under § 257.105(i)(8).

(9) The notification recording a notation on the deed as required by § 257.105(i)(9).

(10) The notification of intent to comply with the alternative closure requirements as required by § 257.105(i)(10).

(11) The annual progress reports under the alternative closure requirements as required by § 257.105(i)(11).

(12) The written post-closure plan, and any amendment of the plan, specified under § 257.105(i)(12).

(13) The notification of completion of post-closure care specified under § 257.105(i)(13).

(14) The notification of intent to comply with the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as specified under § 257.105(i)(14).

(15) The approved or denied demonstration for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by as specified under § 257.105(i)(15).

(16) The notification for requesting additional time to the alternative cease receipt of waste deadline as required by § 257.105(i)(16).

(17) The semi-annual progress reports for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as specified under § 257.105(i)(17).

(18) The notification of intent to comply with the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as specified under § 257.105(i)(18).

(19) The approved or denied demonstration for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by § 257.105(i)(19).

(20) The annual progress report for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boiler(s) by a date certain as required by § 257.105(i)(20).

(j) *Retrofit criteria.* The owner or operator of a CCR unit subject to this subpart must place the following information on the owner or operator's CCR Web site:

(1) The written retrofit plan, and any amendment of the plan, specified under § 257.105(j)(1).

(2) The notification of intent to comply with the alternative retrofit requirements as required by § 257.105(j)(2).

(3) The annual progress reports under the alternative retrofit requirements as required by § 257.105(j)(3).

(4) The demonstration(s) for a time extension for completing retrofit activities specified under § 257.105(j)(4).

(5) The notification of intent to retrofit a CCR unit specified under § 257.105(j)(5).

(6) The notification of completion of retrofit activities specified under § 257.105(j)(6).

[80 FR 21468, Apr. 17, 2015, as amended at 83 FR 36456, July 30, 2018; 85 FR 53566, Aug. 28, 2020; 85 FR 72543, Nov. 12, 2020]

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
Endrin	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	93–76–5	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 ^{60}Cobalt and ^{137}Cesium, 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.

APPENDIX III TO PART 257—CONSTITUENTS FOR DETECTION MONITORING

Common name [1]
Boron
Calcium
Chloride
Fluoride
pH
Sulfate
Total Dissolved Solids (TDS)

[1] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[80 FR 21500, Apr. 17, 2015]

APPENDIX IV TO PART 257—CONSTITUENTS FOR ASSESSMENT MONITORING

Common name [1]
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228 combined

[1] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[80 FR 21500, Apr. 17, 2015]

PART 258—CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS

Subpart A—General

Subpart B—Location Restrictions

Subpart C—Operating Criteria

Subpart D—Design Criteria

Subpart E—Ground-Water Monitoring and Corrective Action

Subpart F—Closure and Post-Closure Care

Subpart G—Financial Assurance Criteria

AUTHORITY: 33 U.S.C. 1345(d) and (e); 42 U.S.C. 6902(a), 6907, 6912(a), 6944, 6945(c) and 6949a(c), 6981(a).

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 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 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 otherwise 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 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 porton 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.

Construction and demolition (C&D) landfill means a solid waste disposal facility subject to the requirements in part 257, subparts A or B of this chapter that receives construction and demolition waste and does not receive hazardous waste (defined in § 261.3 of this chapter) or industrial solid waste (defined in this section). Only a C&D landfill that meets the requirements of 40 CFR part 257, subpart B may receive very small quantity generator waste (defined in § 260.10 of this chapter). A C&D landfill typically receives any one or more of the following types of solid wastes: Roadwork material, excavated material, demolition waste, construction/renovation waste, and site clearance waste.

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, 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 (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 under § 257.2 of this chapter. A MSWLF unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, very 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. A construction and demolition landfill that receives residential lead-based paint waste and does not receive any other household waste is not a MSWLF unit.

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.

Residential lead-based paint waste means waste containing lead-based paint, which is generated as a result of activities such as abatement, rehabilitation, renovation and remodeling in homes and other residences. The term residential lead-based paint waste includes, but is not limited to, lead-based paint debris, chips, dust, and sludges.

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.

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; 68 FR 36495, June 18, 2003; 81 FR 85805, Nov. 28, 2016]

§ 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 Research, development, and demonstration permits.

(a) Except as provided in paragraph (f) of this section, the Director of an approved State may issue a research, development, and demonstration permit for a new MSWLF unit, existing MSWLF unit, or lateral expansion, for which the owner or operator proposes to utilize innovative and new methods which vary from either or both of the following criteria provided that the MSWLF unit has a leachate collection system designed and constructed to maintain less than a 30-cm depth of leachate on the liner:

(1) The run-on control systems in § 258.26(a)(1); and

(2) The liquids restrictions in § 258.28(a).

(b) The Director of an approved State may issue a research, development, and demonstration permit for a new MSWLF unit, existing MSWLF unit, or lateral expansion, for which the owner or operator proposes to utilize innovative and new methods which vary from the final cover criteria of § 258.60(a)(1), (a)(2) and (b)(1), provided the MSWLF unit owner/operator demonstrates that the infiltration of liquid through the alternative cover system will not cause contamination of groundwater or surface water, or cause leachate depth on the liner to exceed 30-cm.

(c) Any permit issued under this section must include such terms and conditions at least as protective as the criteria for municipal solid waste landfills to assure protection of human health and the environment. Such permits shall:

(1) Provide for the construction and operation of such facilities as necessary, for not longer than three years, unless renewed as provided in paragraph (e) of this section;

(2) Provide that the MSWLF unit must receive only those types and quantities of municipal solid waste and non-hazardous wastes which the State Director deems appropriate for the purposes of determining the efficacy and performance capabilities of the technology or process;

(3) Include such requirements as necessary to protect human health and the environment, including such requirements as necessary for testing and providing information to the State Director with respect to the operation of the facility;

(4) Require the owner or operator of a MSWLF unit permitted under this section to submit an annual report to the State Director showing whether and to what extent the site is progressing in attaining project goals. The report will also include a summary of all monitoring and testing results, as well as any other operating information specified by the State Director in the permit; and

(5) Require compliance with all criteria in this part, except as permitted under this section.

(d) The Director of an approved State may order an immediate termination of all operations at the facility allowed under this section or other corrective measures at any time the State Director determines that the overall goals of the project are not being attained, including protection of human health or the environment.

(e) Any permit issued under this section shall not exceed three years and each renewal of a permit may not exceed three years.

(1) The total term for a permit for a project including renewals may not exceed twenty-one (21) years; and

(2) During permit renewal, the applicant shall provide a detailed assessment of the project showing the status with respect to achieving project goals, a list of problems and status with respect to problem resolutions, and other any other requirements that the Director determines necessary for permit renewal.

(f) *Small MSWLF units.* (1) An owner or operator of a MSWLF unit operating under an exemption set forth in §258.1(f)(1) is not eligible for any variance from §§258.26(a)(1) and 258.28(a) of the operating criteria in subpart C of this part.

(2) An owner or operator of a MSWLF unit that disposes of 20 tons of municipal solid waste per day or less, based on an annual average, is not eligible for a variance from §258.60 (b)(1),except in accordance with §258.60(b)(3).

[69 FR 13255, Mar. 22, 2004, as amended at 81 FR 28724, May 10, 2016]

§§ 258.5–258.9 [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.

NOTE TO §258.10: A prohibition on locating a new MSWLF near certain airports was enacted in Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Ford Act), Pub. L. 106–181 (49 U.S.C. 44718 note). Section 503 prohibits the ''construction or establishment'' of new MSWLFs after April 5, 2000 within six miles of certain smaller public airports. The Federal Aviation Administration (FAA) administers the Ford Act and has issued guidance in FAA Advisory Circular 150/5200–34, dated August 26, 2000. For further information, please contact the FAA.

