TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AGENDA ITEM REQUEST

for Proposed Rulemaking

AGENDA REQUESTED: July 25, 2018

DATE OF REQUEST: July 6, 2018

INDIVIDUAL TO CONTACT REGARDING CHANGES TO THIS REQUEST, IF NEEDED: Kris Hogan, (512) 239-6812

CAPTION: Docket No. 2018-0165-RUL. Consideration for publication of, and hearing on, proposed new 30 TAC Chapter 352, Coal Combustion Residuals Waste Management.

The proposed rulemaking would create Chapter 352 to implement a new coal combustion residuals (CCR) management program for owners and operators of landfills and surface impoundments used to manage or dispose of CCR generated from the combustion of coal by electric utilities and independent power producers. Proposed new Chapter 352 would establish a registration requirement as well as compliance monitoring for regulated facilities. (Jarita Sepulvado, Shannon Love) (Rule Project No. 2017-037-352-WS)

Brent Wade
Deputy Director

Earl Lott
Division Director

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Agenda Coordinator

Copy to CCC Secretary? NO YES X

Texas Commission on Environmental Quality
Interoffice Memorandum

To: Commissioners **Date:** July 6, 2018

Thru: Bridget C. Bohac, Chief Clerk
Stephanie Bergeron Perdue, Interim Executive Director

From: Brent Wade, Deputy Director
Office of Waste

Docket No.: 2018-0165-RUL

Subject: Commission Approval for Proposed Rulemaking
Chapter 352, Coal Combustion Residuals Waste Management
SB (Rider 31) and Registration Program for Coal Combustion Residuals (CCR) Implementation
Rule Project No. 2017-037-352-WS

Background and reason(s) for the rulemaking:
The United States Environmental Protection Agency (EPA) promulgated standards to regulate coal combustion residuals (CCR) under the Resource Conservation Recovery Act (RCRA), Subtitle D at 40 Code of Federal Regulations (CFR) Part 257, which became effective October 19, 2015. 40 CFR Part 257 is self-implementing, therefore no rulemaking by the executive director is required, and CCR units must comply with federal standards by October 19, 2018. In December 2016, the Water Infrastructure for Improvements to the Nation Act (WIIN Act) took effect amending the federal Solid Waste Disposal Act. The WIIN Act provides states an opportunity to seek EPA approval of a state CCR permitting program, or "other system of prior approval" to operate in lieu of federal regulation of CCR facilities.

The Texas General Appropriations Act (Act) was passed on June 12, 2017. The Act contained a rider to fund four new full-time employees for the TCEQ to initiate and manage a CCR program (See Senate Bill 1-Conference Committee Report, Rider 31, 2018-2019 State Budget (May 2017)).

Scope of the rulemaking:
The proposed rulemaking would create a new chapter, 30 Texas Administrative Code Chapter 352, to adopt the requirements of 40 CFR Part 257, Subpart D, and implement procedural requirements meeting federal and state standards for a registration and a compliance monitoring program to authorize CCR units subject to the new federal requirements.

A.) Summary of what the rulemaking will do:
New Chapter 352 is proposed to implement a new CCR management program for owners and operators of landfills and surface impoundments used to dispose of or manage CCR generated from the combustion of coal by electric utilities and independent power producers. Proposed new Chapter 352 would establish registration requirements as well as compliance monitoring for regulated facilities.

B.) Scope required by federal regulations or state statutes:
The state of Texas is not required by either federal regulations or state statutes to implement a CCR program or to adopt federal standards for CCR units. If the commission adopts the proposed new rules, the executive director would submit a program

authorization application to the EPA. If the EPA approves the adopted rules and program, the commission's CCR management program would operate in lieu of federal CCR rules in Texas.

C.) Additional staff recommendations that are not required by federal rule or state statute:
None.

Statutory authority:
The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

Effect on the:

A.) Regulated community:
Owners and operators of landfills and surface impoundments used to dispose of or manage CCR generated from the combustion of coal at electric utilities and independent power producers are required to comply with 40 CFR Part 257 and provide groundwater monitoring data on public websites by March 2018. If proposed new Chapter 352 were adopted, then the executive director would develop an application for a new CCR registration and a compliance monitoring function. The process to issue a new CCR registration will include notice to the public, opportunity to submit public comment, opportunity for a public meeting, and technical review of the application.

B.) Public:
There would be no direct impact to the public anticipated with this rulemaking. The proposed rules would allow members of the public to provide comments for the executive director's consideration. Proposed new Chapter 352 would not provide for a new opportunity for a contested case hearing. Therefore, this rulemaking would not create a new group of affected persons.

C.) Agency programs:
Office of Waste:

- Waste Permits Division – Rule writing, program development, application and report reviews, potential for public meetings and hearings, corrective action and potential involvement in referral to enforcement, document processing

Office of Legal Services:

- Environmental Law Division – Rule writing, program development, meetings with regulated entities' legal representatives, rule interpretation
- Litigation Division – potential disputes, hearings and referral to enforcement

Office of Compliance and Enforcement – Compliance requests, compliance inspections, response to complaints, program referrals to enforcement; enforcement proceedings

Office of Administrative Services/Financial Administration Division – Potential financial assurance requirement

Office of the Chief Clerk – public notice processing and potential for public meetings and hearings

Stakeholder meetings:
The commission did not hold any stakeholder meetings related to this rulemaking; however, a rule public hearing will be held during the comment period in Austin.

Potential controversial concerns and legislative interest:
Environmental groups have publicly committed to participating in CCR program implementation around the nation. The United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) remanded portions of the rule back to the EPA for reconsideration on June 14, 2016. EPA filed a brief with the United States Court of Appeals for the D.C. Circuit stating that the April 2015 final rule will be amended in two phases. On March 15, 2018, EPA proposed Phase One of the rule revision. The EPA proposed revisions associated with the judicial remand that would: (1) clarify the type and magnitude of non-groundwater releases that would require a facility to comply with some or all of the corrective action procedures in 40 CFR Part 257; (2) add boron to the list of constituents in Appendix IV of 40 CFR Part 257 that trigger corrective action and potentially the requirement to retrofit or close the CCR unit; (3) determine the requirement for proper height of woody and grassy vegetation for slope protection; and (4) modify the alternative closure provisions. The proposed revisions in Phase One also included allowing alternative performance standards for owners and operators in states with approved CCR programs, and allowing the use of CCR for closure of a unit. Those alternative performance standards would allow a state with an approved CCR program to: (1) use alternative risk-based groundwater protection standards for constituents where no maximum contaminant level exists; (2) modify the corrective action remedy in certain cases; (3) suspend groundwater monitoring requirements if a no migration demonstration can be made; (4) establish an alternate period of time to demonstrate compliance with the corrective action remedy; (5) modify the post-closure care period; and (6) allow directors of states to issue technical certifications in lieu of the current requirement to have professional engineers issue certifications.

In addition, environmental groups brought the first compliance challenges against facilities under 40 CFR Part 257, and final decisions for interpreting and applying the coal ash rule are pending.

Will this rulemaking affect any current policies or require development of new policies?
No.

What are the consequences if this rulemaking does not go forward? Are there alternatives to rulemaking?
40 CFR Part 257 is self-implementing for regulated facilities and may be enforced through citizen suit authority found in RCRA at 42 United States Code, §6972. If the commission does not adopt to establish a CCR management program then the EPA, subject to appropriations, must implement a CCR permitting program for the state under the WIIN Act.

Key points in the proposal rulemaking schedule:
Anticipated proposal date: July 25, 2018
Anticipated *Texas Register* publication date: August 10, 2018
Anticipated public hearing date (if any): September 6, 2018
Anticipated public comment period: August 10, 2018 - September 10, 2018
Anticipated adoption date: January 16, 2019

Agency contacts:
Jarita Sepulvado, Rule Project Manager, Waste Permits Division, (512) 239-4413
Shannon Love, Staff Attorney, (512) 239-0635
Kris Hogan, Texas Register Rule/Agenda Coordinator, (512) 239-6812

Attachments:
SB 1, Rider 31
40 CFR Part 257
Memorandum of Understanding Between the Texas Board of Professional Engineers and The Texas Board of Professional Geoscientists

cc: Chief Clerk, 2 copies
Executive Director's Office
Grace Barr
Dennise Braeutigam
Jim Rizk
Office of General Counsel
Jarita Sepulvado
Kris Hogan

(b) Assess the technical feasibility and economic reasonableness of the implementation of the Barnett Shale permit by rule in geographic areas outside of the Barnett Shale Region, including an assessment of the economic impacts on the oil and gas industry and the Texas economy; and
(c) Assess any other factors the TCEQ deems relevant.

Nothing in this rider shall be construed to limit the TCEQ's authority to develop a permit by rule or other authorization for planned maintenance, startup, and shutdown emissions from oil and gas sources located outside the Barnett Shale Region.

29. Expedited Processing of Permit Applications. Included in amounts appropriated above out of the Clean Air Account No. 151 in Strategy A.2.1, Air Quality Permitting, is $1,000,000 for the biennium for contract labor, overtime and compensatory pay, or other costs incurred to support the expedited processing of permit applications. The Commission on Environmental Quality (TCEQ) is authorized to compensate employees who perform expedited air permits twice the hourly rate for time worked in excess of their regularly scheduled work hours. For the purposes of the expedited permit process, the TCEQ is exempt from provisions of Article IX relating to the inclusion of temporary or contract workers in the calculation of the number of Full-Time Equivalent (FTE) positions.

In addition to the amounts appropriated above out of the Clean Air Account No. 151 in Strategy A.2.1, Air Quality Permitting, the TCEQ is appropriated an amount not to exceed $250,000 for the biennium from fee revenues collected and deposited to the account from expedited permit review surcharges assessed in accordance with Health and Safety Code, §382.05155 (estimated to be $0) in excess of the Comptroller's Biennial Revenue Estimate. These funds are provided for costs incurred to support the expedited permitting process.

Any unexpended balances remaining in these appropriations on August 31, 2018 in this appropriation are appropriated for the same purposes for the fiscal year beginning on September 1, 2018.

30. Authorization: Transfer of Fund Balance. Contingent on enactment of Senate Bill 1105, or similar legislation, relating to the transfer of existing balances and revenues from the General Revenue-Dedicated Used Oil Recycling Fund No. 146 to the General Revenue-Dedicated Water Resource Management Account No. 153 and the abolishment of the General Revenue-Dedicated Used Oil Recycling Fund No. 146, by the Eighty-Fifth Legislature, Regular Session, 2017, the entire fund balance and revenues of the General Revenue-Dedicated Used Oil Recycling Fund No. 146 are transferred to the General Revenue-Dedicated Water Resource Management Account No. 153.

31. Registration Program for Certain Nonhazardous Industrial Solid Wastes. Amounts appropriated above in Strategy A.2.3, Waste Management and Permitting, include $390,000 in fiscal year 2018 and $390,000 in fiscal year 2019 from the General Revenue-Dedicated Waste Management Account No. 549 for the purpose of implementing a permitting program relating to the management of certain nonhazardous industrial solid wastes, including coal combustion residuals.

GENERAL LAND OFFICE AND VETERANS' LAND BOARD

	For the Years Ending August 31, 2018	August 31, 2019
Method of Financing:		
General Revenue Fund	$ 15,406,896	$ 12,892,117
General Revenue Fund - Dedicated		
Coastal Protection Account No. 027	10,333,152	9,797,386
Coastal Public Lands Management Fee Account No. 450	207,826	207,826
Alamo Complex Account No. 5152, estimated	4,908,227	4,908,227
Subtotal, General Revenue Fund - Dedicated	$ 15,449,205	$ 14,913,439
Federal Funds	58,914,672	46,430,744

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(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.

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.

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.

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.

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]

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 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).

§ 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 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).

§ 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 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).

§ 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 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).

§ 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 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).

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 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 1×10^{-7} cm/sec. The hydraulic conductivity for the two feet of compacted soil used in the comparison shall be no greater than 1×10^{-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.

$$\text{(Eq. 1)} \qquad \frac{Q}{A} = q = k\left(\frac{h}{t} + 1\right)$$

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 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 that the composite liner (or, if applicable, alternative composite liner) and the leachate collection and removal system has 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).

§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) A liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec;

(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 paragraphs (a)(1)(i), (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 paragraphs (a)(1)(i), (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 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).

§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 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 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).

§ 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 record-keeping 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 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).

§ 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 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 record-keeping requirements specified in § 257.105(g), the notification requirements specified in § 257.106(g), and the internet requirements specified in § 257.107(g).

§ 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 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).

§ 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 *inspections 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) Except as provided for in § 257.100 for inactive CCR surface impoundments, 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 257.98.

(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.

(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).

§ 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) If the owner or operator elects to install a multiunit groundwater monitoring system, and if the multiunit system includes at least one existing unlined CCR surface impoundment as determined by § 257.71(a), and if at any time after October 19, 2015 the owner or operator determines in any sampling event that the concentrations of one or more constituents listed in appendix IV to this part are detected at statistically significant levels above the

groundwater protection standard established under § 257.95(h) for the multiunit system, then all unlined CCR surface impoundments comprising the multiunit groundwater monitoring system are subject to the closure requirements under § 257.101(a) to retrofit or close.

(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 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).

§ 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 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).

§ 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 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 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 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.

(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).

§ 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 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 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. 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 appendices III and IV to 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.

(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) If an assessment of corrective measures is required under §257.96 by either paragraph (g)(3)(i) or (g)(4) of this section, and if the CCR unit is an existing unlined CCR surface impoundment as determined by §257.71(a), then the CCR unit is subject to the closure

requirements under § 257.101(a) to retrofit or close. In addition, 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 constituents for which an MCL has not been established, the background concentration for the constituent established from wells in accordance with § 257.91; or

(3) For constituents for which the background level is higher than the MCL identified under paragraph (h)(1) 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).

§ 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 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.

(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).

§ 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 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 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).

§ 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 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).

CLOSURE AND POST-CLOSURE CARE

§257.100 Inactive CCR surface impoundments.

(a) Except as provided by paragraph (b) of this section, inactive CCR surface impoundments are subject to all of the requirements of this subpart applicable to existing CCR surface impoundments.

(b) An owner or operator of an inactive CCR surface impoundment that completes closure of such CCR unit, and meets all of the requirements of either paragraphs (b)(1) through (4) of this section or paragraph (b)(5) of this section no later than April 17, 2018, is exempt from all other requirements of this subpart.

(1) *Closure by leaving CCR in place.* If the owner or operator of the inactive CCR surface impoundment elects to close the CCR surface impoundment by leaving CCR in place, the owner or operator 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; and

(iv) Minimize the need for further maintenance of the CCR unit.

(2) The owner or operator of the inactive CCR surface impoundment must meet the requirements of paragraphs (b)(2)(i) and (ii) of this section prior to installing the final cover system required under paragraph (b)(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) 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 (b)(3)(i) of this section, or the requirements of an alternative final cover system specified in paragraph (b)(3)(ii) of this section.

(i) The final cover system must be designed and constructed to meet the criteria specified in paragraphs (b)(3)(i)(A) through (D) 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} centimeters/second, whichever is less.

(B) The infiltration of liquids through the 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 (b)(3)(ii)(A) through (C) 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 (b)(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 (b)(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.

(4) The owner or operator of the CCR surface impoundment must obtain a written certification from a qualified professional engineer stating that the design of the final cover system meets either the requirements of paragraphs (b)(3)(i) or (ii) of this section.

(5) *Closure through removal of CCR.* The owner or operator may alternatively elect to close an inactive CCR surface impoundment by removing and decontaminating all areas affected by releases from the CCR surface impoundment. CCR removal and decontamination of the CCR surface impoundment are complete when all CCR in the inactive CCR surface impoundment is removed, including the bottom liner of the CCR unit.

(6) The owner or operator of the CCR surface impoundment must obtain a written certification from a qualified professional engineer that closure of the CCR surface impoundment under either paragraphs (b)(1) through (4) or (b)(5) of this section is technically feasible within the timeframe in paragraph (b) of this section.

(7) If the owner or operator of the CCR surface impoundment fails to complete closure of the inactive CCR surface impoundment within the timeframe in paragraph (b) of this section, the CCR unit must comply with all of the requirements applicable to existing CCR surface impoundments under this subpart.

(c) *Required notices and progress reports.* An owner or operator of an inactive CCR surface impoundment that closes in accordance with paragraph (b) of this section must complete the notices and progress reports specified in paragraphs (c)(1) through (3) of this section.