[56 FR 51016, Oct. 9, 1991, as amended at 68 FR 59335, Oct. 15, 2003]

§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:

(1) *Floodplain* means the lowland and relatively flat areas adjoining inland and coastal waters, including floodprone 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.

(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 material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluction, 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 very small quantity generator as defined in § 260.10 of this chapter.

[56 FR 51016, Oct. 9, 1991, as amended at 81 FR 85805, Nov. 28, 2016]

§ 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.

(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 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 areawide or State-wide water quality management 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;

(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; or

(3) The MSWLF unit is a Project XL MSWLF and meets the applicable requirements of § 258.41. The owner or operator must place documentation of the landfill design 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 9095B (Paint Filter Liquids Test), included in ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods'' (EPA Publication SW–846) which is incorporated by reference. A suffix of ''B'' in the method number indicates revision two (the method has been revised twice). Method 9095B is dated November 2004. This incorporation by reference was approved by the Director of the Federal Register pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. This material is incorporated as it exists on the date of approval and a notice of any change in this material will be published in the FEDERAL REGISTER. A copy may be inspected at the Library, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW. (3403T), Washington, DC 20460, *libraryhq@epa.gov;* or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

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

[56 FR 51016, Oct. 9, 1991, as amended at 66 FR 42449, Aug. 13, 2001; 70 FR 34555, June 14, 2005]

§ 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;

(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).

(d) The Director of an approved state program may receive electronic documents only if the state program includes the requirements of 40 CFR Part 3—(Electronic reporting).

[56 FR 51016, Oct. 9, 1991, as amended at 70 FR 59888, Oct. 13, 2005]

§§ 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;

(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

§ 258.41 Project XL Bioreactor Landfill Projects.

(a) Buncombe County, North Carolina Project XL Bioreactor Landfill Requirements. Paragraph (a) of this section applies to Cells 1, 2, 3, 4, and 5 of the Buncombe County Solid Waste Management Facility located in the County of Buncombe, North Carolina, owned and operated by the Buncombe County Solid Waste Authority, or its successors. This paragraph (a) will also apply to Cells 6, 7, 8, 9, and 10, provided that the EPA Regional Administrator for Region 4 and the State Director determine that the pilot project in Cells 3, 4, and 5 is performing as expected and that the pilot project has not exhibited detrimental environmental results.

(1) The Buncombe County Solid Waste Authority is allowed to place liquid waste in the Buncombe County Solid Waste Management Facility, provided that the provisions of paragraphs (a)(2) through (9) of this section are met.

(2) The only liquid waste allowed under this section is leachate or gas condensate derived from the MSWLF, which may be supplemented with water from the French Broad River. The owner or operator shall control any liquids to the landfill to assure that the average moisture content of the landfill does not exceed 50% by weight. Liquid addition and recirculation is allowed only to the extent that the integrity of the landfill including its liner system is maintained, as determined by the State Director.

(3) The MSWLF unit shall be designed and constructed with a liner and leachate collection system as described in § 258.40(a)(2) or paragraphs (a)(4) and (5) of this section. The owner or operator must place documentation of the landfill design in the operating record and notify the State Director that it has been placed in operating record;

(4) Cells 3–10 shall be constructed with a liner system consisting of the components described in paragraphs (a)(4)(i) through (v) of this section, or an equivalent or superior liner system as determined by the State Director:

(i) A lower component consisting of at least 18 inches of compacted soil with a hydraulic conductivity of no more than 1×10^{-5} cm/sec., and

(ii) An upper component consisting of a minimum 30-millimeter (''mil'') flexible membrane liner (FML) or 60-mil if High Density Polyethylene (''HDPE'') is used, and

(iii) A geosynthetic clay liner (GCL) overlaying and in direct contact with the 18 inches of compacted soil in paragraph (a)(4) of this section and having the following properties:

(A) The GCL shall be formulated and manufactured from polypropylene geotextiles and high swelling containment resistant sodium bentonite. The bentonite-geotextile liner shall be manufactured using a minimum of one pound per square foot as determined using the Standard Test Method for Measuring Mass per Unit Area of Geotextiles, ASTM D–5261–92 (reapproved in 1996). The high swelling sodium montmorillonite clay shall be at 12% moisture content as determined by the Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass, ASTM D2216–98. The Director of the Federal Register approves this incorporation by reference with 5 U.S.C. 552(a) and 1 CFR part 51. These methods are available from The American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959. These methods may be inspected at EPA's docket office located at Crystal Gateway, 1235 Jefferson Davis Highway, First Floor, Arlington, Virginia, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(B) The encapsulating geotextile shall be polypropylene and shall have a minimum weight of 6 oz./square yard.

(iv) The upper component shall be installed in direct and uniform contact with an overlaying soil cushioning component.

(v) Underlying the above liner system, there shall also be installed a leak detection system consisting of a 60-mil HDPE liner placed on a prepared subgrade.

(A) A 4 inch capped pipe will drain liquid collected in the sump out beyond the footprint of the landfill cell.

(B) Water collected on the leak detection liner shall be monitored at least semi-annually as directed by the State Director to determine whether any leachate escaped the liner system.

(5) Cells 3–10 shall be designed and constructed with a leachate collection system to maintain less than 30 centimeters depth of leachate is present at the sump location. The leachate collection system shall include a continuous monitoring system to monitor depth of leachate.

(6) The owner/operator shall keep the Federally Enforceable State Operating Permit (FESOP) issued by the Western North Carolina Air Quality Agency for the Buncombe County Solid Waste Management Facility in effect, and shall comply with the provisions of the FESOP, during the entire period of leachate recirculation and the post closure period. The FESOP was issued on November 13, 2000 and contains the air quality requirements for the Buncombe County Landfill XL project.

(7) *Monitoring and reporting requirements.* The owner or operator of the Buncombe County Solid Waste Management Facility shall monitor for the parameters listed in paragraphs (a)(7)(i) through (xiii) of this section and submit an annual report on the XL project to the EPA Regional Administrator for Region 4 and the State Director. The first report is due coincident with the October 2001 report to the state. The report should state what progress has been made toward the superior environmental performance and other commitments as stated in the Final Project Agreement. The report shall include, at a minimum, the following data:

(i) Amount of landfill gas generated;

(ii) Percent capture of landfill gas, if known;

(iii) Quality of the landfill gas, amount and type of liquids applied to the landfill;

(iv) Method of liquids application to the landfill;

(v) Quantity of waste placed in the landfill;

(vi) Quantity and quality of leachate collected;

(vii) Quantity of leachate recirculated back into the landfill;

(viii) Information on the pretreatment of waste applied to the landfill;

(ix) Data collected on landfill temperature and moisture content;

(x) Data on the leachate pressure (head) on the liner;

(xi) Observations, information, and studies made on the physical stability of the MSWLF units that are developed during the project term, if any.

(xii) The above data may be summarized, and, at a minimum shall contain, the minimum, maximum, median, and average data points as well as the frequency of monitoring as applicable.

(xiii) The method and frequency of monitoring shall be specified by the State Director.

(8) *Termination and withdrawal.* (i) Paragraph (a) of this section will terminate August 22, 2026, unless a subsequent rulemaking is issued or terminated earlier pursuant to paragraph (a)(8)(ii) of this section.

(ii) In the event of noncompliance with paragraph (a) of this section, EPA may terminate the authority under paragraph (a) of this section and the authority to add liquid wastes to all or part of cells 3–10 under §258.28(a)(3). The EPA Regional Administrator will provide written notice of intent to terminate to the Buncombe County Solid Waste Authority with a copy to the State Director. The notice will state EPA's intent to terminate under the rules and will include a brief statement of EPA's reasons for its action. The termination will take effect 60 days from the date of the notice, unless the EPA Regional Administrator for Region 4 issues a written notice rescinding the termination.

(9) *Compliance requirements in the event of termination or withdrawal.* The Buncombe County Solid Waste Management Facility will be subject to all regulatory provisions applicable to MSWLFs upon termination of authority under this section. In the event of early termination of this section, the EPA Regional Administrator for Region 4 may provide an interim period of compliance to allow Buncombe County a reasonable period of time for transition following cessation of liquids addition.

(b) This section applies solely to Module D of the Yolo County Central Landfill owned and operated by the County of Yolo, California, or its successors. It allows the Yolo County Central Landfill to add bulk or noncontainerized liquid wastes to Module D under the following conditions:

(1) Module D shall be designed and constructed with a composite liner as defined in §258.40(b) and a leachate collection system that functions and continuously monitors to ensure that less than 30 centimeters depth of leachate is maintained over the liner.

(2) The owner or operator of the Yolo County Central Landfill must ensure that the concentration values listed in Table 1 of §258.40 are not exceeded in the uppermost aquifer at the relevant point of compliance for the landfill as specified by the State Director under §258.40(d).

(3) The owner or operator of the Yolo County Central Landfill shall demonstrate that the addition of any liquids to Module D does not result in an increased leakage rate, and does not result in liner slippage, or otherwise compromise the integrity of the landfill and its liner system, as determined by the State Director.

(4) The owner or operator of the Yolo County Central Landfill must ensure that Module D is operated in such a manner so as to prevent any landfill fires from occurring.

(5) The owner or operator of the Yolo County Central Landfill shall submit an annual report to the EPA Regional Administrator and the State Director. The first report is due within 18 months after August 13, 2001. The report shall state what progress the Project is making towards the superior environmental performance as stated in the Final Project Agreement. The data in paragraphs (b)(5)(i) through (xvi) of this section may be summarized, but, at a minimum, shall contain the minimum, maximum, median, and average data points as well as the frequency of monitoring, as applicable. These reporting provisions shall remain in effect for as long as the owner or operator of the Yolo County Central Landfill continues to add liquid waste to Module D. Additional monitoring, record keeping and reporting requirements related to landfill gas will be contained in a permit executed by the local air quality management district pursuant to the Clean Air Act, 42

U.S.C. 7401 *et seq*. Application of this site-specific rule to the Yolo County Central Landfill is conditioned upon the issuance of such permit. The annual report will include, at a minimum, the following data:

(i) Amount of landfill gas generated;

(ii) Percent capture of landfill gas;

(iii) Quality of the landfill gas;

(iv) Amount and type of liquids applied to the landfill;

(v) Method of liquids application to the landfill;

(vi) Quantity of waste placed in the landfill;

(vii) Quantity and quality of leachate collected, including at least the following parameters, monitored, at a minimum, on an annual basis:

(A) pH;

(B) Conductivity;

(C) Dissolved oxygen;

(D) Dissolved solids;

(E) Biochemical oxygen demand;

(F) Chemical oxygen demand;

(G) Organic carbon;

(H) Nutrients, (including ammonia [''NH_3''], total kjeldahl nitrogen [''TKN''], and total phosphorus [''TP'']);

(I) Common ions;

(J) Heavy metals;

(K) Organic priority pollutants; and

(L) Flow rate;

(viii) Quantity of leachate recirculated back into the landfill;

(ix) Information on the pretreatment of solid and liquid waste applied to the landfill;

(x) Landfill temperature;

(xi) Landfill moisture content;

(xii) Data on the leachate pressure (head) on the liner;

(xiii) The amount of aeration of the waste;

(xiv) Data on landfill settlement;

(xv) Any information on the performance of the landfill cover; and

(xvi) Observations, information, or studies made on the physical stability of the landfill.

(6) This section will remain in effect until August 13, 2006. By August 13, 2006, Yolo County Central Landfill shall return to compliance with the regulatory requirements which would have been in effect absent the flexibility provided through this Project XL site-specific rule. This section applies to Phase I of Module D. This section also will apply to any phase of Module D beyond Phase I only if a second Final Project Agreement that describes the additional phase has been signed by representatives of EPA Region 9, Yolo County, and the State of California. Phase I of Module D is defined as the operation of twelve acres of the twenty acre Module D.

(c) *Virginia Landfills XL Project Requirements*. Paragraph (c) of this section applies solely to two Virginia landfills operated by the Waste Management, Inc. or its successors: The Maplewood Recycling and Waste Disposal Facility, located in Amelia County, Virginia (''Maplewood Landfill''); and the King George County Landfill and Recycling Facility, located in King George County, Virginia (''King George Landfill'') collectively hereinafter, ''the VA Project XL Landfills or landfill.'' The VA Project XL Landfills are allowed to add non-hazardous bulk or non-containerized liquids including, leachate, storm water and truck wash water, hereinafter, ''liquid or liquids'', to Cell 3 of the King George Landfill (hereinafter ''Cell 3'') and Phases 1 and 2 of the Maplewood Landfill (hereinafter ''Phases 1 and 2'') under the following conditions:

(1) The operator of the landfill shall maintain the liners underlying Cell 3 and Phases 1 and 2, which were designed and constructed with an alternative liner as defined in §258.40(a)(1) in accord with their current installed design in order to maintain the integrity of the liner system and keep it and the leachate collection system in good operating order. The operator of the landfill shall ensure that the addition of any liquids does not result in an increased leakage rate, and does not result in liner slippage, or otherwise compromise the integrity of the landfill and its liner system, as determined by the State Director. In addition, the leachate collection system shall be operated, monitored and maintained to ensure that less than 30 cm depth of leachate is maintained over the liner.

(2) The operator of the landfill shall ensure that the concentration values listed in Table 1 of §258.40 are not exceeded in the uppermost aquifer at the relevant point of compliance for the

landfill, as specified by the State Director, under § 258.40(d).

(3) The operator of the landfill shall monitor and report whether surface seeps are occurring and determine whether they are attributable to operation of the liquid application system. EPA and VADEQ shall be notified in the semi-annual report of the occurrence of any seeps.

(4) The operator of the landfill shall determine on a monthly basis the leachate quality in test and control areas with and without liquid addition. The operator of the landfill shall collect monthly samples of the landfill leachate and analyze them for the following parameters: pH, Conductivity, Dissolved Oxygen, Dissolved Solids, Biochemical Oxygen Demand, Chemical Oxygen Demand, Organic Carbon, Nutrients (ammonia, total kjeldahl nitrogen, total phosphorus), Common Ions, Heavy Metals and Organic Priority Pollutants.

(5) The operator of the landfill shall determine on a semi-annual basis the total quantity of leachate collected in test and control areas; the total quantity of liquids applied in the test areas and determination of any changes in this quantity over time; the total quantity of leachate in on-site storage structures and any leachate taken for offsite disposal.

(6) Prior to the addition of any liquid to the landfill, the operator of the landfill shall perform an initial characterization of the liquid and notify EPA and VADEQ of the liquid proposed to be added. The parameters for the initial characterization of liquids shall be the same as the monthly parameters for the landfill leachate specified in paragraph (c)(4) of this section. The operator shall annually test all liquids added to the landfill and compare these results to the initial characterization.

(7) The operator of the landfill shall ensure that Cell 3 and Phases 1 and 2 are operated in such a manner so as to prevent any landfill fires from occurring. The operator of the landfill shall monitor the gas temperature at well heads, at a minimum, on a monthly basis.

(8) The operator of the landfill shall perform an annual surface topographic survey to determine the rate of the settlement of the waste in the test and control areas.

(9) The operator of the landfill shall monitor and record the frequency of odor complaints during and after liquid application events. EPA and VADEQ shall be notified of the occurrence of any odor complaints in the semi-annual report.

(10) The operator of the landfill shall collect representative samples of the landfill waste in the test areas on an annual basis and analyze the samples for the following solid waste stabilization and decomposition parameters: Moisture Content, Biochemical Methane Potential, Cellulose, Lignin, Hemicellulose, Volatile Solids and pH.