(1) No later than December 17, 2015, the owner or operator must prepare and place in the facility's operating record a notification of intent to initiate closure of the CCR surface impoundment. The notification must state that the CCR surface impoundment is an inactive CCR surface impoundment closing under the requirements of paragraph (b) of this section. The notification must also include a narrative description of how the CCR surface impoundment will be closed, a schedule for completing closure activities, and the required certifications under paragraphs (b)(4) and (6) of this section, if applicable.

(2) The owner or operator must prepare periodic progress reports summarizing the progress of closure implementation, including a description of the actions completed to date, any problems encountered and a description of the actions taken to resolve the

problems, and projected closure activities for the upcoming year. 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 initiate closure 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 progress report required by paragraph (c)(2)(i) of this section.

(iii) The owner or operator has completed the progress reports specified in paragraph (c)(2) of this section when the reports are placed in the facility's operating record as required by § 257.105(i)(2).

(3) The owner or operator must prepare and place in the facility's operating record a notification of completion of closure of the CCR surface impoundment. The notification must be submitted within 60 days of completing closure of the CCR surface impoundment and must include a written certification from a qualified professional engineer stating that the CCR surface impoundment was closed in accordance with the requirements of either paragraph (b)(1) through (4) or (b)(5) of this section.

(d) 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).

§ 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, if at any time after October 19, 2015 an owner or operator of an existing unlined CCR surface impoundment determines in any sampling event that the concentrations of one or more constituents listed in appendix IV to this part are detected at statistically significant levels above the groundwater protection standard established under § 257.95(h) for such CCR unit, within six months of making such determination, the owner or operator of the 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 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) 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 §§ 257.60(a), 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.

§ 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 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 (f)(3)(ii)(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 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 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) An owner or operator of an inactive CCR surface impoundment closing the CCR unit as required by § 257.100(b);

(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 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 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 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 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 certification from a qualified professional engineer 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 by a qualified professional engineer as 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).

§ 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 continue to receive CCR in the unit provided the owner or operator meets the requirements of either paragraph (a) or (b) of this section.

(a)(1) *No alternative CCR disposal capacity.* Notwithstanding the provisions of § 257.101(a), (b)(1), or (d), a CCR unit may continue to receive CCR if the owner or operator of the CCR unit certifies that the CCR must continue to be managed in that CCR unit due to the absence of alternative disposal capacity both on-site and off-site of the facility. To qualify under this paragraph (a)(1), the owner or operator of the CCR unit must document that all of the following conditions have been met:

(i) No alternative disposal capacity is available on-site 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 subsection 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 an annual progress report 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 unit must cease receiving CCR and initiate closure following the timeframes in § 257.102(e) and (f).

(3) If no alternative capacity is identified within five years after the initial certification, the CCR unit must cease receiving CCR and close in accordance with the timeframes in § 257.102(e) and (f).

(b)(1) *Permanent cessation of a coal-fired boiler(s) by a date certain.* Notwithstanding the provisions of § 257.101(a), (b)(1), and (d), a CCR unit may continue to receive CCR if the owner or operator certifies that the facility will cease operation of the coal-fired boilers within the timeframes specified in paragraphs (b)(2) through (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 unit due to the absence of alternative disposal capacity both on-site and off-site of the facility. To qualify under this paragraph (b)(1), the owner or operator of the CCR unit must document that all of the following conditions have been met:

(i) No alternative disposal capacity is available on-site 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 an annual progress report documenting the continued lack of alternative capacity and the progress towards the closure of the coal-fired boiler.

(2) For a CCR surface impoundment that is 40 acres or smaller, the coal-

fired boiler must cease operation and the CCR surface impoundment must have completed closure no later than October 17, 2023.

(3) For a CCR surface impoundment that is larger than 40 acres, the coal-fired boiler must cease operation, and the CCR surface impoundment must complete closure no later than October 17, 2028.

(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. An owner or operator of a CCR unit that closes in accordance with paragraphs (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(a), (b)(1), or (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 unit 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 paragraphs (a)(1)(iv) or (b)(1)(iii), 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. Additional 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 paragraph (c)(2) of this section when the reports are placed in the facility's operating record as required by §257.105(i)(10).

(3) An owner or operator of a CCR unit must also prepare the notification of intent to close a CCR unit as required by §257.102(g).

(d) The owner or operator of the CCR unit must comply with the record-keeping requirements specified in §257.105(i), the notification requirements specified in §257.106(i), and the Internet requirements specified in §257.107(i).

§257.104 Post-closure care requirements.

(a) *Applicability.* (1) Except as provided by either paragraph (a)(2) or (3) 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.

(3) An owner or operator of an inactive CCR surface impoundment that elects to close a CCR unit pursuant to the requirements under §257.100(b) 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, 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 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 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).

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.

(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).

(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).

(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).

§ 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).

(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).

(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).

(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).

§ 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 Web site) containing the information specified in this section. The owner or operator's Web site must be titled "CCR Rule Compliance Data and Information."

(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).

(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).

(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).

(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).

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).

Memorandum of Understanding

Between

THE TEXAS BOARD OF PROFESSIONAL ENGINEERS

And

THE TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS

Under the Texas Geoscience Practice Act (Chapter 1002 Occupations Code), the Texas Board of Professional Geoscientists ("Geoscientists") is authorized to regulate the practice of geoscience in Texas to protect the public health, safety, and welfare, including promulgation and enforcement of rules, and licensing qualified individuals.

Under the Texas Engineering Practice Act (Chapter 1001 Occupations Code), the Texas Board of Professional Engineers ("Engineers") is authorized to promulgate and enforce all rules and regulations necessary to ensure that the practice of engineering is performed in keeping with the purposes and intent of the Texas Engineering Practice Act.

In consideration of the provisions of the Texas Geoscience Practice Act, Tex. Occ. Code §1002.004 (j), the Geoscientists and the Engineers have entered into this Memorandum of Understanding (MOU) to clarify each agency's separate and common authority by developing a common process and methodology to identify professional services that are engineering and regulated by the Texas Board of Professional Engineers, professional services that are geoscience and regulated by the Texas Board of Professional Geoscientists, and professional services that are both engineering and geoscience, and that can be legally performed by either engineers or by geoscientists and are regulated under the statute and rules promulgated by their respective Boards.

This MOU is entered into under the statutes and rules of the Texas Geoscience Practice Act and the Texas Engineering Practice Act and definitions provided therein.

It is therefore agreed between the Texas Board of Professional Geoscientists and Texas Board of Professional Engineers that:

I. Professional Work.

Both professional engineers and professional geoscientists licensed in Texas may perform, and certify by signature and seal, any work for which they are qualified and authorized to do under their respective Acts.

II. Standing Joint Committee.

The Texas Board of Professional Engineers and Texas Board of Professional Geoscientists agree to create a standing joint committee with three members appointed by the Chair of each Board, with the concurrence of the respective Boards. Two of the members from each Board will be members licensed by the respective Board and one from each Board will be a public member. A quorum of the committee shall be four members consisting of at least two members of each Board.

A. The purpose of the Standing Joint Committee will be to review matters that affect both Boards, develop a mutually cooperative, effective and collaborative process to identify and resolve issues pertaining to overlap between the professional practice of engineering and the professional practice of geoscience to effectively protect the public health, safety, and welfare in the State of Texas. The committee will report its findings to both Boards with recommendations for adoption of joint opinions, policies, procedures, agreements, methodologies, or rules.

B. Members shall be appointed for three-year staggered terms, with one Engineer Board member's term and one Geoscientist Board member's term expiring on August 31 of each year. Co-committee Chairs will be elected from the membership of the committee by the committee upon convening, as the first order of business. All Committee members will be voting members. Committee meetings will alternate between the headquarters of the two Boards.

III. Standing Joint Committee Review of Overlapping Work

A. The Standing Joint Committee will review whether a licensed PG may perform work that is both engineering (which is not expressly prohibited under the Geoscience Practice Act, under Tex. Occ. Code § 1002.004) and geoscience, if that work is incidental and specific to their work as a geoscientist, provided the PG has demonstrated competence in that area of work and they sign and seal the specific work as a PG.

B. The Standing Joint Committee will review whether a licensed PE may perform work that is both engineering and geoscience, if that work is incidental and specific to their work as an engineer, provided that the PE has demonstrated competence in that area of work and they sign and seal their specific work as a PE.

C. A PG may not sign or seal engineering work as a PE or otherwise represent that work in their responsible charge is engineering. A PE may not sign or seal geoscience work as a PG or otherwise represent that work in their responsible charge is geoscience.

IV. Complaint Procedures

A. A complaint against a PG performing engineering work should initially be filed with the Engineers. A complaint against a PE performing geoscience work should initially be filed with the Geoscientists. Each Board will send a letter to the other Board when it is determined that a licensee may be practicing in the other's field inappropriately. That letter would summarize the complaint against the PG or PE and ask the respondent's Board if their statute and rules would allow the licensee to perform the work that is the subject of that complaint.

B. A complaint against an unlicensed individual performing geoscience should be filed with the Geoscientists. A complaint against an unlicensed individual performing engineering should be filed with the Engineers.

C. Questions regarding potential overlapping or joint jurisdiction between the Geoscientists and the Engineers may be submitted to either Board and shall be resolved to the satisfaction of each agency. If an issue is not resolved, then it could be considered through the efforts of the Standing Joint Committee established under Section II of this MOU.

V. Approval, Review and Amendment.

This MOU is entered into by the Engineers and the Geoscientists by signature of each Board Executive Director. If any signatory to this MOU determines that the terms of the MOU cannot be fulfilled, the signatories or those designated by the signatories will consult to seek amendment of the MOU. In addition, as necessary, the Boards will periodically reevaluate this MOU and update it as necessary to ensure that it remains consistent with applicable laws and regulations, and protects the health, safety and welfare of the public. This document represents the full and complete agreement between the two agencies. The MOU will become effective on the date of the last signature, and shall remain in effect unless rescinded by both Boards by formal vote, confirmed in writing by the respective Executive Director.

8/6/2008

DALE BEEBE FARROW, P.E.
Executive Director
TEXAS BOARD OF PROFESSIONAL ENGINEERS

Date

8/6/2008

VINCENT R. HOUSTON
Acting Executive Director
TEXAS BOARD OF PROFESSIONAL GEOSCIENTISTS

Date

History: First approved February 2005; amended and approved by Standing Joint Committee April 10, 2008.

The Texas Commission on Environmental Quality (TCEQ, agency, or commission) proposes new §§352.1 - 352.6, 352.101, 352.111, 352.121, 352.131, 352.141, 352.201, 352.211, 352.221, 352.231, 352.241, 352.251, 352.261, 352.271, 352.281, 352.291, 352.301, 352.401, 352.411, 352.421, 352.431, 352.441, 352.451, 352.461, 352.471, 352.481, 352.601, 352.611, 352.621, 352.631, 352.641, 352.701, 352.711, 352.721, 352.731, 352.741, 352.801, 352.811, 352.821, 352.831, 352.841, 352.851, 352.901, 352.911, 352.931, 352.941, 352.951, 352.961, 352.971, 352.981, 352.991, 352.1001, 352.1011, 352.1021, 352.1031, 352.1041, 352.1051, 352.1061, 352.1071, 352.1081, 352.1101, 352.1111, 352.1201, 352.1211, 352.1221, 352.1231, 352.1241, 352.1301, 352.1311, 352.1321, 352.1401, 352.1421, and 352.1431.

Background and Summary of the Factual Basis for the Proposed Rules

The purpose of this rulemaking is to create a program to regulate owners and operators of landfills and surface impoundments used for the disposal or management of coal combustion residuals (CCR), a nonhazardous industrial solid waste generated from the combustion of coal by electric utilities and independent power producers. If adopted, these proposed rules would be eligible for United States Environmental Protection Agency (EPA) approval and would operate in Texas in lieu of the EPA CCR program. The EPA promulgated self-implementing requirements for the regulation of CCR disposed of or managed in certain landfills and surface impoundments, under the United States Resource Conservation and Recovery Act (RCRA), Code of Federal Regulations (CFR) Part 257, Subchapter D (Standards for the Disposal of Coal

Combustion Residuals in Landfills and Surface Impoundments). After the effective date of this new regulatory framework, the United States Congress passed the Water Infrastructure for Improvements to the Nation (WIIN) Act in December 2016. The WIIN Act provides that states may create a permitting program or other system of prior approval that, if approved by the EPA, would operate in lieu of the new federal CCR rule. The commission intends to propose this chapter to create a state program eligible for EPA approval to operate in lieu of federal CCR requirements, as provided in the WIIN Act.

The 85th Texas Legislature passed the Texas General Appropriations Act (Act) on June 12, 2017. The Act contained a rider to fund four new full-time employees (FTEs) for the commission to create and implement a CCR program (See Senate Bill 1-Conference Committee Report, Rider 31, 2018 - 2019 State Budget (May 2017)).

New Chapter 352 would establish a CCR management program that would be at least as protective as the requirements of the self-implementing federal CCR rules. The chapter would require owners and operators to obtain a registration, establish compliance monitoring, and maintain compliance with the standards listed under new Chapter 352 for landfills and surface impoundments used to dispose of or manage CCR. Under new Chapter 352, the executive director may issue a registration to owners and operators authorizing certain CCR activities pursuant to application submittal, technical review, and approval. The chapter would provide opportunities for public

participation before issuance of a CCR registration. The public participation process would include an opportunity for the public to review and comment on the application and executive director's draft registration, as well as an opportunity to request a public meeting. The new chapter would establish a CCR management program by adopting parts of the federal rule by reference, calling out parts of the federal rule in prose, relying on existing commission rules and procedures, and where necessary, creating new requirements.

If new Chapter 352 is adopted, the commission would then seek approval from the EPA for new Chapter 352 to operate in lieu of the federal CCR rule.

The commission notes that on March 15, 2018, the EPA proposed amendments in the *Federal Register* to the federal CCR rules in 40 CFR Part 257, Subpart D (83 FR 11584). In response to the proposed amendments, the commission submitted comments to the EPA encouraging it to allow owners and operators of CCR sites to perform corrective action under existing state risk-based corrective action programs, including the Texas Risk Reduction Program (TRRP) in 30 TAC Chapter 350. TRRP is an established and successful risk-based corrective action program adopted by the TCEQ in 1999 that would provide for a more efficient regulatory process for addressing corrective action releases from CCR units.

Section by Section Discussion

Subchapter A: General Provisions

§352.1, Applicability

The commission proposes new §352.1 to describe the various persons, activities, and units for which the new CCR program would or would not apply. New §352.1 establishes the applicability of proposed new Chapter 352 consistent with the applicability of 40 CFR Part 257, Subpart D, by utilizing the language of 40 CFR §257.50 (Scope and purpose), and by adding language specific to Texas' waste programs under the Texas Solid Waste Disposal Act and the commission's rules. New Chapter 352 would be applicable to owners and operators of landfills and surface impoundments disposing of or managing CCR generated from the combustion of coal at electric utilities and independent power producers. New Chapter 352 would also be applicable to inactive surface impoundments disposing of or managing CCR at facilities that otherwise continue producing electricity, regardless of the source of fuel currently used; lateral expansions of CCR surface impoundments and landfills; and waste management units located off-site from the facilities generating CCR, and otherwise meeting the applicability criteria. New Chapter 352 would not be applicable to existing CCR landfills that stopped receiving CCR, and electric utilities and independent power producers that stopped producing electricity, before the effective date of the federal CCR rules, October 19, 2015; waste generated at facilities not part of an electric utility or independent power producer; waste generated primarily from the combustion of fuels other than coal to generate electricity, unless the fuel consists of more than a 50% coal mass feed rate of coal; CCR placement at active or abandoned

underground or surface coal mines; municipal solid waste landfills and commercial industrial nonhazardous waste landfill facilities that receive CCR; and the beneficial use of CCR as defined in the federal rule.

352.2, Applicability of Other Regulations

The commission proposes new §352.2 to establish that compliance with the requirements of new Chapter 352 would not relieve owners and operators of their obligation to comply with federal, state, and local laws and regulations. These would include, but would not be limited to, federal prohibitions and requirements regarding floodplains, endangered species, and surface water under 40 CFR Part 257, Subpart A (Classification of Solid Waste Disposal Facilities and Practices), TCEQ air quality regulations, including, but not limited to, Chapter 111 (Control of Air Pollution from Visible Emissions and Particulate Matter), Chapter 116 (Control of Air Pollution by Permits for New Construction or Modification), Chapter 335 (Industrial Solid Waste and Municipal Hazardous Waste), and the corrective action program required by Chapter 350 (Texas Risk Reduction Program). The commission notes that certain requirements under Chapter 335 would remain applicable to nonhazardous industrial solid waste meeting the definition of CCR under Chapter 352 and would continue to be applicable to industrial solid waste not meeting the definition CCR under Chapter 352. These requirements would include and would not be limited to §335.6 (Notification Requirements); §335.9 (Recordkeeping and Annual Reporting Procedures Applicable to Generators); §335.13 (Recordkeeping and Reporting Procedures Applicable to

Generators Shipping Hazardous Waste or Class 1 Waste and Primary Exporters of Hazardous Waste); §335.17 (Special Definitions for Recyclable Materials and Nonhazardous Recyclable Materials); §335.24 (Requirements for Recyclable Materials and Nonhazardous Recyclable Materials); and Chapter 335, Subchapter R (Waste Classification). The commission would accomplish this purpose by adopting by reference 40 CFR §257.52 (Applicability of other regulations), the federal rule requiring owners and operators of CCR units subject to the federal CCR rules to comply with all other applicable laws and regulations.

§352.3, Definitions

The commission proposes new §352.3 to establish definitions applicable to new Chapter 352 by adopting by reference definitions from 40 CFR §257.53 (Definitions), importing definitions from other commission rules, and creating new definitions.

§352.4, Engineering and Geoscientific Information

The commission proposes new §352.4 to require engineering and geoscientific information submitted under new Chapter 352 be prepared by, or under the supervision of, licensed professionals, and submitted in accordance with the Texas Engineering Practice Act and the Texas Geosciences Practice Act.

§352.5, Laboratory Accreditation and Certification

The commission proposes new §352.5 to require owners and operators subject to the new Chapter 352 to comply with the Environmental Testing Laboratory Accreditation and Certification Program requirements of 30 TAC Chapter 25 (Environmental Testing Laboratory Accreditation and Certification).

§352.6, General Prohibitions

The commission proposes new §352.6 to prohibit any person from causing, suffering, or allowing the collection, handling, storage, processing, management, or disposal of CCR in a way that causes the discharge, or imminent threat of discharge, of CCR into or adjacent to waters of the state without prior authorization from TCEQ; creates and maintains a nuisance; or endangers public health and welfare.

Subchapter B: Registration Conditions

§352.101, Registration Required

The commission proposes new §352.101(a) to require existing facilities that manage or dispose of CCR in regulated units to file an application for a registration under Chapter 352. Facilities have 180 days from the effective date of this chapter to submit an application. The commission expects existing facilities to comply with 40 CFR Part 257, and applicable provisions in this chapter, prior to issuance of a registration.

The commission proposes new §352.101(b) to prohibit the management or disposal of CCR in a new or laterally expanding CCR unit unless authorized by a registration issued under Chapter 352.

§352.111, Registration Characteristics and Conditions

The commission proposes new §352.111 to create standard registration conditions by requiring the executive director to include the applicable characteristics and standards of 30 TAC Chapter 305, Subchapter F (Permit Characteristics and Conditions).

§352.121, Duration

The commission proposes new §352.121 to identify the duration of the registration as the life of the facility, unless the registration is revoked or amended for a failure to meet minimum standards or for any other good cause.

§352.131, Amendments

The commission proposes new §352.131 to identify the procedures to amend an existing registration. Applicants would submit the relevant application contents identified in Chapter 352, Subchapter C (Registration Application Contents). Registration amendments will be identified as either major amendments or minor amendments as described in Chapter 305. For the purposes of §352.131, a reference to a "permit" in 30 TAC §305.62(c) (Amendments) shall be considered to mean a "registration." Major amendments are described in §305.62(c)(1) as "an amendment

that changes a substantive term, provision, requirement, or a limiting parameter of a permit". Major amendments initiated under new Chapter 352 would be subject to the requirements of §§352.431, 352.441, 352.451, and 352.461 (Public Notice of Applications; Revised Notice of Changes to Application; Public Meeting; and General Notice Provisions), prescribing an opportunity for public participation in these amendments. Minor amendments are described in §305.62(c)(2) as "an amendment to improve or maintain the permitted quality or method of disposal of waste, or injection of fluid if there is neither a significant increase of the quantity of waste or fluid to be discharged or injected nor a material change in the pattern or place of discharge of injection. A minor amendment includes any other change to a permit issued under this chapter that will not cause or relax a standard or criterion which may result in a potential deterioration of quality of water in the state". An amendment classification as major or minor must be approved by the executive director. Additionally, the executive director can initiate an amendment to a CCR registration in accordance with new §352.131. Proposed §352.131 clarifies that the requirements of 30 TAC §305.69 (Solid Waste Permit Modification at the Request of the Permittee) would not apply to CCR registrations.

§352.141, Issuance and Transfer

The commission proposes new §352.141 establishing to whom a registration would be issued; that a registration may not be transferred from one person to another without prior approval of the executive director; and that a registration may not be transferred

between facilities at different physical locations. The commission proposes to accomplish these purposes by requiring the registration to meet the transfer procedures in 30 TAC §305.64 (Transfer of Permits).

Subchapter C: Registration Application Contents

§352.201, Application Required

The commission proposes new §352.201 to require an owner or operator requesting a registration, or registration amendment, to use the forms provided by, and in the manner required by, the executive director.

§352.211, Who Applies

The commission proposes new §352.211 to identify the person required to apply for a registration under Chapter 352.

§352.221, Signatories to Applications

The commission proposes new §352.221 to identify authorized signatories of applications submitted under Chapter 352.

§352.231, General Application Requirements

The commission proposes new §352.231 to require the owner or operator to submit an application including facility location information and documentation, a facility layout, relevant maps, surrounding property owner information, legal status verification, and

other general information necessary for the executive director to draft and issue a registration.

§352.241, Geology Report

The commission proposes new §352.241 to require the owner or operator to provide a geology report with an application that includes information and documentation necessary for the executive director to assess geological conditions at the facility, and draft and issue a registration. The geology report must include geologic information concerning the regional geology, geologic units and processes active in the facility area, groundwater characteristics, surface water characteristics, aquifer information, and soil and subsurface condition information. For proposed and laterally expanding CCR units, the section also outlines the requirements and specifications for a boring plan to be approved before the initiation of work. The extent of required data and information would be determined on a site-by-site basis. For example, smaller waste management units may only require two perpendicular cross-sections, but this may not be sufficient for larger units. A licensed professional geoscientist or qualified licensed professional engineer must sign and seal the geology report.

§352.251, Location Restriction Application Submission

The commission proposes new §352.251 to require the owner or operator to provide documentation with an application demonstrating compliance with the following applicable location restrictions: placement above the uppermost aquifer, wetlands,

fault areas, seismic impact zones, and unstable areas. A licensed professional geoscientist or qualified licensed professional engineer must sign, and seal, the documentation where required.

§352.261, Design Criteria Application Submission

The commission proposes new §352.261 to require the owner or operator to provide documentation with an application demonstrating compliance with the design criteria in Chapter 352, Subchapter F (Design Criteria). The owner or operator shall submit the applicable documentation and information for the liner design and specifications for each unit, the leachate detection system specifications for each landfill, plans and profile drawings for each unit, and all structural integrity information for each surface impoundment. A licensed professional engineer must sign and seal documentation where required.

§352.271, Operating Criteria Application Submission

The commission proposes new §352.271 to require the owner or operator to provide documentation with an application demonstrating compliance with the operating criteria in Chapter 352, Subchapter G (Operating Criteria). The owner or operator shall submit the documentation and information as required for the CCR fugitive dust control plan, the run-on and run-off controls for CCR landfills, the inflow design and flood control system plans for CCR surface impoundments, including a description of the hydrologic method and calculations used to estimate peak flow rates required for

the inflow design flood control system based on the surface impoundment hazard potential, and any current annual inspection reports required for all units. A licensed professional engineer must sign and seal documentation where required.

§352.281, Groundwater Monitoring and Corrective Action Application Submission

The commission proposes new §352.281 to require the owner or operator to provide documentation with the application demonstrating compliance with the groundwater monitoring and corrective action program criteria in Chapter 352, Subchapter H (Groundwater Monitoring and Corrective Action). The owner or operator shall submit documentation and information for the current annual groundwater monitoring and corrective action report, groundwater monitoring systems, the groundwater sampling and analysis program, and identify the monitoring program type the facility is currently following. If the facility is in corrective action at the time of the application, then the owner or operator would provide a post-response corrective action care cost estimate with the application. A licensed professional geoscientist or qualified licensed professional engineer must sign and seal information and documentation where required.

§352.291, Closure and Post-Closure Care Application Submission

The commission proposes new §352.291 to require the owner or operator to provide documentation with the application demonstrating compliance with the requirements in Chapter 352, Subchapter J (Closure and Post-Closure Care), including copies of the

closure and post-closure plans. A licensed professional geoscientist or qualified licensed professional engineer must sign and seal documentation where required.

§352.301, Retention of Application Data

The commission proposes new §352.301 to require the owner or operator to retain records of all data and supplemental information used to complete the final application for the term of the registration, which in this case is the life of the facility.

Subchapter D: Registration Application Procedures

§352.401, Application Deficiencies

The commission proposes new §352.401 to establish procedures for the executive director to notify applicants of deficiencies identified in applications, and a deadline for applicants to provide responses to these notifications. The commission proposes imposing a 60-day deadline for an applicant to respond.

§352.411, Extensions

The commission proposes new §352.411 to establish a process for applicants to request extensions of the 60-day deadline for responding to notices of application deficiencies. The commission proposes to require applicants to submit written requests for extensions of the response deadline. The request must include the reason an extension is needed and describe the length of the extension being requested.

Finally, the commission would give the executive director discretion to grant or deny an extension request.

§352.421, Applications Returned

The commission proposes new §352.421 to establish procedures for the executive director to return an incomplete application. The commission proposes to allow the executive director to notify an applicant that the TCEQ is discontinuing the review of an application, and the application is being returned. An application is considered returned upon issuance of a notice from the executive director that the application is returned. A returned application will not be physically returned to the applicant but will be managed in accordance with the commission's records management procedures. An application is considered returned upon an applicant's receipt of notification from the executive director that he is returning an application.

§352.431, Public Notice of Applications

The commission proposes new §352.431 to establish public notice and public participation procedures for applications requesting new registrations and major amendment of registrations issued under Chapter 352.

The commission proposes new §352.431(a) to establish that the section requirements would be applicable to applications for new CCR registrations and major amendments of CCR registrations. Proposed new §352.431(b) creates a notice of the executive

director's receipt of, and initial decision on, a registration application, and of opportunities to provide public comment and request a public meeting. The commission would use the applicable public participation procedures of 30 TAC Chapter 39 (Public Notice).

New §352.431(b) would also require the applicant to follow the solid waste notice publication requirements of 30 TAC §39.405(f)(1) and (2) (General Notice Provisions) and 30 TAC §39.418 (Notice of Receipt of Application and Intent to Obtain Permit). These requirements specify publication of the notice must be in the newspaper of largest circulation in the county in which the facility is located or is proposed to be located. If the facility is located, or is proposed to be located, in a municipality, the publication requirements specify publication of the notice in any newspaper of general circulation in the municipality, and in the newspaper of largest general circulation published in the county in which the facility is located or is proposed to be located. If a newspaper is not published in the county, notice would be required to be published in any newspaper of general circulation in the county in which the facility is located or is proposed to be located. These solid waste notice newspaper publication requirements may be satisfied by one publication if the newspaper is both published in the county and is the newspaper of largest general circulation in the county. Additionally, if the alternative language publication decision criteria of §39.405(h) are met, new §352.431(b) would require the applicant to publish notice of an application in an alternative language following the procedures of §39.405(h).

Further, new §352.431(b) would require the executive director to mail a copy of an application made under Chapter 352, or a summary of its contents, to the mayor and health authority of a municipality in whose territorial limits or extraterritorial jurisdiction the facility is located, or is proposed to be located, and to the county judge and the health authority of the county in which the facility is located, or proposed to be located, by following the procedures of 30 TAC §39.503(c)(2)(B) (Application for Industrial or Hazardous Waste Facility Permit). New §352.431(b) would also require notice of an application under Chapter 352 be mailed to: the state senator and representative who represent the area in which the facility is, or is proposed to be, located; the adjacent landowners named in the application; the Texas Department of State Health Services; the Texas Parks and Wildlife Department; the Texas Railroad Commission; persons on a relevant mailing list maintained by the chief clerk, which may include persons who have requested to be added to a mailing list and persons who have requested to receive notice of an application; other persons the executive director or chief clerk may elect to include; and if applicable, the secretary of the Coastal Coordination Advisory Committee (Formerly the Coastal Coordination Council) in accordance with 30 TAC §§39.413 (Mailed Notice), 39.418(b)(2), and 39.503(c)(1) and (2)(A).

There would not be an opportunity to request a contested case hearing on, and 30 TAC Chapter 281 (Applications Processing) would not be applicable to, an application for a

registration under proposed Chapter 352. Proposed new §352.431(b) would not require notice of an application under Chapter 352 to comply with the date of administrative completeness requirements of Chapter 281.

The commission proposes §352.431(b) to require the text of the notice to include the items listed under 30 TAC §39.411(b) (Text of Public Notice), in accordance with §39.418(b)(3) and §39.503(c)(2)(A). The text of the notice would include, at a minimum: the name and address of the agency, and the telephone number of an agency contact from whom interested persons may obtain further information; the name, address, and telephone number of the applicant; the application or registration number; a description of the manner in which a person may contact the applicant for further information; a brief description of the location and nature of the proposed activity; a brief description of public comment procedures; a brief description of procedures by which the public may participate in the final registration decision; instructions on how to request a public meeting; an explanation that a public meeting will be held by the executive director if requested by a member of the legislature who represents the general area where the facility is or is proposed to be located, or there is substantial public interest in the proposed activity; instructions on how to request a motion to overturn the executive director's decision; if applicable, a statement that the application or requested action is subject to the Coastal Management Program and must be consistent with the Coastal Management Program goals and policies; the location of a public place in the county in which the facility is located or proposed to

be located, at which a copy of the application is available for review and copying; a description of the procedure by which a person may be placed on a mailing list to receive additional information about the application; and any additional information required by the executive director or needed to satisfy public notice requirements of any federally authorized program.

The commission proposes §352.431(c) to require the text of the notice to include the internet address of a website where the application, the executive director's draft registration, and notice required by Chapter 352 are available for the public to access.

The commission proposes §352.431(d) to require a public comment period of a minimum of 30 days after the publication of the notice in the newspaper.

Finally, the commission proposes new §352.431(e) to require the executive director to take into consideration all public comments received before the close of the public comment period when making the decision to grant or deny an application.

§352.441, Revised Notice of Changes to Application

The commission proposes new §352.441 to restrict the applicant from making substantive revisions to the application after public notice is issued, without reissuing the public notice with a description of the proposed revisions.

§352.451, Public Meeting

The commission proposes new §352.451 to establish public participation procedures for public meetings on applications received under Chapter 352. The commission would accomplish this by utilizing applicable public participation procedures in Chapter 39 and 30 TAC Chapter 55 (Requests for Reconsideration and Contested Case Hearings; Public Comment).

Proposed new §352.451(a) would allow an applicant under Chapter 352 and the commission to hold a public meeting under 30 TAC §55.154 (Public Meetings), in the county in which the facility is located, or is proposed to be located, for receiving public comment concerning the application and the executive director's draft registration. Additionally, proposed new §352.451(b) would require an applicant under Chapter 352 and the commission to hold a public meeting in the county in which the facility is located, or proposed to be located, based on the criteria contained in §55.154(c), or the criteria contained in §39.503(e). The criteria under §55.154(c) and §39.503(e) that would make holding a public meeting mandatory include: a substantial degree of public interest in an application as determined by the executive director and at the request of a member of the legislature who represents the general area in which the facility is located, or proposed to be located. A substantial degree of public interest in an application would also be demonstrated by a request for a public meeting filed by: a local governmental entity with jurisdiction over the location at which the facility is located, or proposed to be located, by formal resolution of the entity's governing body;

a council of governments with jurisdiction over the location at which the facility is located, or proposed to be located, by formal request of either the council's solid waste advisory committee, executive committee, or governing board; a homeowners' or property owners' association formally organized or chartered and having at least ten members located in the general area in which the facility is located, or proposed to be located; or a group of ten or more local residents, property owners, or businesses located in the general area in which the facility is located, or proposed to be located, in accordance with §39.503(e).