(11) The operator of the landfill shall report to the EPA Regional Administrator and the State Director on the information described in paragraphs (c)(1) through (10) of this section on a semi-annual basis. The first report is due within 6 months after the effective date of this section. These reporting provisions shall remain in effect for the duration of the project term.

(12) Additional monitoring, record keeping and reporting requirements related to landfill gas will be contained in a Federally Enforceable State Operating Permit (''FESOP'') for the VA Project XL Landfills issued pursuant to the Clean Air Act, 42 U.S.C. 7401 *et seq.* Application of this site-specific rule to the VA Project XL Landfills is conditioned upon the issuance of such a FESOP.

(13) This section applies until July 18, 2012. By July 18, 2012, the VA Project XL Landfills must return to compliance with the regulatory requirements which would have been in effect absent the flexibility provided through this section. If EPA Region 3's Regional Administrator, the Commonwealth of Virginia and Waste Management agree to an amendment of the project term, the parties must enter into an amended or new Final Project Agreement for any such amendment.

(14) The authority provided by this section may be terminated before the end of the 10 year period in the event of noncompliance with the requirements of paragraph (c) of this section, the determination by the EPA Region 3's Regional Administrator that the project

has failed to achieve the expected level of environmental performance, or the promulgation of generally applicable requirements that would apply to all landfills that meet or exceed the performance standard set forth in § 258.40(a)(1). In the event of early termination EPA in consultation with the Commonwealth of Virginia will determine an interim compliance period to provide sufficient time for the operator to return the landfills to compliance with the regulatory requirements which would have been in effect absent the authority provided by this section. The interim compliance period shall not exceed six months.

[66 FR 42449, Aug. 13, 2001, as amended at 66 FR 44069, Aug. 22, 2001; 67 FR 47319, July 18, 2002; 69 FR 18803, Apr. 9, 2004]

§ 258.42 Approval of site-specific flexibility requests in Indian country.

(a) Salt River Pima-Maricopa Indian Community (SRPMIC), Salt River Landfill Research, Development, and Demonstration Project Requirements. Paragraph (a) of this section applies to the Salt River Landfill, a municipal solid waste landfill owned and operated by the SPRMIC on the SRPMIC's reservation in Arizona, which includes waste disposal areas identified as ''Phases I–VI.'' The application submitted by SRPMIC, ''Research, Development, and Demonstration Permit Application Salt River Landfill,'' dated September 24, 2007 and amended on April 8, 2008 is hereby incorporated by reference. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may inspect or obtain a copy at the Environmental Protection Agency Region IX, 75 Hawthorne Street, San Francisco, CA, or by calling the Docket Facility at (415) 947–4406, or go to *http://www.regulations.gov*, Docket ID No. EPA–R09–RCRA–2008–0354. You may also inspect a copy at the National Archives and Records Administration (NARA). For information on the availability at NARA, call (202) 741–6030 or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*. The facility owner and/or operator may operate the facility in accordance with this application, including the following activities more generally described as follows:

(1) The owner and/or operator may install a geosynthetic clay liner as an alternative bottom liner system in Phase VI.

(2) The owner and/or operator may operate Phase VI as a bioreactor by recirculating leachate and landfill gas condensate, and by adding storm water and groundwater, to the below grade portions of Phase VI.

(3) The owner and/or operator may increase the moisture content of the waste mass in Phases IIIB and IVA by recirculating leachate and landfill gas condensate, and by adding storm water and groundwater, to the below grade portions of Phases IIIB and IVA.

(4) The owner and/or operator shall maintain less than a 30-cm depth of leachate on the liner.

(5) The owner and/or operator shall submit reports to the Director of the Land, Chemicals and Redevelopment Division at EPA Region 9 as specified in ''Research, Development, and Demonstration Permit Application Salt River Landfill,'' dated September 24, 2007 and amended on April 8, 2008, including an annual report showing whether and to what extent the site is progressing in attaining project goals. The annual report will also include a summary of all monitoring and testing results, as specified in the application.

(6) The owner and/or operator may not operate the facility pursuant to the authority granted by this section if there is any deviation from the terms, conditions, and requirements of this section unless the operation of the facility will continue to conform to the standards set forth in § 258.4 and the owner and/or operator has obtained the prior written approval of the Director of the Land, Chemicals and Redevelopment Division at EPA Region 9 or the Director's designee to implement corrective measures or otherwise operate the facility subject to such deviation. The Director of the Land, Chemicals and Redevelopment Division or designee shall provide an opportunity for the public to comment on any significant deviation prior to providing written approval of the deviation.

(7) Paragraphs (a)(2), (3), (5), (6), and (9) of this section will terminate on

March 19, 2024, unless the Director of the Land, Chemicals and Redevelopment Division at EPA Region 9 or the Director's designee renews this authority in writing. Any such renewal may extend the authority granted under paragraphs (a)(2), (3), (5), (6), and (9) of this section for up to an additional three years, and multiple renewals (up to a total of 21 years from March 19, 2009) may be provided. The Director of the Land, Chemicals and Redevelopment Division or designee shall provide an opportunity for the public to comment on any renewal request prior to providing written approval or disapproval of such request.

(8) In no event will the provisions of paragraph (a)(2), (3), (5), (6), or (9) of this section remain in effect after March 19, 2030, 21 years after the March 19, 2009 date of publication of the site-specific rule in this section. Upon termination of paragraphs (a)(2), (3), (5), (6), and (9) of this section, and except with respect to paragraphs (a)(1) and (4) of this section, the owner and/or operator shall return to compliance with the regulatory requirements which would have been in effect absent the flexibility provided through the site-specific rule in this section.

(9) In seeking any renewal of the authority granted under or other requirements of paragraphs (a)(2), (3), (5), and (6) of this section, the owner and/or operator shall provide a detailed assessment of the project showing the status with respect to achieving project goals, a list of problems and status with respect to problem resolutions, and any other requirements that the Director of the Land, Chemicals and Redevelopment Division at EPA Region 9 or the Director's designee has determined are necessary for the approval of any renewal and has communicated in writing to the owner and operator.

(10) The owner and/or operator's authority to operate the landfill in accordance with paragraphs (a)(2), (3), (5), (6), and (9) of this section shall terminate if the Director of the Land, Chemicals and Redevelopment Division at EPA Region 9 or the Director's designee determines that the overall goals of the project are not being attained, including protection of human health or the environment. Any such determination shall be communicated in writing to the owner and operator.

(b) [Reserved]

[74 FR 11680, Mar. 19, 2009, as amended at 86 FR 18188, Apr. 8, 2021]

§§ 258.43–258.49 [Reserved]

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.

(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 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 groundwater 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.

§ 258.52 [Reserved]

§ 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 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 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 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 thispart, 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 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 continue assessment monitoring in accordance with this section.

(g) If one or more appendix II constituents are detected at statistically significant levels above the groundwater 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 groundwater 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.

(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.

§ 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 redisposal of 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, 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;

(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 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

(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

(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 groundwater;

(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 groundwater.

(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 groundwater 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^{-5} 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.

(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 environmental 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 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 Approval of site-specific flexibility requests in Indian country.

(a) *Lake County Municipal Landfill final cover requirements.* Paragraph (a) of this section applies to the Lake County Landfill, a municipal solid waste landfill owned and operated by Lake County on the Confederated Salish and Kootenai Tribes' Flathead Reservation in Montana. The alternative final cover request submitted by Lake County, Montana, consisting of the ''Lake County Landfill Alternative Cover,'' dated May 2007, the ''Construction Quality Assurance & Control Plan for the Lake County Class II Landfill Unit Landfill Closure Project'' and the ''Lake County Landfill Plans for Final Closure January 2009,'' dated January 2009, is hereby incorporated by reference. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may inspect or obtain a copy at the Environmental Protection Agency, Region VIII, Montana Office, 10 West 15th St., Suite 3200, Helena, MT or by calling 406–457–5000. You may also inspect a copy at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*. The facility owner and/or operator may close the facility in accordance with this application, including the following activities more generally described as follows:

(1) The owner and operator may install an evapotranspiration system as an alternative final cover for the 15.4 acre active area.

(2) The final cover system shall consist of a 5.5-feet-thick multi-layer cover system comprised, from bottom to top, of an 18-inch intermediate and gas vent layer, a 24-inch native sand layer, an 18-inch imported silt layer and a 6-inch topsoil layer, as well as seeding and erosion control.

(3) The final cover system shall be constructed to achieve an equivalent reduction in infiltration as the infiltration layer specified in § 258.60(a)(1) and (a)(2), and provide an equivalent protection from wind and water erosion as the erosion layer specified in paragraph (a)(3) of this section.

(4) In addition to meeting the specifications of the ''Lake County Landfill Alternative Cover'' dated May 2007, and the ''Construction Quality Assurance & Control Plan for the Lake County Class II Landfill Unit Landfill Closure Project'' dated January 2009, the owner and operator shall:

(i) At 50% final design, submit to EPA for approval an Operations and Maintenance Plan that includes an inspection schedule (at least quarterly) and remediation plan to address any potential rodent damage to the final cover; and

(ii) Achieve re-vegetation rates greater than 50% by the end of the first season and a complete stand of native grasses by the end of the third season.

(5) The owner and operator shall place documentation demonstrating compliance with the provisions of this Section in the operating record.

(6) All other applicable provisions of 40 CFR part 258 remain in effect.

(b) *Picacho Municipal Solid Waste Landfill—alternative list of detection monitoring parameters and alternative final cover.* This paragraph (b) applies to the Picacho Landfill, a Municipal Solid Waste Landfill operated by Imperial County on the Quechan Indian Tribe of the Fort Yuma Indian Reservation in California.

(1) In accordance with § 258.54(a), the owner and operator may modify the list of heavy metal detection monitoring parameters specified in appendix I of this part, as required during Post-Closure Care by § 258.61(a)(3), by replacing monitoring of the inorganic constituents, with the exception of arsenic, with the inorganic indicator parameters chloride, nitrate as nitrogen, sulfate, and total dissolved solids.

(2) In accordance with § 258.60(b), the owner and operator may replace the prescriptive final cover set forth in § 258.60(a), with an alternative final cover as follows:

(i) The owner and operator may install an evapotranspiration cover system as an alternative final cover for the 12.5 acre site.

(ii) The alternative final cover system shall be constructed to achieve an equivalent reduction in infiltration as

the infiltration layer specified in §258.60(a)(1) and (2), and provide an equivalent protection from wind and water erosion as the erosion layer specified in §258.60(a)(3).

(iii) The final cover system shall consist of a minimum three-foot-thick multi-layer cover system comprised, from bottom to top, of:

(A) A minimum 30-inch thick infiltration layer consisting of:

(*1*) Existing intermediate cover; and

(*2*) Additional cover soil which, prior to placement, shall be wetted to optimal moisture and thoroughly mixed to near uniform condition, and the material shall then be placed in lifts with an uncompacted thickness of six to eight inches, spread evenly and compacted to 90 percent of the maximum dry density, and shall:

(*i*) Exhibit a grain size distribution that excludes particles in excess of three inches in diameter;

(*ii*) Have a minimum fines content (percent by weight passing U.S. No. 200 Sieve) of seven percent for an individual test and eight percent for the average of ten consecutive tests;

(*iii*) Have a grain size distribution with a minimum of five percent smaller than five microns for an individual test and six percent for the average of ten consecutive tests; and

(*iv*) Exhibit a maximum saturated hydraulic conductivity on the order of 1.0E–03 cm/sec.; and

(*3*) A minimum six-inch surface erosion layer comprised of a rock/soil admixture. The surface erosion layer admixture and gradations for 3% slopes and 3:1 slopes are detailed below:

(*i*) 3% slopes: For the 3% slopes the surface admixture shall be composed of pea gravel (⅜-inch to ½-inch diameter) mixed with cover soil at the ratio of 25% rock to soil by volume with a minimum six-inch erosion layer.

(*ii*) For the 3:1 side slopes the surface admixture shall be composed of either: gravel/rock (¾-inch to one-inch diameter) mixed with additional cover soil as described in paragraph (b)(2)(iii)(A)(*2*) of this section at the ratio of 50% rock to soil by volume and result in a minimum six-inch erosion layer, or gravel/rock (¾-inch to two-inch diameter) mixed with additional cover soil as described in paragraph (b)(2)(iii)(A)(*2*) of this section at the ratio of 50% rock to soil by volume and result in a minimum 12-inch erosion layer.

(*iii*) The owner and operator shall place documentation demonstrating compliance with the provisions of this section in the operating record.

(*iv*) All other applicable provisions of this part remain in effect.

(B) [Reserved]

(c) City of Wolf Point Municipal Landfill final cover requirements. Paragraph (c) of this section applies to the City of Wolf Point Landfill Phase 2, a municipal solid waste landfill owned and operated by the City of Wolf Point on the Assiniboine and Sioux Tribes' Fort Peck Reservation in Montana. The facility owner and/or operator may close the facility in accordance with this application, including the following activities more generally described as follows:

(1) The owner and operator may install an evapotranspiration system as an alternative final cover for the 3.5-acre Phase 2 area.

(2) The final cover system shall consist of a 4-foot-thick multi-layer cover system comprised of the following from bottom to top: A 12-inch intermediate layer, a 24-inch native silty-clay till layer, and a 12-inch native topsoil layer, as well as seeding and erosion control.

(3) The final cover system shall be constructed to achieve an equivalent reduction in infiltration as the infiltration layer specified in §258.60(a)(1) and (a)(2), and provide an equivalent protection from wind and water erosion as the erosion layer specified in paragraph (a)(3) of this section.

(4) In addition to meeting the specifications of ''The City of Wolf Point Landfill License #3—Phase 2 Alternative Final Cover Demonstration (Revised)'' application of February 9, 2016, the owner and operator shall:

(i) At finalization, submit to the EPA for approval final cover plans and specifications, including the final Construction Quality Assurance/Quality Control Plan and final Closure/Post-Closure Plan; and

(ii) Achieve re-vegetation rates greater than 75% by the end of the third year after revegetation.

(5) The owner and operator shall place documentation demonstrating compliance with the provisions of this section in the operating record.

(6) All other applicable provisions of 40 CFR part 258 remain in effect.

(d) *Cocopah Municipal Solid Waste Landfill—Alternative final cover and alternative location for the storage of facility records.* This paragraph (d) applies to the Cocopah Landfill, a Municipal Solid Waste landfill operated by Republic on the Cocopah Indian Reservation near Somerton, Arizona.

(1) In accordance with § 258.60(b), the owner or operator may replace the prescriptive final cover set forth in § 258.60(a), with an alternative final cover as follows:

(i) The owner or operator may install an evapotranspiration cover system as an alternative final cover for the 135-acre site.

(ii) The alternative final cover system shall be constructed to achieve an equivalent reduction in infiltration as the infiltration layer specified in § 258.60(a)(1) and (2) and provide an equivalent protection from wind and water erosion as the erosion layer specified in § 258.60(a)(3). Top-deck cover slopes shall have a minimum slope of 2%. All side slopes in the South Fill Area shall be regraded to a maximum 3 horizontal to 1 vertical (3H:1V). The existing side slope of 2.5H:1V in the North Fill Area will remain; however, drainage benches shall be installed on portions of the slope where the vertical height exceeds 50 feet.