The commission proposes new §352.451(c) to establish procedures for providing public notice of a public meeting. The commission would require notice be made in accordance with the public notice procedures in §39.503(e)(6) and by requiring notice of a public meeting to be mailed to the persons listed in §39.413. The persons who would receive mailed notice under proposed new §352.451(c) would include the county judge and health authorities of the county in which the facility is located, or will be located; the Texas Department of State Health Services; the Texas Parks and Wildlife Department; the Texas Railroad Commission; the river authority in which the facility is located or proposed to be located; the applicant; persons on a relevant mailing list maintained by the chief clerk under 30 TAC §39.407 (Mailing Lists); any other person the executive director or chief clerk elected to include, if applicable; the secretary of the Coastal Coordination Advisory Committee (formerly the Coastal Coordination

Council); and any persons who filed public comment, requested a public meeting, or requested to be added to the mailing list.

The commission proposes new §352.451(d) to establish that the purpose of a public meeting would be to provide information and to receive public comment, and by clarifying that a public meeting held on an application submitted under this chapter would not be a contested case hearing under the Texas Administrative Procedure Act.

§352.461, General Notice Provisions

The commission proposes new §352.461 to establish general notice procedures of an application for a new registration and a major amendment of a registration submitted under Chapter 352. The commission would require notice to be made in accordance with established general notice procedures of Chapter 39.

Specifically, the commission proposes new §352.461(a)(1) to require that notice of an application for a new registration and a major amendment of a registration would be made in accordance with the applicable requirements of §39.405, which: sets out procedures the chief clerk and the executive director may follow if an applicant fails to publish newspaper notice; allows the chief clerk to require applicants to submit mailing lists in electronic format; provides for hand delivery of notice in lieu of mailed notice; allows multiple notices to be combined into one notice; establishes procedures for the applicant to demonstrate compliance with newspaper notice publication

requirements; establishes requirements for a public copy of the application, including confidentiality procedures, be kept current to reflect any changes made to the application; and sets out requirements for publication of newspaper notice in an alternative language, including a decision matrix based on whether the Texas Education Code requires the elementary or middle school nearest to the facility to provide a bilingual education program and other factors.

Additionally, the commission proposes new §352.461(a)(2) to require that notice of an application under Chapter 352 would include the applicable requirements of §39.407, which requires the chief clerk to maintain mailing lists of persons who request to be added to mailing lists and who submit public comments.

Additionally, the commission proposes new §352.461(a)(3) to require that notice of an application under Chapter 352 would include the applicable requirements of 30 TAC §39.409 (Deadline for Public Comment, and for Requests for Reconsideration, Contested Case Hearing, or Notice and Comment Hearing), which requires notices to identify the close of the public comment period, in accordance with 30 TAC §55.152 (Public Comment Period), and which allows the executive director and the commission to take action on an application after the close of the public comment period under 30 TAC Chapter 50 (Action on Applications and Other Authorizations).

Additionally, the commission proposes new §352.461(a)(3) to require, in accordance with §55.152, that text of public notices of applications under Chapter 352 would identify the end of the public comment period, allow the executive director to extend the comment period for good cause, and require the comment period to be extended to the close of a public meeting, if a public meeting were held. Additionally, the commission proposes new §352.461(a)(4) to require that notice of an application under Chapter 352 would include the applicable requirements of §39.411 in addition to the items required by §39.411(b) listed under proposed new §352.451(a); and would require an applicant to use a form of notice approved by the executive director; and require any changes to the form of notice to be approved by the executive director.

Additionally, the commission proposes new §352.461(a)(5) which would require notice of an application under Chapter 352 to include the applicable requirements of §39.413, which are listed under the section by section discussion for proposed new §352.451(c).

Further, the commission proposes new §352.461(a)(6) to require notice of an application under Chapter 352 to include the applicable requirements of 30 TAC §39.420 (Transmittal of the Executive Director's Response to Comments and Decision). Proposed new §352.461(a)(6) would also require the chief clerk to transmit the executive director's final decision, instructions for requesting the commission to overturn the executive director's decision, and if the executive director elected to file a

response to public comments, the executive director's response to public comments to the applicant, any person who requested to be on the mailing list for the application, any person who submitted public comments during the public comment period, and the Office of the Public Interest Counsel.

Finally, the commission proposes new §352.461(b) to indicate that the executive director is not required to provide a response to public comments received on applications under Chapter 352, Subchapter D. Instead, the commission anticipates preparing an informal response to comments responding to all relevant and material comments received prior to the end of the comment period. Proposed new §352.461(b) also indicates that Subchapter D does not create an opportunity to request the commission to hold a contested case hearing on an application filed under Chapter 352.

§352.471, Draft Registration

The commission proposes new §352.471 to assure that the public notice of an application under Chapter 352 would include notice of a draft registration available to the public for review and comment. The commission would establish that the executive director would produce a draft registration upon reaching an initial determination that an application for a new registration or an application for major amendment of a registration filed under Chapter 352 met the regulatory requirements for issuance. Public availability is required by §352.1321, which requires the applicant to post a

copy of the draft registration on the publicly accessible CCR website once the executive director's initial determination is made.

§352.481, Motion to Overturn the Executive Director's Decision

The commission proposes new §352.481 to provide an administrative remedy for review of the executive director's action on an application filed under Chapter 352. The commission proposes to achieve this purpose by making an application for a new registration or an amendment of a registration under Chapter 352 subject to the established procedures of 30 TAC §50.133(b) (Executive Director Action on Application or WQMP Update) and 30 TAC §50.139 (Motion to Overturn Executive Director's Decision). These procedures would include mailing a final decision and instructions on how to file a motion to overturn the executive director's decision to persons on the mailing list.

Subchapter E: Location Restrictions

§352.601, Placement Above the Uppermost Aquifer

The commission proposes new §352.601 to establish a location restriction placing a limit on how close the base of a new landfill, laterally expanding landfill or surface impoundment, new surface impoundment, or an existing surface impoundment subject to this chapter, may be to the uppermost aquifer, consistent with the requirements of 40 CFR §257.60 (Placement above the uppermost aquifer). New §352.601 adopts by reference 40 CFR §257.60 which requires that a demonstration of

compliance with this location restriction be prepared, signed, and certified by a licensed professional geoscientist or qualified licensed professional engineer; the owner or operator of an existing surface impoundment to meet the location restriction by October 17, 2018; establish recordkeeping and notification requirements, including internet posting of information regarding compliance with the location restriction; and an owner or operator of a new surface impoundment, new landfill, and laterally expanding landfill to demonstrate compliance with the location restriction before placing CCR in the unit. Owners and operators of existing surface impoundments that do not demonstrate compliance with the location restriction by October 17, 2018 must close the unit. If EPA extends this deadline prior to adoption of this rulemaking, the commission may extend the deadline to be consistent with federal requirements. The commission would achieve this purpose by adopting by reference 40 CFR §257.60.

§352.611, Wetlands

The commission proposes new §352.611 to adopt by reference the location restrictions included in 40 CFR §257.61 (Wetlands), which prohibits wetland degradation and harm to endangered or threatened species, or critical habitat. These criteria are applicable to new CCR landfills, new and existing CCR surface impoundments, and lateral expansions of both unit types. A licensed professional engineer must sign and certify the demonstration of compliance with these requirements. The demonstration must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352. Owners and operators of existing surface impoundments that do not

comply with these restrictions by October 17, 2018 must conduct closure of the unit. If EPA extends this deadline prior to adoption of this rulemaking, the commission may extend the deadline to be consistent with federal requirements. Owners and operators of all new and laterally expanding units that do not comply with these restrictions may not conduct waste management activities in the unit.

§352.621, Fault Areas

The commission proposes new §352.621 to adopt by reference the location restrictions included in 40 CFR §257.62 (Fault areas), which prohibits the location of a CCR unit in fault areas. These criteria are applicable to new CCR landfills, new and existing CCR surface impoundments, and lateral expansions of both unit types. A licensed professional engineer must sign and certify the demonstration of compliance with these requirements. The demonstration must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352. Owners and operators of existing surface impoundments that do not comply with these restrictions by October 17, 2018 must conduct closure of the unit. If EPA extends this deadline prior to adoption of this rulemaking, the commission may extend the deadline to be consistent with federal requirements. Owners and operators of all new and laterally expanding units that do not comply with these restrictions may not conduct waste management activities in the unit.

§352.631, Seismic Impact Zones

The commission proposes new §352.631 to adopt by reference the location restrictions included in 40 CFR §257.63 (Seismic impact zones), which prohibits the location of certain CCR units in seismic impact zones. These criteria are applicable to new CCR landfills, new and existing CCR surface impoundments, and lateral expansions of both unit types. A licensed professional engineer must sign and certify the demonstration of compliance with these requirements. The demonstration must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352. Owners and operators of existing surface impoundments that do not comply with these restrictions by October 17, 2018 must conduct closure of the unit. If EPA extends this deadline prior to adoption of this rulemaking, the commission may extend the deadline to be consistent with federal requirements. Owners and operators of all new and laterally expanding units that do not comply with these restrictions may not conduct waste management activities in the unit.

§352.641, Unstable Areas

The commission proposes new §352.641 to adopt by reference the location restrictions included in 40 CFR §257.64 (Unstable Areas), which prohibits the location of CCR units in unstable areas. These criteria are applicable to all CCR units, including new and existing CCR landfills, new and existing CCR surface impoundments, and lateral expansions of both unit types. Prohibition to operate a CCR unit in unstable areas is the only location restriction existing landfills are subject to. A licensed professional engineer must sign and certify the demonstration of compliance with these

requirements. The demonstration must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352. Owners and operators of existing landfills and surface impoundments that do not comply with these restrictions by October 17, 2018 must conduct closure of the unit. If EPA extends this deadline prior to adoption of this rulemaking, the commission may extend the deadline to be consistent with federal requirements. Owners and operators of all new and laterally expanding units that do not comply with these restrictions may not conduct waste management activities in the unit.

Subchapter F: Design Criteria

§352.701, Design Criteria for Coal Combustion Residuals Landfills

The commission proposes new §352.701, to adopt by reference the design criteria included in 40 CFR §257.70 (Design criteria for new CCR landfills and any lateral expansion of a CCR landfill). The design criteria in 40 CFR §257.70 address liner requirements and leachate collection and removal systems for new or laterally expanding CCR landfills. Demonstration of compliance with these requirements must be signed and sealed by a licensed professional engineer both before and after construction. The demonstration must also meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

§352.711, Liner Design Criteria for Existing Coal Combustion Residuals Surface Impoundments

The commission proposes new §352.711, to adopt by reference the design criteria included in 40 CFR §257.71 (Liner design criteria for existing CCR surface impoundments). The design criteria in 40 CFR §257.71 address liner requirements for existing CCR surface impoundments. Owners or operators of existing surface impoundments considered unlined by the standards set out in proposed Chapter 352, Subchapter F, as of October 17, 2016, and that determine a significantly significant increase above groundwater protection standards according to proposed Chapter 352, Subchapter H, are subject to closure or retrofit requirements in accordance with new Chapter 352, Subchapter J (Closure and Post-Closure Care). A licensed professional engineer must sign and certify the demonstration of compliance with these requirements. The demonstration must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

§352.721, Liner Design Criteria for New and Lateral Expansions of Coal Combustion Residuals Surface Impoundments

The commission proposes new §352.721, to adopt by reference the design criteria included in 40 CFR §257.72 (Liner design criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment). The design criteria in 40 CFR §257.72 address liner requirements for new or laterally expanding CCR surface impoundments. A licensed professional engineer must sign and certify the demonstration of compliance with these requirements both before and upon

completion of construction. The demonstration must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

§352.731, Structural Integrity Criteria for Existing Coal Combustion Residuals Surface Impoundments

The commission proposes new §352.731, to adopt by reference the design criteria included in 40 CFR §257.73 (Structural integrity criteria for existing CCR surface impoundments). Section 352.731 imposes structural integrity standards for existing CCR surface impoundments that are not incised. Owners and operators of existing CCR surface impoundments were required to install unit identification number markers by December 17, 2015. Owners and operators of existing CCR surface impoundments must: have conducted an initial hazard potential classification assessment by April 17, 2017, and implemented periodic assessments, in accordance with new Chapter 352, Subchapter F; develop, maintain, and implement a written emergency action plan for impoundments classified as high or significant hazard potential, in accordance with new Chapter 352, Subchapter F; develop and maintain a construction history for the unit; and have performed initial, and implemented periodic, structural stability and safety factor assessments. Initial assessments and demonstrations must have been made by October 17, 2016. Failure to comply with the minimum safety factor requirements, or the deadline for conducting the assessment, in new §352.731 will require closure of the unit. All required demonstrations and

assessments must be certified by a licensed professional engineer, and must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

Additionally, new §352.731(b) identifies specific notifications and notification timelines required by the state in addition to the requirements adopted by reference. Some events requiring notification will also trigger a requirement to request an amendment. Notification alone does not satisfy an amendment requirement.

§352.741, Structural Integrity Criteria for New and Lateral Expansions of Coal Combustion Residuals Surface Impoundments

The commission proposes new §352.741 to adopt by reference the design criteria included in 40 CFR §257.74 (Structural integrity criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment). Section 352.741 imposes structural integrity standards for new and laterally expanding CCR surface impoundments that are not incised. Owners and operators of new or laterally expanding CCR surface impoundments must: install unit identification number markers before receiving CCR wastes in the unit; conduct initial and periodic assessments in accordance with new Chapter 352, Subchapter F; develop, maintain, and implement a written emergency action plan for impoundments classified as high or significant hazard potential, in accordance with new Chapter 352, Subchapter F; develop and maintain a construction history for the unit; and perform initial and periodic structural stability and safety factor assessments. Initial assessments and

demonstrations must be made before the receipt of CCR wastes into the new or expanded unit. Owners and operators failing to comply with the minimum safety factor requirements in new §352.741 during initial assessment are prohibited from placing CCR waste into the unit. Failure to comply with the minimum safety factor requirements, or the deadline for conducting the assessment, in new §352.741 during periodic assessments will require closure of the unit. All required demonstrations and assessments must be certified by a licensed professional engineer, and must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

Additionally, new §352.741(b) identifies specific notifications and notification timelines required by the state in addition to the requirements adopted by reference. Some events requiring notification may also trigger a requirement to request an amendment. Notification alone does not satisfy an amendment requirement.

Subchapter G: Operating Criteria

§352.801, Air Criteria

The commission proposes new §352.801, to adopt by reference the operating criteria included in 40 CFR §257.80 (Air criteria), to require owners and operators of all CCR units to: minimize airborne CCR wastes; develop, implement, and maintain a fugitive dust control plan meeting the requirements of new §352.801; and have the plan certified by a licensed professional engineer. The plan must have been in place by October 19, 2015 for existing units, or by initial receipt of CCR for new and laterally

expanding units. Owners and operators must also prepare an annual fugitive dust control report. All the requirements in §352.801 must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

§352.811, Run-On and Run-Off Controls for Coal Combustion Residuals Landfills

The commission proposes new §352.811, to adopt by reference the operating criteria included in 40 CFR §257.81 (Run-on and run-off controls for CCR landfills). Owners and operators of all CCR landfills must develop initial and periodic run-on and run-off control system plans, in accordance with new §352.811, and implement and maintain run-on and run-off control systems capable of withstanding volumes associated with a 24-hour, 25-year storm. Plans were required by October 17, 2016 for existing landfills, and no later than initial receipt of CCR wastes in the unit for new and laterally expanding landfills. Plans must be certified by a licensed professional engineer and meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

§352.821, Hydrologic and Hydraulic Capacity Requirements for Coal Combustion Residuals Surface Impoundments

The commission proposes new §352.821, to adopt by reference the operating criteria included in 40 CFR §257.82 (Hydrologic and hydraulic capacity requirements for CCR surface impoundments). Owners and operators of all CCR surface impoundments must develop initial and periodic inflow design flood control system plans in accordance

with new §352.821. The plan must implement and maintain an inflow design flood control system capable of managing flow into or from the unit of a volume based on the hazard potential classification determination made in accordance with new §352.731 and §352.741. The volumes established in the federal rule are: probable maximum flood for high hazard potential units, 1000-year flood for significant hazard potential units, 100-year flood for low hazard potential, and 25-year flood for incised impoundments. Plans were required by October 17, 2016 for existing surface impoundments, and no later than initial receipt of CCR wastes in the unit for new and laterally expanding surface impoundments. Plans must be certified by a licensed professional engineer and meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

§352.831, Inspection Requirements for Coal Combustion Residuals Surface Impoundments

The commission proposes new §352.831, to adopt by reference the operating criteria included in 40 CFR §257.83 (Inspection requirements for CCR surface impoundments). Qualified persons must inspect all CCR surface impoundments on a frequency based on the objective of the inspection, and in accordance with new §352.831, and must have initiated inspections by October 19, 2015 for existing surface impoundments or at the time of initial receipt of CCR wastes in the unit for new and laterally expanding surface impoundments. All surface impoundments subject to periodic structural stability assessment requirements in new §352.731 and §352.741, require an annual

licensed professional engineer's inspection and inspection report in accordance with new §352.831, to have initiated by January 19, 2016 for existing surface impoundments, and no later than 14 months after initial receipt of CCR wastes in the unit for new and laterally expanding surface impoundments. The owner or operator must remedy any release or deficiency identified during an inspection as soon as feasible and document the response. Inspection reports must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

Additionally, proposed §352.831(b) identifies specific notifications and notification timelines required by the state. Some events requiring notification will also trigger a requirement to request an amendment. Notification alone does not satisfy an amendment requirement.