(iii) The final cover system shall consist of a minimum three-feet-thick multi-layer cover system comprised, from bottom to top, of:

(A) A minimum 30-inch thick infiltration layer consisting of:

(*1*) Existing intermediate cover; and

(*2*) Additional cover soil from on-site sources, which, prior to placement, shall be wetted to optimal moisture and thoroughly mixed to near uniform condition, and the material shall then be placed in lifts with an uncompacted thickness of six to eight inches, spread evenly and compacted to 90 percent of the maximum dry density, and shall:

(*i*) Exhibit a grain size distribution that excludes particles in excess of three inches in diameter;

(*ii*) Have a minimum fines content (percent by weight passing U.S. No. 200 Sieve) of 12 percent for the average of ten consecutive tests; and

(*iii*) Have a grain size distribution with a minimum of six percent finer than five microns for the average of ten consecutive tests; and

(B) A surface erosion layer comprised of a rock/soil admixture for top deck slopes and rock armoring for side slopes. The surface erosion layer requirements for top-deck slopes and side slopes are detailed below:

(*1*) Top deck slope surface erosion layer requirements: The top deck slope surface erosion layer shall be a minimum six-inch surface erosion layer comprised of a rock/soil admixture. The top deck surface erosion layer shall achieve the following gradation specification:

(*i*) Exclude particles in excess of three inches in diameter;

(*ii*) 40% to 75% passing No. 4 sieve

(*iii*) 10% to 50% passing No. 40 sieve

(*iv*) Less than or equal to 15% passing No. 200 sieve

(*2*) Side slope surface erosion layer: The side slope surfaces erosion layer shall consist of a 4-inch thick rock armor underlain by an 8 ounce per square yard (oz/sy) non-woven geotextile filter fabric. The side slope surface erosion rock armor layer shall achieve the following gradation specification:

(*i*) Exclude particles in excess of three inches in diameter;

(*ii*) 10% to 40% passing No. 4 sieve

(*iii*) 0% to 10% passing No. 40 sieve

(2) In accordance with 40 CFR 258.29(a), the owner operator may retain all required documentation relating to the operating record of the Cocopah Landfill at the administrative offices of Copper Mountain Landfill. The address of Copper Mountain Landfill is 34853 East County 12th Street, Wellton, Arizona 85356.

(3) The owner or operator shall place documentation demonstrating compliance with the provisions of this Section in the operating record.

(4) All other applicable provisions of 40 CFR part 258 remain in effect.

[75 FR 50932, Aug. 18, 2010, as amended at 81 FR 69409, Oct. 6, 2016; 82 FR 25535, June 2, 2017; 85 FR 53178, Aug. 28, 2020]

§§ 258.63–258.69 [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 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 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 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-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 unsubordinated 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

(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:

(*1*) 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

(*2*) 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.

(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 recordkeeping 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 (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:

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

(*2*) 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 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 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.

(1) *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

(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 that 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.

[56 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

(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 MONITORING

Common name [1]	CAS RN [2]
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	74–97–5
(20) Bromodichloromethane	75–27–4
(21) Bromoform; Tribromomethane	75–25–2
(22) Carbon disulfide	75–15–0
(23) Carbon tetrachloride	56–23–5
(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-Dichlorethane; Ethylidene chloride	75–34–3
(34) 1,2-Dichlorethane; Ethylene dichloride	107–06–2
(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	156–60–5
(38) 1,2-Dichloropropane; Propylene dichloride	78–87–5
(39) cis-1,3-Dichloropropene	10061–01–5
(40) trans-1,3-Dichloropropene	10061–02–6
(41) Ethylbenzene	100–41–4
(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	74–95–3
(46) Methylene chloride; Dichloromethane	75–09–2
(47) Methyl ethyl ketone; MEK; 2-Butanone	78–93–3
(48) Methyl iodide; Idomethane	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	79–34–5
(53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127–18–4
(54) Toluene	108–88–3
(55) 1,1,1-Trichloroethane; Methylchloroform	71–55–6
(56) 1,1,2-Trichloroethane	79–00–5
(57) Trichloroethylene; Trichloroethene	79–01–6

Common name [1]	CAS RN [2]
(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] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.
[2] Chemical Abstract Service registry number. Where ''Total'' is entered, all species in the ground water that contain this element are included.

[70 FR 34555, June 14, 2005; 70 FR 44150, Aug. 1, 2005]

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

Common name [1]	CAS RN [2]	Chemical abstracts service index name [3]
Acenaphthene	83–32–9	Acenaphthylene, 1,2-dihydro-
Acenaphthylene	208–96–8	Acenaphthylene
Acetone	67–64–1	2-Propanone
Acetonitrile; Methyl cyanide	75–05–8	Acetonitrile
Acetophenone	98–86–2	Ethanone, 1-phenyl-
2-Acetylaminofluorene; 2-AAF	53–96–3	Acetamide, N–9H-fluoren-2-yl-
Acrolein	107–02–8	2-Propenal
Acrylonitrile	107–13–1	2-Propenenitrile
Aldrin	309–00–2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1,4,4a,5,8,8a)-
Allyl chloride	107–05–1	1-Propene, 3-chloro-
4-Aminobiphenyl	92–67–1	[1,1′-Biphenyl]-4-amine
Anthracene	120–12–7	Anthracene
Antimony	(Total)	Antimony
Arsenic	(Total)	Arsenic
Barium	(Total)	Barium
Benzene	71–43–2	Benzene
Benzo[a]anthracene; Benzanthracene	56–55–3	Benz[a]anthracene
Benzo[b]fluoranthene	205–99–2	Benz[e]acephenanthrylene
Benzo[k]fluoranthene	207–08–9	Benzo[k]fluoranthene
Benzo[ghi]perylene	191–24–2	Benzo[ghi]perylene
Benzo[a]pyrene	50–32–8	Benzo[a]pyrene
Benzyl alcohol	100–51–6	Benzenemethanol
Beryllium	(Total)	Beryllium
alpha-BHC	319–84–6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3β,4α,5β,6β)-
beta-BHC	319–85–7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2β,3α,4β,5α,6β)-
delta-BHC	319–86–8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3α,4β,5α,6β)-
gamma-BHC; Lindane	58–89–9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α, 3β, 4α,5α,6β)-
Bis(2-chloroethoxy)methane	111–91–1	Ethane, 1,1′-[methylenebis (oxy)]bis [2-chloro-
Bis(2-chloroethyl)ether; Dichloroethyl ether	111–44–4	Ethane, 1,1′-oxybis[2-chloro-
Bis(2-chloro-1-methylethyl) ether; 2,2′-Dichlorodiisopropyl ether; DCIP, See footnote 4.	108–60–1	Propane, 2,2′-oxybis[1-chloro-
Bis(2-ethylhexyl) phthalate	117–81–7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester
Bromochloromethane; Chlorobromethane	74–97–5	Methane, bromochloro-
Bromodichloromethane; Dibromochloromethane	75–27–4	Methane, bromodichloro-
Bromoform; Tribromomethane	75–25–2	Methane, tribromo-
4-Bromophenyl phenyl ether	101–55–3	Benzene, 1-bromo-4-phenoxy-
Butyl benzyl phthalate; Benzyl butyl phthalate	85–68–7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester
Cadmium	(Total)	Cadmium
Carbon disulfide	75–15–0	Carbon disulfide
Carbon tetrachloride	56–23–5	Methane, tetrachloro-
Chlordane	See footnote 5.	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
p-Chloroaniline	106–47–8	Benzenamine, 4-chloro-
Chlorobenzene	108–90–7	Benzene, chloro-
Chlorobenzilate	510–15–6	Benzeneacetic acid, 4-chloro- -(4-chlorophenyl)- -hydroxy-, ethyl ester.
p-Chloro-m-cresol; 4-Chloro-3-methylphenol	59–50–7	Phenol, 4-chloro-3-methyl-
Chloroethane; Ethyl chloride	75–00–3	Ethane, chloro-
Chloroform; Trichloromethane	67–66–3	Methane, trichloro-