§352.841, Inspection Requirements for Coal Combustion Residuals Landfills

The commission proposes new §352.841, to adopt by reference the operating criteria included in 40 CFR §257.84 (Inspection requirements for CCR landfills). Qualified persons must inspect all CCR landfills on a frequency outlined based on the objective of the inspection and in accordance with §352.841, and must have initiated inspections by October 19, 2015 for existing landfills or at the time of initial receipt of CCR wastes in the unit for new and laterally expanding landfills. All landfills require an annual licensed professional engineer's inspection and inspection report in accordance with §352.841, to have initiated by January 19, 2016 for existing landfills, and no later

than 14 months after initial receipt of CCR wastes in the unit for new and laterally expanding landfills. The owner or operator must remedy any release or deficiency identified during an inspection as soon as feasible and document the response. Inspection reports must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

Additionally, proposed §352.841(b) identifies specific notifications and notification timelines required by the state in addition to the requirements adopted by reference. Some events requiring notification will also trigger requirement to request an amendment. Notification alone does not satisfy an amendment requirement.

§352.851, Pre-Opening Inspection

The commission proposes new §352.851 to require the owner or operator of a new or laterally expanding CCR unit to obtain a Texas licensed professional engineer certification that the unit complies with registration conditions, and to give the executive director an opportunity to inspect the constructed unit before commencing waste management activities, in accordance with 30 TAC §305.144 (Certification and Inspection). If the executive director has not inspected the new or expanded unit within 15 days of the receipt of the notification from the applicant required by this section, then the executive director has waived the opportunity for prior inspection, and the owner or operator may commence CCR management activities in the unit.

Subchapter H: Groundwater Monitoring and Corrective Action

§352.901, Applicability

The commission proposes new §352.901 to adopt by reference the groundwater monitoring and corrective actions included in 40 CFR §257.90 (Applicability), which gives the general requirements for establishing and implementing a groundwater monitoring program, and corrective action for releases from a unit to groundwater. The corrective action provisions required by proposed Chapter 352, Subchapter H, are not a replacement of the corrective action requirements in Chapter 350. The criteria of proposed Chapter 352, Subchapter H, are applicable to all CCR units, including all CCR landfills, all CCR surface impoundments, and new and lateral expansions of CCR units. All information and data required in proposed Subchapter H concerning the establishment of a groundwater monitoring system, a sampling and analysis program, and all monitoring data obtained under Chapter 352, Subchapter H, must be included in the annual groundwater monitoring and corrective action report. The initial annual groundwater monitoring and corrective action report was required to be completed and placed in the operating record by January 31, 2018. The owner and operator must comply with the recordkeeping, notification, and internet posting requirements of new Chapter 352.

§352.911, Groundwater Monitoring Systems

The commission proposes new §352.911 to adopt by reference the groundwater monitoring systems requirements included in 40 CFR §257.91 (Groundwater

monitoring systems), which requires owners and operators to install groundwater monitoring systems for all CCR units. The groundwater monitoring system installed must consist of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer accurately representing the background groundwater quality uncontaminated by a CCR unit. Each system must have a minimum of four monitoring wells, one upgradient and three downgradient of the CCR unit. A facility may install a multiunit groundwater monitoring system instead of separate systems, but if a release is detected, then all existing unlined CCR surface impoundments are subject to closure. A licensed professional geoscientist or qualified licensed professional engineer must certify the groundwater monitoring system design and construction, and the owner and operator must comply with the recordkeeping, notification, and internet posting requirements of new Chapter 352.

Proposed §352.911(b) establishes that an owner or operator must request an amendment to the registration before making changes to the groundwater monitoring system required by this section.

Additionally, proposed §352.911(c) requires that monitoring wells must be cased in a manner that maintains the integrity of the monitoring well borehole. Installation, plugging, and abandonment of wells or borings must be carried out in accordance with the requirements in 16 TAC Chapter 76.

§352.931, Groundwater Sampling and Analysis Requirements

The commission proposes new §352.931 to adopt by reference the groundwater sampling and analysis program requirements included in 40 CFR §257.93 (Groundwater sampling and analysis requirements). The groundwater monitoring program must include sampling and analysis procedures designed to ensure monitoring results will provide an accurate representation of groundwater quality at all background and downgradient wells. The program must include procedures and techniques for sample collection; sample preservation and shipment; analytical procedures; chain of custody control; and quality assurance and quality control. The sampling and analysis methods chosen must be appropriate for groundwater sampling and accurately measure the prescribed constituents, and other monitoring parameters, in groundwater. The owner or operator must establish background groundwater quality in all upgradient wells. The number of samples collected for groundwater monitoring programs must be consistent with the statistical procedures chosen. A licensed professional geoscientist or qualified licensed professional engineer must certify that the chosen statistical method is appropriate for evaluating the groundwater monitoring data for the CCR management area. The owner and operator must comply with the recordkeeping, notification, and internet posting requirements of new Chapter 352.

Proposed §352.931(b) establishes that an owner or operator must request an amendment to the registration before making changes to the groundwater sampling and analysis program required by this section.

§352.941, Detection Monitoring Program

The commission proposes new §352.941 to adopt by reference the detection monitoring program requirements included in 40 CFR §257.94 (Detection monitoring program), which outlines the requirements for conducting a groundwater detection monitoring program. For all CCR units, a minimum of eight independent samples from each background and downgradient well were required to be collected and analyzed for the constituents listed in Appendix III of §352.1421 (Appendix III - Constituents for Detection Monitoring) and Appendix IV of §352.1431 (Appendix IV - Constituents for Assessment Monitoring), no later than October 17, 2017 for existing units, and within the first six months after receiving waste in the unit when sampling for new units. The owner or operator must sample all groundwater monitoring wells at least on a semiannual basis, and during each sampling event must sample for all Appendix III constituents in §352.1421 at a minimum, at each well. Upon executive director approval, a reduced sampling frequency may be used if a demonstration is made based on site-specific characteristics and is certified by a licensed professional geoscientist or qualified licensed professional engineer that a reduced sampling frequency is necessary. The reduced sampling frequency can be no less than once a year. If the owner or operator determines there is a statistically significant increase over the

background values for any constituent in Appendix III of §352.1421, then the owner or operator must either demonstrate that the increase is from another source than the CCR unit, or begin assessment monitoring within 90 days of detecting the statistically significant increase. The owner and operator must comply with the recordkeeping, notification, and internet posting requirements of new Chapter 352.

Additionally, proposed §352.941(b) - (d) identify specific notifications and notification timelines required by the terms of the registration if there is a statistically significant increase over background. These requirements include the additional procedures required to pursue an alternative source demonstration under new Chapter 352.

§352.951, Assessment Monitoring Program

The commission proposes new §352.951 to adopt by reference the assessment monitoring requirements included in 40 CFR §257.95 (Assessment monitoring program). The section requires that certain steps and stages of the groundwater monitoring assessment, required under the self-implementing federal rule, would include certain notifications, submittals, and approvals by the executive director under the terms of the registration. New §352.951 would require the owner or operator to conduct assessment monitoring if a statistically significant increase over background levels is detected for one or more of the constituents listed in Appendix III of §352.1421. New §352.951 would also require that within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator

sample and analyze the groundwater for all Appendix IV constituents listed in §352.1431. Further, new §352.951 would require the owner or operator to resample all wells and conduct analyses for all Appendix III parameters in §352.1421, and the Appendix IV constituents from §352.1431 detected during the initial assessment monitoring sampling, within 90 days of obtaining the initial results, and on at least a semiannual basis thereafter. The owner or operator shall establish groundwater protection standards for all detected Appendix IV constituents in §352.1431 within 90 days of obtaining the initial results.

The owner or operator shall continue assessment monitoring if the concentrations of any constituent in Appendix III of §352.1421 and Appendix IV of §352.1431 are above background values and below the established groundwater protection standards. If the concentrations of all constituents listed in proposed new Appendixes III and IV of Chapter 352 are shown to be at or below background values for two consecutive sampling events, the owner or operator would be allowed to return to detection monitoring upon written approval from the executive director, in accordance with new §352.951(b). If one or more constituents in Appendix IV of §352.1431 are detected at statistically significant levels above the established groundwater protection standard in any sampling event, the owner or operator must prepare a notification identifying the Appendix IV constituents in §352.1431 that have exceeded the groundwater protection standard and meet the recordkeeping, notification, and internet posting requirements of new Chapter 352. The owner or operator of the CCR unit must also

characterize the nature and extent of the release and any relevant site conditions that may affect the remedy ultimately selected. The owner or operator must also notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination, if constituents have migrated off-site.

Within 90 days of finding that any of the constituents in Appendix IV of §352.1431 have exceeded the established groundwater protection standards, the owner or operator must either initiate an assessment of corrective measures or demonstrate that the contamination was from another source other than the CCR unit. If an assessment of corrective measures is required and the CCR unit is an existing unlined CCR surface impoundment, then the unit is subject to the closure requirements found in Chapter 352.

Additionally, proposed §352.951(c) - (e) identify specific notifications and notification timelines, demonstrations, and information that the owner or operator must submit to the executive director if there is a statistically significant increase over background, including the procedures for pursuing an alternative source demonstration.

§352.961, Assessment of Corrective Measures

The commission proposes new §352.961 to adopt by reference the groundwater monitoring and corrective action requirements included in 40 CFR §257.96 (Assessment of corrective measures), which outlines the requirements for conducting

the assessment of corrective measures. Within 90 days of finding that any constituent listed in Appendix IV of §352.1431 has been detected at a statistically significant level exceeding the established groundwater protection standard, 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, remediate any releases, and restore affected areas 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 of the CCR unit must continue to monitor groundwater in accordance with the assessment monitoring program while the assessment of corrective measures is conducted. The assessment of corrective measures must include an analysis of the effectiveness of potential corrective measures in meeting all the requirements and objectives of the remedy. The owner or operator must discuss the results of the corrective measures assessment at least 30 days before the selection of remedy, in a public meeting with interested and affected parties. The completed assessment of corrective measures must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

In accordance with proposed §352. 961(b), the owner or operator would submit to the executive director an application for amendment to the registration within 30 days of completing the assessment of corrective measures, and would include the Impacted

Property Assessment Report required by new §352.1031 and the proposed Corrective Action Remedy Report required by §352.1041.

§352.971, Selection of Remedy

The commission proposes new §352.971 adopting by reference the groundwater monitoring and corrective action requirements included in 40 CFR §257.97 (Selection of remedy), which outlines the requirements for selecting a remedy for the contamination of groundwater. Based on the results of the assessment of corrective measures, the owner or operator must, as soon as feasible, select a remedy that, at a minimum: is protective of human health and the environment; will attain the established groundwater protection standards; control the source of the release; remove as much of the contaminated materials as possible; and comply with the management standards in the next section. When selecting the remedy to be used, the owner or operator shall consider the following: the long- and short-term effectiveness of the remedy; the effectiveness of the remedy in controlling the source of contamination; the ease or difficulty of implementing the remedy; and how the remedy addresses the impacted parties' concerns. The owner or operator must specify, as part of the selected remedy, a schedule for implementing and completing remedial activities. The schedule must take the following into consideration: extent and nature of the contamination; reasonableness of meeting the established groundwater protection standards; availability of treatment or disposal for CCR managed during the remedy; potential risks to human health and the environment; the resource value of

the aquifer; and other relevant factors. Demonstration of these requirements being met must be signed and sealed by a licensed professional geoscientist or qualified licensed professional engineer, and meet the recordkeeping, notification, and internet posting requirements of new Chapter 352. The selection of remedy will be considered complete when the registration amendment including the approved corrective action program is issued.

§352.981, Implementation of the Corrective Action Program

The commission proposes new §352.981 adopting by reference the groundwater monitoring and corrective action requirements included in 40 CFR §257.98 (Implementation of the corrective action program), which outlines the requirements for implementing the chosen corrective action program. Within 90 days of selecting a remedy, the owner or operator must initiate remedial activities based on the schedule established during the selection of remedy process. The corrective action groundwater monitoring program must, at a minimum: meet the requirements for an assessment monitoring program; document the effectiveness of the corrective actions; and demonstrate compliance with the established groundwater protection standards. The owner or operator must also take any interim measures necessary to reduce further contamination from the unit. If at any time the owner or operator determines that the remedy is not achieving compliance, then they must implement other methods or techniques that could possibly achieve compliance. Corrective action shall be considered complete when the owner or operator can demonstrate for three

consecutive years, compliance with the established groundwater protection standards at all points within the plume of contamination for the constituents listed in Appendix IV of §352.1431, and all remedial activities have been completed. Demonstration of these requirements must be signed and sealed by a licensed professional geoscientist or qualified licensed professional engineer, and meet the recordkeeping, notification, and internet posting requirements of new Chapter 352. The owner or operator may return to detection monitoring or assessment monitoring upon written approval from the executive director.

§352.991, Spatial and Electronic Information

The commission proposes new §352.991 to require spatial data and reports submitted in electronic format to be accurate and submitted in accordance with the executive director's requirements.

§352.1001, Data Acquisition and Reporting Requirements

The commission proposes new §352.1001 to require quality control throughout the data acquisition process, including sampling and analysis methods, and reporting data to the executive director.

§352.1011, Impacted Property Assessment

The commission proposes new §352.1011 to require owners and operators of facilities requiring corrective action to identify properties that may have been impacted by the

release. The assessment must include a sufficient number of groundwater samples collected to reliably characterize the nature and degree of the contamination both horizontally and vertically through the groundwater-bearing unit.

§352.1021, Impacted Property Notification Requirements

The commission proposes new §352.1021 to require owners and operators conducting corrective action and that have identified impacted properties, have sampled from groundwater in properties not owned by the owner, or have identified exposure paths that might have led to direct contact with the release, to notify the owners of the properties, or persons identified, of the potential impacts and the results of any analytical data associated with the impacts. If there is an actual or probable human exposure to contaminated groundwater exceeding the groundwater protection standards, the owner or operator must also notify the executive director in addition to the property owner and to those potentially exposed.

§352.1031, Impacted Property Assessment Report

The commission proposes new §352.1031 to describe the reporting procedures for the impacted property assessment to the executive director and shall include the results from the impacted property assessment and the contact information of the identified impacted properties.

§352.1041, Corrective Action Remedy Report

The commission proposes new §352.1041 to describe the reporting procedures for owners or operators required to conduct corrective action for groundwater releases. The Corrective Action Remedy Report will contain the proposed remedy for corrective action including: the potential effectiveness of the proposed remedies, the sampling frequencies, groundwater treatment system, the corrective action implementation schedule, schedule for submitting corrective action reports, and post-response corrective action care.

§352.1051, Corrective Action Effectiveness Report

The commission proposes new §352.1051 to describe the reporting requirements for owners and operators conducting corrective action. Owners and operators must provide to the executive director a periodic evaluation of the ongoing corrective action program to identify how effective the corrective measures have been, how much of the remediation is complete, and an estimate of remaining time required to achieve corrective action goals.

§352.1061, Corrective Action Completion Report

The commission proposes new §352.1061 to describe the reporting requirements for demonstrating completion of corrective action.

§352.1071, Post-Response Corrective Action Care Reports

The commission proposes new §352.1071 to describe the reporting requirements for the post-response corrective action care including sampling and analysis, and maintenance of any physical controls to achieve corrective action goals to produce reports of the post-response corrective action care of the physical controls.

§352.1081, Post-Response Corrective Action Care Period

The commission proposes new §352.1081 to describe the post-response corrective action care period. The post-response corrective action care period begins after the approval of the corrective action completion report by the executive director and continues for 30 years or until the facility can demonstrate that there is no longer a threat of contamination to groundwater from the unit. The post-response corrective action care period concludes when the executive director issues a no further action letter.