Common name [1]	CAS RN [2]	Chemical abstracts service index name [3]
2-Chloronaphthalene	91–58–7	Naphthalene, 2-chloro-
2-Chlorophenol	95–57–8	Phenol, 2-chloro-
4-Chlorophenyl phenyl ether	7005–72–3	Benzene, 1-chloro-4-phenoxy-
Chloroprene	126–99–8	1,3-Butadiene, 2-chloro-
Chromium	(Total)	Chromium
Chrysene	218–01–9	Chrysene
Cobalt	(Total)	Cobalt
Copper	(Total)	Copper
m-Cresol; 3-Methylphenol	108–39–4	Phenol, 3-methyl-
o-Cresol; 2-Methylphenol	95–48–7	Phenol, 2-methyl-
p-Cresol; 4-Methylphenol	106–44–5	Phenol, 4-methyl-
Cyanide	57–12–5	Cyanide
2,4-D; 2,4-Dichlorophenoxyacetic acid	94–75–7	Acetic acid, (2,4-dichlorophenoxy)-
4,4′-DDD	72–54–8	Benzene 1,1′-(2,2-dichloroethylidene) bis[4-chloro-
4,4′-DDE	72–55–9	Benzene, 1,1′-(dichloroethenylidene) bis[4-chloro-
4,4′-DDT	50–29–3	Benzene, 1,1′-(2,2,2-trichloroethylidene) bis[4-chloro-
Diallate	2303–16–4	Carbamothioic acid, bis(1-methylethyl)-, S- (2,3-dichloro-2-propenyl) ester.
Dibenz[a,h]anthracene	53–70–3	Dibenz[a,h]anthracene
Dibenzofuran	132–64–9	Dibenzofuran
Dibromochloromethane; Chlorodibromomethane	124–48–1	Methane, dibromochloro-
1,2-Dibromo-3-chloropropane; DBCP	96–12–8	Propane, 1,2-dibromo-3-chloro-
1,2-Dibromoethane; Ethylene dibromide; EDB	106–93–4	Ethane, 1,2-dibromo-
Di-n-butyl phthalate	84–74–2	1,2-Benzenedicarboxylic acid, dibutyl ester
o-Dichlorobenzene; 1,2-Dichlorobenzene	95–50–1	Benzene, 1,2-dichloro-
m-Dichlorobenzene; 1,3-Dichlorobenzene	541–73–1	Benzene, 1,3-dichloro-
p-Dichlorobenzene; 1,4-Dichlorobenzene	106–46–7	Benzene, 1,4-dichloro-
3,3′-Dichlorobenzidine	91–94–1	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dichloro-
trans-1,4-Dichloro-2-butene	110–57–6	2-Butene, 1,4-dichloro-, (E)-
Dichlorodifluoromethane; CFC 12	75–71–8	Methane, dichlorodifluoro-
1,1-Dichloroethane; Ethyldidene chloride	75–34–3	Ethane, 1,1-dichloro-
1,2-Dichloroethane; Ethylene dichloride	107–06–2	Ethane, 1,2-dichloro-
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	75–35–4	Ethene, 1,1-dichloro-
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene.	156–59–2	Ethene, 1,2-dichloro-(Z)-
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	156–60–5	Ethene, 1,2-dichloro-, (E)-
2,4-Dichlorophenol	120–83–2	Phenol, 2,4-dichloro-
2,6-Dichlorophenol	87–65–0	Phenol, 2,6-dichloro-
1,2-Dichloropropane	78–87–5	Propane, 1,2-dichloro-
1,3-Dichloropropane; Trimethylene dichloride	142–28–9	Propane, 1,3-dichloro-
2,2-Dichloropropane; Isopropylidene chloride	594–20–7	Propane, 2,2-dichloro-
1,1-Dichloropropene	563–58–6	1-Propene, 1,1-dichloro-
cis-1,3-Dichloropropene	10061–01–5.	1-Propene, 1,3-dichloro-, (Z)-
trans-1,3-Dichloropropene	10061–02–6.	1-Propene, 1,3-dichloro-, (E)-
Dieldrin	60–57–1	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,2aα,3β,6β,6aα,7β,7aα)-
Diethyl phthalate	84–66–2	1,2-Benzenedicarboxylic acid, diethyl ester
O,O-Diethyl O–2-pyrazinyl phosphorothioate; Thionazin	297–97–2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester.
Dimethoate	60–51–5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
p-(Dimethylamino)azobenzene	60–11–7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
7,12-Dimethylbenz[a]anthracene	57–97–6	Benz[a]anthracene, 7,12-dimethyl-
3,3′-Dimethylbenzidine	119–93–7	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethyl-
alpha, alpha-Dimethylphenethylamine	122–09–8	Benzeneethanamine, α,α-dimethyl-
2,4-Dimethylphenol; m-Xylenol	105–67–9	Phenol, 2,4-dimethyl-
Dimethyl phthalate	131–11–3	1,2-Benzenedicarboxylic acid, dimethyl ester
m-Dinitrobenzene	99–65–0	Benzene, 1,3-dinitro-
4,6-Dinitro-o-cresol; 4,6-Dinitro-2-methylphenol	534–52–1	Phenol, 2-methyl-4,6-dinitro-
2,4-Dinitrophenol	51–28–5	Phenol, 2,4-dinitro-
2,4-Dinitrotoluene	121–14–2	Benzene, 1-methyl-2,4-dinitro-
2,6-Dinitrotoluene	606–20–2	Benzene, 2-methyl-1,3-dinitro-
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol	88–85–7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
Di-n-octyl phthalate	117–84–0	1,2-Benzenedicarboxylic acid, dioctyl ester
Diphenylamine	122–39–4	Benzenamine, N-phenyl-
Disulfoton	298–04–4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
Endosulfan I	959–98–8	6,9-Methano-2,4,3-benzodiox-athiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide,
Endosulfan II	33213–65–9.	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aα,6β,9β, 9aα)-