Subchapter I: Financial Assurance

§352.1101, Financial Assurance Required

The commission proposes new §352.1101 to require financial assurance from owners and operators required to perform corrective action under this chapter and who conduct corrective action using a physical control. The commission would accomplish this purpose by implementing financial assurance requirements similar to financial assurance requirements in the Texas Risk Reduction Program. The amount of the financial assurance will be for the post-response corrective action care of physical

controls used to conduct corrective action. The amount will be based on the cost to hire a third party to maintain the physical control for the duration of the post-response corrective action care period. A financial assurance mechanism must be submitted no more than 90 days after the executive director approves an amendment to implement corrective action.

If an owner or operator must maintain financial assurance beyond the minimum 30 years in accordance with §352.1081, then the owner or operator must submit a new cost estimate within 180 days before the end of the preceding post-response care period and provide a financial assurance mechanism at least 90 days before the end of the period.

If an owner or operator fails to perform post-response corrective action care, then the executive director may use the funds provided under this section to perform the required care.

Financial assurance under this chapter must be demonstrated in accordance with 30 TAC Chapter 37, Subchapter A - D (General Financial Assurance Requirements; Financial Assurance Requirements for Closure, Post Closure and Corrective Action; Financial Assurance Mechanisms for Closure, Post Closure and Corrective Action; and Wording of the Mechanisms for Closure, Post Closure and Corrective Action) except as indicated in §352.1111 (Exceptions).

§352.1111, Exceptions

The commission proposes new §352.1111 to clarify exceptions to 30 TAC Chapter 37 (Financial Assurance). The exceptions in this section include identifying any mechanisms that may not be used for financial assurance under this chapter, identifying sections in Chapter 37 that do not apply to this chapter, prescribing which endorsement must be used for insurance mechanisms, and clarifying the timing for mechanism increases for financial tests, corporate guarantees, and local government financial tests.

Subchapter J: Closure and Post-Closure Care

§352.1201, Inactive Coal Combustion Residuals Surface Impoundments

The commission proposes new §352.1201 to adopt by reference the closure requirements in 40 CFR §257.100 (Inactive CCR surface impoundments), which addresses inactive surface impoundments, recognizing them as existing surface impoundments and subject to all requirements for existing surface impoundments accordingly. Owners and operators of inactive surface impoundments must demonstrate compliance with regulations applicable to existing surface impoundments by the timeframes prescribed in this section or will be subject to closure requirements in §352.1211 (Closure or Retrofit of Coal Combustion Residuals Units).

§352.1211, Closure or Retrofit of Coal Combustion Residuals Units

The commission proposes new §352.1211 to adopt by reference the closure or retrofit requirements in 40 CFR §257.101 (Closure or retrofit of CCR units), which identifies CCR units required to close, and the timeframe for initiating closure procedures. Owners and operators of existing unlined surface impoundments identifying a statistically significant concentration level above the groundwater protection standard of any of the constituents found in Appendix IV of §352.1431 through groundwater sampling, must stop applying CCR to the unit and initiate closure or retrofitting of the unit in accordance with Chapter 352, Subchapter J. Existing CCR surface impoundments not meeting the location standards identified in new Chapter 352 must close. New or existing surface impoundments failing to make the safety factor assessments within the established timeframes, or do not meet the minimum safety factors required by new Chapter 352 must close. And existing landfills that are not compliant with the location restriction for unstable areas must close.

§352.1221, Criteria for Conducting the Closure or Retrofit of Coal Combustion Residuals Units

The commission proposes new §352.1221 to adopt by reference the closure requirements in 40 CFR §257.102 (Criteria for conducting the closure or retrofit of CCR units). Owners and operators of CCR units must close the unit by removing the CCR wastes and decontaminating until groundwater monitoring concentrations for Appendix IV of §352.1431 constituents do not exceed the groundwater protection standards, or by leaving wastes in place and installing a final cover. A written plan of

how closure will be conducted on all CCR units, including planned closure steps and schedules, must have been generated by October 17, 2016 for existing units, and no later than initial receipt of wastes for new or laterally expanding units. Surface impoundments that will close leaving wastes in place must be drained and stabilized before installation of the final cover. Owners and operators are required to initiate closure no later than 30 days after the known last receipt of waste or removal of wastes for beneficial use. Idle units that have not received waste, or have not had waste removed for beneficial use, must initiate closure no later than two years after the last date of either activity. The owner or operator may make a demonstration meeting the requirements of new §352.1221 that the idle waste activities will resume, including providing a certification from an authorized representative. CCR landfills are expected to complete closure within six months, unless a demonstration can be made that additional time is needed. No more than two, one-year extensions will be added to the time required for landfill closure. CCR surface impoundments are expected to complete closure within 5 years, unless a demonstration can be made that additional time is needed. A surface impoundment of 40 acres or less will only be granted one, two-year extension to complete closure. A surface impoundment greater than 40 acres, may be granted up to five, two-year extensions to complete closure. Units closed with wastes left in place are subject to deed recordation requirements. Owners and operators must comply with the recordkeeping, notification, and internet posting requirements of Chapter 352.

New §352.1221 also contains the guidelines for retrofitting an existing CCR surface impoundment, which requires removing all wastes and installing or upgrading the liner to meet the liner requirements in §352.721. A written plan of retrofitting activities must be created at least 60 days before initiating retrofitting. Retrofitting activities must follow the timelines for closure of a surface impoundment prescribed in §352.1221.

Finally, new §352.1221 requires a licensed professional engineer certification of documentation and demonstrations made to comply with §352.1221 and these records must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

§352.1231, Alternative Closure Requirements

The commission proposes new §352.1231 to adopt by reference the alternative closure requirements in 40 CFR §257.103 (Alternative closure requirements), which describes flexibilities that may be afforded to owners and operators of units that would otherwise be forced to initiate closure under the requirements of Chapter 352. If there is no alternative disposal capacity available, the owner or operator must initiate closure when an alternative disposal capacity becomes available, or five years after the alternative closure demonstration was made. Owners or operators may pursue these flexibilities if no additional capacity is available and the coal-fired boiler is designated for closure. Closure of the unit is required by: April 19, 2021 for landfills, October 17,

2023 for surface impoundments of 40 acres or less, and October 17, 2028 for surface impoundments greater than 40 acres. Progress reports are required by §352.1231. Notifications complying with the requirements of §352.1231 require a licensed professional engineer certification and must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352.

§352.1241, Post-Closure Care Requirements

The commission proposes new §352.1241 to adopt by reference the post-closure requirements from 40 CFR §257.104 (Post-closure care requirements), which requires post-closure maintenance and monitoring for 30 years after CCR units are closed with wastes in place. A unit ending the post-closure care period in assessment monitoring will be required to extend the post-closure period to complete assessment monitoring. A written post-closure care plan was required by October 17, 2016 for existing units, and no later than initial receipt of wastes for new or laterally expanding units. Documentation of information required by §352.1241 requires licensed professional engineer certification and must meet the recordkeeping, notification, and internet posting requirements of new Chapter 352. Texas will continue the post-closure care period beyond 30 years until the owner or operator makes a demonstration of no further risk to human health, the environment, or property, and the executive director approves the demonstration.

Subchapter K: Recordkeeping, Notification, and Posting of Information to the Internet

§352.1301, Recordkeeping Requirements

The commission proposes new §352.1301 to adopt by reference the recordkeeping requirements from 40 CFR §257.105 (Recordkeeping Requirements). Facilities subject to new Chapter 352 must maintain a written record of all materials generated in response to the requirements of Chapter 352. The retention time is five years for most records, however design and construction records must be kept until closure. Corrective action remedy reports must be kept until the completion of the remedy. Facilities need only retain the most recent revision in the record for many of the reoccurring plans and reports.

Proposed §352.1301(b) also includes a requirement that groundwater monitoring well and elevation records must be kept for the active life of the facility and the post-closure care period.

§352.1311, Notification Requirements

The commission proposes new §352.1311 to adopt by reference the notification requirements from 40 CFR §257.106 (Notification Requirements), which requires facilities to send a notification to the executive director of the availability of information generated in response to requirements in Chapter 352. In most cases, notification is required within 30 days of including the information in the onsite operating record, however facilities undergoing new construction must provide a

notice within 60 days of the construction and certify the construction no later than receipt of the first CCR wastes in the new or expanded unit.

§352.1321, Publicly Accessible Internet Site Requirements

The commission proposes new §352.1321 to adopt by reference the internet posting requirements from 40 CFR §257.107 (Publicly Accessible Internet Site Requirements). Facilities must post information required by Chapter 352 on a publicly accessible website and maintain the availability for at least five years. In most cases, the information is required to be posted within 30 days of including the information in the on-site operating record, however the owner or operator constructing a new unit must post the information to the publicly accessible website within 60 days of the construction, and certify the construction no later than receipt of the first CCR wastes in the new or expanded unit.

Additionally, new §352.1321 identifies the items the owner or operator shall post to a publicly accessible website to comply with conditions of the registration public participation requirements.

Subchapter L: Appendixes

§352.1401, Appendix I - Maximum Contaminant Levels Promulgated Under the Safe Drinking Water Act

The commission proposes new §352.1401 to adopt by reference Appendix I from 40 CFR Part 257 (Maximum Contaminant Levels (MCLs)), which lists the maximum contaminant levels of various constituents of concern, as promulgated under the Safe Drinking Water Act. Facilities must compare groundwater data to these values for determination of exceedances and releases.

§352.1421, Appendix III - Constituents for Detection Monitoring

The commission proposes new §352.1421 to adopt by reference Appendix III from 40 CFR Part 257 (Constituents for Detection Monitoring), which lists the constituents facilities must evaluate during the groundwater detection monitoring protocol.

§352.1431, Appendix IV - Constituents for Assessment Monitoring

The commission proposes new §352.1431 to adopt by reference Appendix IV from 40 CFR Part 257 (Constituents for Assessment Monitoring), which lists the constituents facilities must evaluate during the groundwater assessment monitoring protocol.

Fiscal Note: Costs to State and Local Government

Jené Bearse, Analyst in the Budget and Planning Division, determined that for the first five-year period the proposed rules are in effect, significant fiscal implications are anticipated for the agency as a result of the administration or enforcement of the proposed rule. Fiscal implications are also expected for units of local government who

own or operate coal fired power plants or store coal ash; though in general, these fiscal implications are not expected to be significant.

The proposed rulemaking creates a new Chapter 352, which contains the state's plan to operate a CCR registration program in lieu of the federal requirements. The proposed rule will implement a state registration and compliance monitoring program to authorize CCR units, complaint and compliance inspections, enforcement proceedings and the review of compliance monitoring data.

To create this program the legislature provided funding in Senate Bill 1, General Appropriations Act, Article VI, Commission on Environmental Quality, Rider 31. The rider states that $390,000 each year of the commission's appropriation, under Strategy A.2.3. Waste Management and Permitting, shall be used to implement a coal combustion residuals program. This rider funded four FTEs and $270,000 in Information Technology development and maintenance for Fiscal Year (FY) 2018 and FY 2019 from General Revenue-Dedicated Waste Management Account No. 549. Starting in FY 2020, the commission will need to maintain its current level of funding for the four FTEs, $240,000 per fiscal year, to continue to operate the program.

Proposed §352.231(h) contains a registration fee of $150 per application or amendment application. It is estimated that in the first year, 17 applications would be filed for an increase of $2,550 to General Revenue-Dedicated Waste Management

Account No. 549, and an estimated annual increase of $1,200 in subsequent years due to amendment fees. The additional revenue raised by the implementation of these proposed rules combined with the current level of appropriations for the program are expected to have a negative impact on the fund balance of the Waste Management Account.

Two units of local government will be affected by this proposed rule change, Texas Lower Colorado River Authority and City Public Service (CPS Energy of San Antonio), because they operate power plants and will be required to complete the application and pay the $150 registration fee, and any subsequent amendment fee of $150. Under the federal regulations, an application fee is not required, so this is an increased cost to the regulated community. If the applicant uses outside counsel or experts to prepare their initial application, those expenses could total $29,750, using an average rate of $175 per hour at 170 hours. It is estimated that amendment applications require approximately 29 hours of preparation time, and if they required expert assistance to complete the amendment application, it could total $5,075.

Public Benefits and Costs

Ms. Bearse also determined that for each year of the first five years the proposed rules are in effect, the public benefit anticipated from the proposed rule will be the creation of a state plan to regulate disposal of CCR, including enforcement capability, a complaint process and compliance inspections. The proposed rules are expected to

enhance the commission's effort to protect public health and the environment by preventing or minimizing the level of contaminants and waste released to the environment through regulation and authorization of facilities. Without these proposed rules, the only enforcement tool available to the public is a citizen lawsuit.

In addition to the two entities of local government, there are approximately 15 businesses which will be subject to the proposed rules and will be required to pay the $150 application fee and amendment application fee, if necessary. Under the federal regulations, an application fee is not required, so this is an increased cost to the regulated community. If the applicant uses outside counsel or experts to prepare their initial application, those expenses could total $29,750, using an average rate of $175 per hour at 170 hours. It is estimated that amendment applications require approximately 29 hours of preparation time, and if a business required expert assistance to complete the amendment application, it could total $5,075. Overall, these costs are not expected to be significant.

Local Employment Impact Statement

The commission reviewed this proposed rulemaking and determined that a Local Employment Impact Statement is not required because the proposed rules do not adversely affect a local economy in a material way for the first five years that the proposed rules are in effect.

Rural Community Impact Statement

The commission reviewed this proposed rulemaking and determined that the proposed rules do not adversely affect rural communities in a material way for the first five years that the proposed rules are in effect. The registrations and amendments would apply statewide and have the same effect in rural communities as in urban communities.

Small Business and Micro-Business Assessment

No adverse fiscal implications are anticipated for small or micro-businesses due to the implementation or administration of the proposed rules for the first five-year period the proposed rules are in effect. Currently, the facilities that are storing coal ash and would be subject to the proposed rules are not small businesses.

Small Business Regulatory Flexibility Analysis

The commission reviewed this proposed rulemaking and determined that a Small Business Regulatory Flexibility Analysis is not required because the proposed rules do not adversely affect a small or micro-business in a material way for the first five years the proposed rules are in effect.

Government Growth Impact Statement

The commission prepared a Government Growth Impact Statement assessment for this proposed rulemaking. The proposed rulemaking creates a registration program and

requires facilities to prepare and submit registration applications, amendment applications, if needed, and to submit annual compliance monitoring reports to the commission for approval. The program created by these proposed regulations will require a continuation of funding in future appropriations for the four FTEs who operate the program at a cost of $240,000 per fiscal year. It is estimated that these proposed rules will increase fees paid to the agency, an estimated $2,550 in the first year and $1,200 in subsequent years. The proposed rulemaking does increase the number of individuals subject to its applicability; however, those individuals were previously regulated by federal regulations. During the first five years the proposed rules are in effect, the rulemaking should not impact positively or negatively the state's economy.

Draft Regulatory Impact Analysis Determination

The commission reviewed the proposed new rules in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking is not subject to Texas Government Code, §2001.0225 because it does not meet the definition of a "Major environmental rule." A "Major environmental rule" is defined under Texas Government Code, §2001.0225(g)(3) as a rule specifically intended to protect the environment or reduce risks to human health from environmental exposure, and that may adversely affect in a material way the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state.

The proposed new rules provide comprehensive standards and create a program to regulate owners and operators of landfills and surface impoundments used for the disposal and management of CCR generated from the combustion of coal by electric utilities and independent power producers.

The proposed new rules are not anticipated to adversely affect in a material way the economy, a sector of the economy, productivity, competition, or jobs because the proposed new rules do not alter in a material way the existing, self-implementing requirements already in effect under 40 CFR Part 257 for owners and operators of landfills and surface impoundments managing CCR.

In addition to not meeting the definition of a "Major environmental rule," the proposed new rules do not meet any of the four applicability requirements listed in Texas Government Code, §2001.0225(a). Texas Government Code, §2001.0225 only applies to a major environmental rule, the result of which is to: 1) exceed a standard set by federal law; 2) exceed an express requirement of state law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency. The proposed new rules do not exceed a standard set by federal law, an express requirement of state law, a requirement of a

delegation agreement, nor are the new rules proposed solely under the general powers of the agency.

The proposed new rules do not exceed a standard set by federal law because the proposed new rules substantially incorporate federal requirements for new and existing landfills and surface impoundments managing CCR generated from the combustion of coal at electric power utilities and independent power producers. Further, programmatic elements of the proposed new rules are consistent with federal requirements for state programs of prior approval. Therefore, the proposed rules are compatible with federal law.

Additionally, the proposed rules do not exceed an express requirement of state law because Texas Health and Safety Code (THSC), Chapter 361, Solid Waste Disposal Act, establishes requirements for the commission to regulate industrial solid waste. Therefore, the proposed rules are compatible with state law.

The proposed new rules do not exceed a requirement of a delegation agreement because the proposed new rules are not subject to a delegation agreement.

Finally, the proposed new rules are not proposed solely under the general powers of the agency. The proposed new rules are proposed under the THSC, Solid Waste Disposal Act, §361.017 and §361.024, which require the commission to control all

aspects of the management of industrial solid waste by all practical and economically feasible methods consistent with its powers and duties.

Written comments on the draft regulatory impact analysis determination may be submitted to the contact person at the address listed under the Submittal of Comments section of this preamble.

Takings Impact Assessment

The commission evaluated these proposed new rules and performed an assessment of whether the proposed new rules constitute a taking under Texas Government Code, Chapter 2007. The commission's preliminary assessment is that implementation of these proposed new rules would not constitute a taking of real property.

The purpose of the proposed new rules is to provide comprehensive standards and create a program regulating owners and operators of landfills and surface impoundments used for the disposal and management of CCR generated from the combustion of coal by electric utilities and independent power producers. The proposed new rules do not substantially change the existing, self-implementing federal requirements in effect under 40 CFR Part 257 for owners and operators of landfills and surface impoundments managing CCR.

A "taking" under Texas Government Code, Chapter 2007 means a governmental action that affects private real property in a manner that requires compensation to the owner

under the United States or Texas Constitution, or a governmental action that affects real private property in a manner that restricts or limits the owner's right to the property and reduces the market value of affected real property by at least 25%. Promulgation and enforcement of these proposed new rules would be neither a statutory nor a constitutional taking of private real property. Specifically, there are no burdens imposed on private real property under the proposed new rules because the proposed new rules neither relate to, nor have any impact on, the use or enjoyment of private real property, and there would be no reduction in real property value as a result of the proposed new rules. Therefore, the proposed rulemaking would not constitute a taking under Texas Government Code, Chapter 2007.

Consistency with the Coastal Management Program

The commission reviewed the proposed rulemaking and found that the proposal is subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act, Texas Natural Resources Code, §§33.201 et seq., and therefore must be consistent with all applicable CMP goals and policies. The commission conducted a consistency determination for the proposed rules in accordance with Coastal Coordination Act implementation rules, 31 TAC §505.22 and found the proposed rulemaking is consistent with the applicable CMP goals and policies.

CMP goals applicable to the proposed rules include: 1) to protect, preserve, restore, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas (CNRAs); 2) to ensure sound management of all coastal resources by allowing for compatible economic development and multiple human uses of the coastal zone; and 3) to minimize loss of human life and property due to the impairment and loss of protective features of CNRAs. CMP policies applicable to the proposed rules include that new CCR facilities and lateral expansion of existing facilities shall be sited, designed, and constructed to prevent releases of pollutants; and new and existing CCR facilities will be operated in a way to prevent releases of pollutants.

Promulgation and enforcement of these rules will not violate or exceed any standards identified in the applicable CMP goals and policies because the proposed rules are consistent with these CMP goals and policies, because these rules do not create or have a direct or significant adverse effect on any coastal natural resource areas, and because the proposed rules would ensure proper management of CCR in all regionals of the state, including coastal area.

Written comments on the consistency of this rulemaking may be submitted to the contact person at the address listed under the Submittal of Comments section of this preamble.

Announcement of Hearing

The commission will hold a public hearing on this proposal in Austin on September 6, 2018, at 10:00 a.m. in Building E, Room 201S, at the commission's central office located at 12100 Park 35 Circle. The hearing is structured for the receipt of oral or written comments by interested persons. Individuals may present oral statements when called upon in order of registration. Open discussion will not be permitted during the hearing; however, commission staff members will be available to discuss the proposal 30 minutes before the hearing.

Persons who have special communication or other accommodation needs who are planning to attend the hearing should contact Sandy Wong, Office of Legal Services at (512) 239-1802 or 1-800-RELAY-TX (TDD). Requests should be made as far in advance as possible.

Submittal of Comments

Written comments may be submitted to Ms. Kris Hogan MC 205, Office of Legal Services, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087, or faxed to (512) 239-4808. Electronic comments may be submitted at: *https://www6.tceq.texas.gov/rules/ecomments/*. File size restrictions may apply to comments being submitted via the eComments system. All comments should reference Rule Project Number 2017-037-352-WS. The comment period closes on September 10, 2018. Copies of the proposed rulemaking can be obtained from the commission's

website at *https://www.tceq.texas.gov/rules/propose_adopt.html*. For further information, please contact Jarita Sepulvado, Industrial and Hazardous Waste Section, (512) 239-4413.

SUBCHAPTER A: GENERAL PROVISIONS
§§352.1 - 352.6

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.1. Applicability.

(a) This chapter applies to:

(1) owners and operators of new and existing coal combustion residuals (CCR) landfills and surface impoundments that dispose or manage CCR generated from the combustion of coal at electric utilities and independent power producers;

(2) owners and operators of CCR disposal units located off-site of electric utility or independent power producer facilities;

(3) owners and operators of inactive CCR surface impoundments located at active electric utilities and independent power producers regardless of the fuel currently used to produce electricity at the facility;

(4) a lateral expansion of a CCR landfill or surface impoundment; and

(5) any CCR management practice that does not meet the definition of beneficial use of CCR in 40 Code of Federal Regulations §257.53.

(b) This chapter does not apply to:

(1) owners and operators of CCR landfills that ceased receiving CCR before October 19, 2015;

(2) owners and operators of electric utilities and independent power producers that ceased producing electricity before October 19, 2015;

(3) 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;

(4) fly ash, bottom ash, boiler slag, or 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 50% coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal;

(5) beneficial use of CCR;

(6) CCR placement at active or abandoned underground or surface coal mines;

(7) owners and operators of municipal solid waste landfills that receive CCR; or

(8) owners and operators of commercial industrial nonhazardous waste landfill facilities authorized by a permit issued under Chapter 335, Subchapter T of this title (relating to Permitting Standards for Owners and Operators of Commercial Industrial Nonhazardous Waste Landfill Facilities), that receive CCR.

§352.2. Applicability of Other Regulations.

The commission adopts by reference 40 Code of Federal Regulations §257.52 (Applicability of other regulations) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.3. Definitions.

(a) The commission adopts by reference 40 Code of Federal Regulations §257.53 (Definitions) as amended through the July 2, 2015, issue of the *Federal Register* (80 FR 37991) subject to the exceptions, modifications, and additions under this section.

(b) The terms used in this chapter that are not defined under this section are not defined by the United States Resource Conservation and Recovery Act.

(c) The words and terms used in this chapter also have the meanings in Chapter 3 of this title (relating to Definitions) and the following additional meanings.

(1) Disposal--The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste as defined in §335.1 of this title (relating to Definitions) into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters. For purposes of this chapter, disposal does not include the storage or the beneficial use of coal combustion residuals.

(2) Impacted property--The entire area (i.e., on-site and off-site) containing a statistically significant increase over the groundwater protection standards as determined in this chapter for any Appendix IV constituents in §352.1431 of this title (relating to Appendix IV - Constituents for Assessment Monitoring).

(3) Leachate--Any liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such wastes.

(4) Licensed professional geoscientist--A geoscientist who holds a valid license issued by the Texas Board of Professional Geoscientists under the Texas Geoscience Practices Act.

(5) Off-site--Property which cannot be characterized as on-site.

(6) On-Site--The same or geographically contiguous property which may be divided by public or private rights-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing, as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which the person controls and to which the public does not have access, is also considered on-site property.

(7) Physical control--A structure or hydraulic containment action designed to prevent exposure to and/or migration of contaminated groundwater that exceeds the groundwater protection standards. Examples of physical controls are caps, slurry walls, sheet piling, hydraulic containment wells, and interceptor trenches, but typically not fences.

(8) Point of compliance--A vertical surface located as close as practicable and not farther than 500 feet from the hydraulically down gradient limit of the coal combustion residuals unit boundary extending down through the uppermost aquifer underlying the regulated units, and located within the facility boundary.

(9) Publicly accessible website--A website that is available for review by the public that does not require registration or submittal of personal information, including an e-mail address.

(10) Registration--Written approval of specific solid waste management activities that do not require a permit, as authorized by this chapter.

§352.4. Engineering and Geoscientific Information.

All engineering and geoscientific information submitted to the commission under this chapter shall be prepared by, or under the supervision of, a licensed professional engineer or licensed professional geoscientist, and shall be signed, sealed, and dated by qualified professionals as required by the Texas Engineering Practice Act and the Texas Geosciences Practice Act, and the licensing and registration boards under these acts.

§352.5. Laboratory Accreditation and Certification.

Environmental testing laboratories generating analytical data required under this chapter must be accredited in accordance with the Texas Commission on Environmental Quality Environmental Testing Laboratory Accreditation and

Certification Program requirements of Chapter 25 of this title (relating to Environmental Testing Laboratory Accreditation and Certification).

§352.6. General Prohibitions.

In addition to the requirements of §352.101 of this title (relating to Registration Required), no person may cause, suffer, or allow the collection, handling, storage, processing, management, or disposal of coal combustion residuals (CCR) in such a manner so as to cause:

(1) the discharge, or imminent threat of discharge, of CCR into, or adjacent to, the waters in the state, without obtaining specific authorization for such a discharge from the Texas Commission on Environmental Quality;

(2) the creation and maintenance of a nuisance; or

(3) the endangerment of the public health and welfare.

SUBCHAPTER B: REGISTRATION CONDITIONS
§§352.101, 352.111, 352.121, 352.131, 352.141

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.101. Registration Required.

(a) Except as provided by §352.1 of this title (relating to Applicability), a person

who manages or disposes of coal combustion residuals (CCR) generated from the combustion of coal at electric utilities and independent power producers in an existing landfill; or an existing, or inactive surface impoundment; shall within 180 days of the effective date of this chapter file a registration application in accordance with this chapter.

(b) Except as provided by §352.1 of this title, no person may cause, suffer, or allow the disposal or management of CCR in a new or lateral expansion of a CCR landfill or surface impoundment, unless such activity is authorized by a registration under this chapter.

(c) The executive director may issue a registration as provided in this chapter. One or more CCR units located on contiguous property must be authorized under one registration. CCR units located on non-contiguous property may not be authorized under the same registration.

§352.111. Registration Characteristics and Conditions.

The executive director shall incorporate the applicable characteristics and standards of Chapter 305, Subchapter F of this title (relating to Permit Characteristics and Conditions) into a registration issued under this chapter.

§352.121. Duration.

A registration may be issued for the life of the facility, but may be revoked or amended at any time that the owner or operator fails to meet the minimum standards set forth in this chapter, or for any other good cause.

§352.131. Amendments.

(a) A change in a term, condition, or provision of a registration requires an amendment.

(b) An application requesting an amendment of a registration issued under this chapter will be processed as a major amendment or a minor amendment in accordance with §305.62 of this title (relating to Amendments), subject to the following exceptions:

(1) §305.69 of this title (relating to Solid Waste Permit Modification at the Request of the Permittee) does not apply to a registration issued under this chapter; and

(2) a change initiated by the executive director under §305.62(d) of this title shall be processed as an amendment, and not as a modification.

§352.141. Issuance and Transfer.

(a) The executive director may issue a registration to a specific person, and a registration may not be transferred from one person to another without complying with §305.64 of this title (relating to Transfer of Permits).

(b) A registration is attached to the real property to which it pertains and may not be transferred from one facility to another.

SUBCHAPTER C: REGISTRATION APPLICATION CONTENTS §§352.201, 352.211, 352.221, 352.231, 352.241, 352.251, 352.261, 352.271, 352.281, 352.291, 352.301

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.201. Application Required.

Any person who is required to obtain a registration, or who requests an amendment of a registration, shall complete, sign, and submit an application on forms provided by, and in the manner required by, the executive director.

§352.211. Who Applies.

For coal combustion residuals registrations, it is the duty of the owner to submit an application for a registration, unless a facility is owned by one person and operated by another, in which case it is the duty of the facility operator to submit an application for a registration.

§352.221. Signatories to Applications.

Applications shall be signed in accordance with §305.44 of this title (relating to Signatories to Applications).

§352.231. General Application Requirements.

(a) General. The owner or operator applying for a registration, or registration amendment, shall submit an application containing the information required by this subchapter.

(b) Facility location. A narrative description of the physical location of the facility must include the following.

(1) Landmarks. The owner or operator shall describe the location of the facility with respect to known or easily identifiable landmarks;

(2) Access. The owner or operator shall describe the access routes from the nearest United States or state highway to the facility; and

(3) Coordinates. The owner or operator shall describe the longitudinal and latitudinal geographic coordinates of the facility.

(c) Endangered or threatened species. The owner or operator shall verify that the design, construction, and operation of the coal combustion residuals (CCR) landfill or surface impoundment does not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

(d) Maps. The following maps, submitted as a group, must each contain the elements under §305.45(a)(6) of this title (relating to Contents of Application for Permit); latitudes and longitudes; and the facility property boundary.

(1) General location maps. The owner or operator shall provide all, or a portion, of Texas Department of Transportation (TxDOT) prepared county maps depicting the general facility location. At least one general location map must be at a scale of one-half inch equals one mile. If TxDOT publishes more detailed maps of the proposed facility area, those maps shall also be included. The latest revision of all maps shall be used.

(2) General topographic maps. The owner or operator shall submit United States Geological Survey 7-1/2-minute quadrangle sheets, or their equivalent, for the facility. At least one general topographic map shall be at a scale of one-inch equals 2,000 feet.

(3) Adjacent landowners. The owner or operator shall provide a land ownership map with an accompanying landowners list containing:

(A) maps depicting property ownership within one-quarter mile of the facility, including adjacent property owners and all mineral interest ownership under the facility; and

(B) a landowners list keyed to the land ownership maps depicting each property owner's name and mailing address. Property and mineral interest owners' names and mailing addresses, derived from the real property appraisal

records available as of the date the registration application is filed, will comply with this paragraph. Notice of an application is not defective if property owners did not receive notice because they were not listed in the real property tax appraisal records. The list shall also be provided in electronic form.

(4) Facility layout maps. The owner or operator shall provide a map, or set of maps, showing:

(A) the unit outlines;

(B) the facility's main interior roadway locations, and for landfill units, the general location of main interior roadways that can be used to provide access to fill areas;

(C) the monitor well locations;

(D) the building locations;

(E) any other graphic representations or marginal explanatory notes necessary to communicate the facility layout; and

(F) for landfill units:

(i) general filling operation sequence;

(ii) excavation and filling sequence;

(iii) cell or trench dimensions; and

(iv) maximum waste elevations and final cover.

(5) Surrounding features maps. The owner or operator shall provide maps accurately depicting:

(A) area streams;

(B) the facility property boundary; and

(C) all known water wells within 500 feet of the facility, labeled with the state well numbering system designation for the Texas Water Development Board "located wells."

(e) Aerial image. The owner or operator shall provide a readable aerial image, or images, that comply with the following.

(1) Size and scale. Images must measure approximately 11 inches by 17 inches, with a scale within a range of one-inch equals 1,667 feet to one-inch equals 3,334 feet.

(2) Depict and identify. Images must depict and identify:

(A) the area within at least a one-mile radius of the site boundary;

(B) the facility boundary; and

(C) all existing CCR surface impoundments and landfills.

(3) Readability. If submitted, digital prints, images, and photocopies of photographs must be readable.

(f) Property owner information. Property owner information must include, at a minimum, the following.

(1) Legal description. The owner or operator shall provide a legal description of the facility including:

(A) the legal descriptions of the real property where the facility is located; and the county, book, and page number, or other generally accepted identifying reference of the current ownership record;

(B) for platted property, the county, book, and page number, or other generally accepted identifying reference of the final plat record, including the acreage encompassed in the application, a copy of the final plat, and a written legal description;

(C) a metes and bounds description of the facility boundary, prepared, signed, and sealed by a licensed professional land surveyor; and

(D) drawings of the boundary metes and bounds description.