Common name [1]	CAS RN [2]	Chemical abstracts service index name [3]
Endosulfan sulfate	1031–07–8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide
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)-
Endrin aldehyde	7421–93–4	1,2,4-Methenocyclo-penta[cd]pentalene-5-carboxaldehyde,2,2a,3,3,4,7-hexachlorodecahydro-(1α,2β,2aβ,4β,4aβ,5β,6aβ,6bβ,7R*)-
Ethylbenzene	100–41–4	Benzene, ethyl-
Ethyl methacrylate	97–63–2	2-Propenoic acid, 2-methyl-, ethyl ester
Ethyl methanesulfonate	62–50–0	Methanesulfonic acid, ethyl ester
Famphur	52–85–7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester
Fluoranthene	206–44–0	Fluoranthene
Fluorene	86–73–7	9H-Fluorene
Heptachlor	76–44–8	4,7-Methano-1H-indene,1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
Heptachlor epoxide	1024–57–3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-,(1aα,1bβ,2α,5α,5aβ,6β,6aα)
Hexachlorobenzene	118–74–1	Benzene, hexachloro-
Hexachlorobutadiene	87–68–3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
Hexachlorocyclopentadiene	77–47–4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
Hexachloroethane	67–72–1	Ethane, hexachloro-
Hexachloropropene	1888–71–7	1-Propene, 1,1,2,3,3,3-hexachloro-
2-Hexanone; Methyl butyl ketone	591–78–6	2-Hexanone
Indeno(1,2,3-cd)pyrene	193–39–5	Indeno[1,2,3-cd]pyrene
Isobutyl alcohol	78–83–1	1-Propanol, 2-methyl-
Isodrin	465–73–6	1,4,5,8-Dimethanonaphthalene,1,2,3,4,1 0,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1α, 4α, 4aβ,5β,8β,8aβ)-
Isophorone	78–59–1	2-Cyclohexen-1-one, 3,5,5-trimethyl-
Isosafrole	120–58–1	1,3-Benzodioxole, 5-(1-propenyl)-
Kepone	143–50–0	1,3,4-Metheno-2H-cyclobuta-[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
Lead	(Total)	Lead
Mercury	(Total)	Mercury
Methacrylonitrile	126–98–7	2-Propenenitrile, 2-methyl-
Methapyrilene	91–80–5	1,2,Ethanediamine, N,N-dimethyl-N′-2-pyridinyl-N′-(2-thienylmethyl)-
Methoxychlor	72–43–5	Benzene, 1,1′-(2,2,2,trichloroethylidene)bis [4-methoxy-
Methyl bromide; Bromomethane	74–83–9	Methane, bromo-
Methyl chloride; Chloromethane	74–87–3	Methane, chloro-
3-Methylcholanthrene	56–49–5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
Methyl ethyl ketone; MEK; 2-Butanone	78–93–3	2-Butanone
Methyl iodide; Iodomethane	74–88–4	Methane, iodo-
Methyl methacrylate	80–62–6	2-Propenoic acid, 2-methyl-, methyl ester
Methyl methanesulfonate	66–27–3	Methanesulfonic acid, methyl ester
2-Methylnaphthalene	91–57–6	Naphthalene, 2-methyl-
Methyl parathion; Parathion methyl	298–00–0	Phosphorothioic acid, O,O-dimethyl
4-Methyl-2-pentanone; Methyl isobutyl ketone	108–10–1	2-Pentanone, 4-methyl-
Methylene bromide; Dibromomethane	74–95–3	Methane, dibromo-
Methylene chloride; Dichloromethane	75–09–2	Methane, dichloro-
Naphthalene	91–20–3	Naphthalene
1,4-Naphthoquinone	130–15–4	1,4-Naphthalenedione
1-Naphthylamine	134–32–7	1-Naphthalenamine
2-Naphthylamine	91–59–8	2-Naphthalenamine
Nickel	(Total)	Nickel
o-Nitroaniline; 2-Nitroaniline	88–74–4	Benzenamine, 2-nitro-
m-Nitroaniline; 3-Nitroaniline	99–09–2	Benzenamine, 3-nitro-
p-Nitroaniline; 4-Nitroaniline	100–01–6	Benzenamine, 4-nitro-
Nitrobenzene	98–95–3	Benzene, nitro-
o-Nitrophenol; 2-Nitrophenol	88–75–5	Phenol, 2-nitro-
p-Nitrophenol; 4-Nitrophenol	100–02–7	Phenol, 4-nitro-
N-Nitrosodi-n-butylamine	924–16–3	1-Butanamine, N-butyl-N-nitroso-
N-Nitrosodiethylamine	55–18–5	Ethanamine, N-ethyl-N-nitroso-
N-Nitrosodimethylamine	62–75–9	Methanamine, N-methyl-N-nitroso-
N-Nitrosodiphenylamine	86–30–6	Benzenamine, N-nitroso-N-phenyl-
N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine.	621–64–7	1-Propanamine, N-nitroso-N-propyl-
N-Nitrosomethylethalamine	10595–95–6.	Ethanamine, N-methyl-N-nitroso-
N-Nitrosopiperidine	100–75–4	Piperidine, 1-nitroso-

Common name [1]	CAS RN [2]	Chemical abstracts service index name [3]
N-Nitrosopyrrolidine	930–55–2	Pyrrolidine, 1-nitroso-
5-Nitro-o-toluidine	99–55–8	Benzenamine, 2-methyl-5-nitro-
Parathion	56–38–2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester
Pentachlorobenzene	608–93–5	Benzene, pentachloro-
Pentachloronitrobenzene	82–68–8	Benzene, pentachloronitro-
Pentachlorophenol	87–86–5	Phenol, pentachloro-
Phenacetin	62–44–2	Acetamide, N-(4-ethoxyphenyl)
Phenanthrene	85–01–8	Phenanthrene
Phenol	108–95–2	Phenol
p-Phenylenediamine	106–50–3	1,4-Benzenediamine
Phorate	298–02–2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
Polychlorinated biphenyls; PCBs	See footnote 6.	1,1′-Biphenyl, chloro derivatives
Pronamide	23950–58–5.	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
Propionitrile; Ethyl cyanide	107–12–0	Propanenitrile
Pyrene	129–00–0	Pyrene
Safrole	94–59–7	1,3-Benzodioxole, 5-(2- propenyl)-
Selenium	(Total)	Selenium
Silver	(Total)	Silver
Silvex; 2,4,5-TP	93–72–1	Propanoic acid, 2-(2,4,5- trichlorophenoxy)-
Styrene	100–42–5	Benzene, ethenyl-
Sulfide	18496–25–8.	Sulfide
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid	93–76–5	Acetic acid, (2,4,5- trichlorophenoxy)-
2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo- p-dioxin	1746–01–6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-
1,2,4,5-Tetrachlorobenzene	95–94–3	Benzene, 1,2,4,5-tetrachloro-
1,1,1,2-Tetrachloroethane	630–20–6	Ethane, 1,1,1,2-tetrachloro-
1,1,2,2-Tetrachloroethane	79–34–5	Ethane, 1,1,2,2-tetrachloro-
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene.	127–18–4	Ethene, tetrachloro-
2,3,4,6-Tetrachlorophenol	58–90–2	Phenol, 2,3,4,6-tetrachloro-
Thallium	(Total)	Thallium
Tin	(Total)	Tin
Toluene	108–88–3	Benzene, methyl-
o-Toluidine	95–53–4	Benzenamine, 2-methyl-
Toxaphene	See footnote 7.	Toxaphene
1,2,4-Trichlorobenzene	120–82–1	Benzene, 1,2,4-trichloro-
1,1,1-Trichloroethane; Methylchloroform	71–55–6	Ethane, 1,1,1-trichloro-
1,1,2-Trichloroethane	79–00–5	Ethane, 1,1,2-trichloro-
Trichloroethylene; Trichloroethene	79–01–6	Ethene, trichloro-
Trichlorofluoromethane; CFC–11	75–69–4	Methane, trichlorofluoro-
2,4,5-Trichlorophenol	95–95–4	Phenol, 2,4,5-trichloro-
2,4,6-Trichlorophenol	88–06–2	Phenol, 2,4,6-trichloro-
1,2,3-Trichloropropane	96–18–4	Propane, 1,2,3-trichloro-
O,O,O-Triethyl phosphorothioate	126–68–1	Phosphorothioic acid, O,O,O-triethyl ester
sym-Trinitrobenzene	99–35–4	Benzene, 1,3,5-trinitro-
Vanadium	(Total)	Vanadium
Vinyl acetate	108–05–4	Acetic acid, ethenyl ester
Vinyl chloride; Chloroethene	75–01–4	Ethene, chloro-
Xylene (total)	See footnote 8.	Benzene, dimethyl-
Zinc	(Total)	Zinc

[1] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[2] Chemical Abstracts Service registry number. Where ''Total'' is entered, all species in the ground water that contain this element are included.

[3] CAS index names are those used in the 9th Cumulative Index.

[4] 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 39638–32–9).

[5] 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).

[6] Polychlorinated biphenyls (CAS RN 1336–36–3); 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 11141–16–5), Aroclor-1242 (CAS RN 53469–21–9), Aroclor-1248 (CAS RN 12672–29–6), Aroclor-1254 (CAS RN 11097–69–1), and Aroclor-1260 (CAS RN 11096–82–5).

[7] Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001–35–2), i.e., chlorinated camphene.

[8] Xylene (total): This entry includes o-xylene (CAS RN 96–47–6), m-xylene (CAS RN 108–38–3), p-xylene (CAS RN 106–42–3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330–20–7).

[70 FR 34556, June 14, 2005; 70 FR 44150, Aug. 1, 2005]

PART 259 [RESERVED]