(2) Property owner affidavit. The owner or operator shall provide a property owner affidavit signed by the owner acknowledging:

(A) the state of Texas may hold the property owner of record either jointly or severally responsible for the operation, maintenance, closure, and post-closure care of the facility;

(B) the owner has a responsibility to record a notation on the deed in accordance with §352.1221 of this title (relating to Criteria for Conducting the Closure or Retrofit of Coal Combustion Residuals Units) for facilities where waste will remain after closure; and

(C) the owner or operator, and the State of Texas, shall have access to the property during the active life and any post-closure care period for inspection and maintenance.

(g) Legal authority. The owner or operator shall provide verification of the legal status of the owner and of the operator, which may include a one-page certificate of incorporation issued by the secretary of state. The owner or operator shall list all persons having over a 20% ownership in the proposed facility.

(h) Application fee. In accordance with §305.53 of this title (relating to Application Fee), the application fee for a registration or amendment is $150 total, including $100 toward the application fee, and an additional $50 to provide for the cost of providing the required notice.

(i) Additional contents. The owner or operator shall submit the following additional information.

(1) Wastewater discharges. The owner or operator shall provide information described under §281.5 of this title (relating to Application for Wastewater Discharge, Underground Injection, Municipal Solid Waste, Radioactive Material, Hazardous Waste, and Industrial Solid Waste Management Permits); and

(2) Additional information. The owner or operator shall provide additional information required by:

(A) §305.45 of this title (relating to Contents of Application for Permit);

(B) §305.50(a)(1) - (3) and (7) of this title (relating to Additional Requirements for an Application for a Hazardous or Industrial Solid Waste Permit and for a Post-Closure Order); and

(C) §305.52 of this title (relating to Waste Containing Radioactive Materials).

§352.241. Geology Report.

(a) General. A geology report prepared and signed in accordance with §352.4 of this title (relating to Engineering and Geoscientific Information) must be included in

the application. Previously prepared documents may be submitted, but must be supplemented or updated as necessary to provide the requested information. Sources and references for information must be provided. The geology report must contain, at a minimum, the information in this section.

(b) Regional geology. The owner or operator shall provide a description of the local geology of the area that includes:

(1) a general discussion of the geology and soils of the site; and

(2) a geologic map of the region with text describing the stratigraphy and lithology of the map units. An appropriate section of a published map series such as the Geologic Atlas of Texas prepared by the Bureau of Economic Geology is acceptable.

(c) Active geologic units. The owner or operator shall provide a description of the generalized stratigraphic column in the facility area from the base of the lowermost aquifer capable of providing usable groundwater, or from a depth of 1,000 feet, whichever is less, to the land surface. The geologic age, lithology, variations in lithology, thickness, depth, geometry, hydraulic conductivity, and depositional history of each geologic unit should be described based on available geologic information. Regional stratigraphic cross-sections should be provided.

(d) Active geologic processes. The owner or operator shall provide a description of the geologic units and processes active in the vicinity of the facility, including an identification of any faults and subsidence. The faulting information must include, at a minimum, the information required by §§352.621, 352.631, and 352.641 of this title (relating to Fault Areas; Seismic Impact Zones; and Unstable Areas).

(e) Groundwater and surface water data. The owner or operator shall provide a description of the groundwater and surface water at and near the site that includes:

(1) unit-specific groundwater condition data; and

(2) site-specific surface water condition data.

(f) Regional aquifers. The owner or operator shall provide a description of the regional aquifers near the facility based on published and open-file sources. Provided information must include:

(1) aquifer names and their association with geologic units described in subsection (c) of this section;

(2) aquifer compositions;

(3) aquifer hydraulic properties;

(4) information indicating whether each aquifer is confined or unconfined;

(5) information indicating whether the aquifers are hydraulically connected;

(6) a regional water table contour map, or potentiometric surface map, for each aquifer, if available;

(7) a groundwater flow rate estimate;

(8) typical total dissolved solids values, or a range of values, in the aquifers;

(9) identification of aquifer recharge areas within five miles of the site; and

(10) the present use of groundwater withdrawn from aquifers in the vicinity of the facility. The owner or operator shall provide the identification, location,

and corresponding aquifer of all water wells within one mile of the facility property boundary.

(g) Existing unit subsurface investigations. For existing coal combustion residuals (CCR) units, the owner or operator shall provide a subsurface investigation report containing available information from previous subsurface investigations.

(1) The subsurface investigation report shall include:

(A) a description of all borings drilled onsite to test soils and characterize groundwater;

(B) a unit map drawn to scale showing the surveyed locations and elevations of the borings; and

(C) boring logs including a detailed description of materials encountered, including any discontinuities such as fractures, fissures, slickensides, lenses, or seams.

(2) Geophysical logs of the boreholes may be useful in evaluating the stratigraphy. Each boring must be presented in the form of a log that contains, at a minimum:

(A) the boring number;

(B) the surface elevation and location coordinates; and

(C) a columnar section with text describing:

(i) the elevation of all contacts between soil and rock layers;

(ii) each layer using the unified soil classification, color, degree of compaction, and moisture content; and

(iii) a key explaining the symbols used on the boring logs and the classification terminology for soil type, consistency, and structure.

(h) Existing groundwater monitoring data. For existing CCR units, the owner or operator shall provide any existing groundwater monitoring well data to include:

(1) records of water-level measurements in monitoring wells. Historic water-level measurements made during any previous groundwater monitoring shall be presented in a table for each well;

(2) a tabulation of all relevant groundwater monitoring data from wells on-site or near adjacent units; and

(3) identification of the uppermost aquifer and any lower aquifers that are hydraulically connected beneath the facility, including groundwater flow direction and rate, and the basis for this identification, such as the information obtained from hydrogeologic investigations of the facility area.

(i) New or laterally expanding unit subsurface investigations. The owner or operator shall provide boring plans to the executive director for approval before initiating construction of new or laterally expanding CCR units.

(1) A sufficient number of borings shall be performed to establish subsurface stratigraphy, and determine geotechnical properties beneath the facility.

(2) Borings must be deep enough to identify the uppermost aquifer, and underlying hydraulically interconnected aquifers, and comply with this paragraph.

(A) Borings must penetrate the uppermost aquifer, all deeper hydraulically interconnected aquifers, and be deep enough to identify the aquiclude at the lower boundary.

(B) All borings must be at least five feet deeper than the elevation of the deepest excavation.

(C) In addition, at least the number of borings shown on the Table of Borings in Figure: 30 TAC §352.241(i)(2)(F) shall be drilled to a depth at least 30 feet below the deepest excavation planned at the CCR unit, unless the executive director approves a different depth.

(D) If no aquifers exist within 50 feet of the elevation of the deepest excavation, and sufficient data does not exist to accurately locate it, at least one test hole shall be drilled to the top of the first perennial aquifer beneath the site.

(E) The executive director may accept data equivalent to a deep boring on the site to determine information for aquifers more than 50 feet below the site.

(F) Boring data is not required for aquifers more than 300 feet below the lowest excavation, and where the estimated travel times for constituents to the aquifer are greater than the sum of the estimated years for the active life of the facility, plus 30 years for post-closure care.

Figure: 30 TAC §352.241(i)(2)(F)

TABLE OF BORINGS

Size of Area in Acres	Number of Borings	Minimum Number of Borings 30 Feet below the Elevation of Deepest Excavation
5 or less	2 - 4	2
5 - 10	4 - 6	3
10 - 20	6 - 10	5
20 - 50	10 - 15	7
50 - 100	15 - 20	7 - 12
100 - 150	20 - 23	12 - 13
150 - 200	23 - 26	13 - 15
200 - 250	26 - 29	15 - 16
250 - 300	29 - 32	16 - 17
300 - 350	32 - 35	17 - 18
350 - 400	35 - 38	18 - 20
400 - 450	38 - 42	20 - 21
450 - 500	42 - 44	21 - 22
500 - 550	44 - 47	22 - 24
550 - 600	47 - 50	24 - 26
More than 600	Determined in consultation with the executive director	

(3) All borings shall be conducted in accordance with established field exploration methods, and as described in this paragraph.

(A) The hollow-stem auger boring method is recommended for softer materials; coring may be required for harder rocks.

(B) Other methods shall be used, as necessary, to obtain adequate samples for soil testing required in this paragraph.

(C) Investigation procedures shall be discussed in the report.

(4) Installation, abandonment, and plugging of the borings shall comply with the rules of the commission.

(5) Both the number and depth of borings may be modified because of site conditions with approval of the executive director.

(6) Geophysical methods, such as electrical resistivity, may be used with approval of the executive director to reduce the number of borings that may be necessary, or to provide additional information between borings.

(7) Cross-sections must be prepared from the borings depicting the generalized strata at the facility.

(8) The owner or operator shall provide a narrative prepared by a licensed professional geoscientist describing the subsurface stratigraphy identified in the field investigation.

(j) New or laterally expanding unit geotechnical data. For new or laterally expanding CCR units, the owner or operator must provide geotechnical data describing the geotechnical properties of the subsurface soil materials, and a discussion about the

suitability of the soils and strata for the intended uses. All geotechnical tests shall be performed in accordance with industry practice and recognized procedures, such as those described in the paragraphs of this subsection. The owner or operator shall provide a discussion of geotechnical test procedures including the following.

(1) A laboratory report of soil characteristics must contain at least one sample from each soil layer or stratum that will form the bottom and side of the proposed excavation, and from those that are less than 30 feet below the lowest elevation of the proposed excavation. Additional tests shall be performed, as necessary, to provide a typical profile of soil stratification within the site. The samples shall be tested by an independent third-party soils laboratory. Laboratory testing is not required for highly permeable soil layers such as sand or gravel.

(2) Permeability tests shall be performed on undisturbed soil samples according to one of the following standards.

(A) Permeability tests shall be performed using tap water or a 0.05 Normal solution of calcium sulfate ($CaSO_4$), and not distilled water, as the permeant.

(B) Those undisturbed samples that represent the sidewall of any proposed cell, pit, or excavation shall be tested for the coefficient of permeability on

the sample's in-situ horizontal axis; all others shall be tested on the in-situ vertical axis.

(C) All test results shall indicate the type of tests used and the orientation of each tested sample.

(D) All calculations used for the final coefficient of permeability test results shall be provided for each sample tested, including:

(i) constant head with back pressure per Appendix VII of United States (US) Army Corps of Engineers Manual EM1110-2-1906, "Laboratory Soils Testing"; or American Society for Testing and Materials (ASTM) D5084, " Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter";

(ii) falling head per Appendix VII of US Army Corps of Engineers Manual EM1110-2-1906, "Laboratory Soils Testing;"

(iii) sieve analysis for the 200, and less than 200 fraction per ASTM DD1140;

(iv) Atterberg limits per ASTM D4318; and

(v) moisture content per ASTM D2216.

(3) The owner or operator shall provide the depth at which groundwater was encountered and records of after-equilibrium measurements in all borings, in accordance with this paragraph.

(A) The cross-sections prepared in response to subsection (i)(7) of this section must be annotated to note the depth groundwater was first encountered, and the level of groundwater after equilibrium is reached or just before plugging, whichever is later.

(B) This water-level information must also be presented for all borings required by subsection (i) of this section and presented in a table format.

§352.251. Location Restriction Application Submission.

The owner or operator shall submit documentation demonstrating compliance with applicable location restrictions in Subchapter E of this chapter (relating to Location Restrictions).

§352.261. Design Criteria Application Submission.

(a) Design Criteria. The owner or operator shall demonstrate to the executive director compliance with Subchapter F of this chapter (relating to Design Criteria). This demonstration must include, at a minimum, the information in this section.

(b) New or laterally expanding coal combustion residuals (CCR) landfills. The owner or operator shall submit the following information for new or lateral expansions of a CCR landfill.

(1) Liner design. The owner or operator shall provide the proposed liner design specifications demonstrating compliance with the requirements of §352.701 of this title (relating to Design Criteria for Coal Combustion Residuals Landfills). If the proposed liner is the alternative composite liner, the owner or operator shall provide the design specifications for an alternative composite liner demonstrating compliance with requirements of §352.701 of this title, including the calculations using the equation adopted by reference in §352.701 of this title, for the liquid flow rate through the lower component of the alternative composite liner.

(2) Leachate collection and removal system. The owner or operator shall provide the leachate collection and removal system design and specifications required by §352.701 of this title.

(c) Existing CCR landfills. For existing CCR landfills, the owner or operator shall submit the following information, if present:

(1) Liner design. The owner or operator shall provide the following design specifications for the existing liner:

(A) the liner materials used in construction of the liner;

(B) the hydraulic conductivity of the liner; and

(C) if available, documentation of the design and construction for the landfill.

(2) Leachate collection and removal system. The owner or operator shall provide the design specifications for the existing leachate collection and removal system.

(d) All CCR landfills. For all CCR landfills, the owner or operator shall submit the following information:

(1) Elevations. The owner or operator shall provide the elevation of deepest excavation, maximum elevation of waste, maximum elevation of final cover; and

(2) Plan and profile drawings. The plan view drawing must be shown on an inset key map. The locations of cross-sections must be shown on the plan view drawing. The cross-section profiles must show the length and width of the unit, clearly showing the top of the proposed fill, top of the final cover, maximum elevation of proposed fill, top of the wastes, existing ground, bottom of the excavations, side slopes of trenches and fill areas, groundwater monitoring wells, plus the initial and static levels of any water encountered in the monitoring wells. The owner or operator shall provide a sufficient number of cross-sections, both latitudinally and longitudinally, to accurately depict the existing and proposed depths of all fill areas within the site. The fill cross-sections shall go through or very near the soil borings so the boring logs obtained from the soils report can also be shown on the profile. The plan view and cross-sections must show all drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection.

(e) Existing CCR surface impoundments. For existing CCR surface impoundments, the owner or operator shall submit design specifications for the existing liner demonstrating compliance with the requirements of §352.711 of this title (relating to Liner Design Criteria for Existing Coal Combustion Residuals Surface

Impoundments).

(f) New and laterally expanding CCR surface impoundments. For all new and lateral expansions of a CCR surface impoundment, the owner or operator shall submit design specifications for the proposed liner demonstrating compliance with the requirements of §352.721 of this title (relating to Liner Design Criteria for New and Lateral Expansions of Coal Combustion Residuals Surface Impoundments). Design specifications for proposed alternative composite liner designs must demonstrate compliance with §352.701 of this title, and include calculations of the liquid flow rate through the lower component of the alternative composite liner using the equation provided in §352.701 of this title.

(g) All CCR surface impoundments. For all CCR surface impoundments, the owner or operator shall submit plan and profile drawings. The plan view drawing must be shown on an inset key map. The locations of the cross-sections must be shown on the plan view map. The cross-section profiles must show the length and width of the unit, clearly showing the top of the embankment, existing ground, bottom of the pond, side slopes of trenches, and groundwater monitoring wells, plus the initial and static levels of any water encountered in the monitoring wells. The owner or operator shall provide a sufficient number of cross-sections, both latitudinally and longitudinally, to accurately depict the existing and proposed depths of all surface impoundment areas within the site. If boring data is available, the fill cross-sections must go through or

very near the soil borings so the boring logs obtained from the soils report can also be shown on the profile. The plan view and cross-sections must show all drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection. The cross-sections must show the profile of the centerline of the embankment, and the profile of the natural ground before construction of the embankment.

(h) Structural integrity. The owner or operator must submit the following information and documentation demonstrating compliance with §352.731 or §352.741 of this title (relating to Structural Integrity Criteria for Existing Coal Combustion Residuals Surface Impoundments; Structural Integrity Criteria for New and Lateral Expansions of Coal Combustion Residuals Surface Impoundments), as applicable.

(1) Hazard potential classification assessments. The owner or operator shall submit the hazard potential classification assessments for each surface impoundment, and the documentation of the basis for each classification.

(2) Emergency Action Plan (EAP). For each CCR surface impoundment classified as high or significantly high hazard potential, the owner or operator shall submit an EAP complying with either §352.731 or §352.741 of this title. If the EAP has been activated, the owner or operator shall submit dates and a narrative of the events or circumstance requiring the EAP activation.

(3) Surface impoundment structural integrity. For CCR surface impoundments with a height of five feet or more and a storage volume of 20 acre-feet or more, or height of 20 feet or more, the owner or operator shall submit the following information.

(A) Construction. The owner or operator shall provide the construction and design information required by §352.731 or §352.741 of this title.

(B) Structural stability assessment. The owner or operator shall provide a current structural stability assessment for each CCR surface impoundment. An assessment must identify any structural stability deficiencies associated with each CCR surface impoundment, in addition to the recommended corrective measures in the case of a structural deficiency or release. An assessment shall include, at a minimum, the documentation demonstrating compliance with the requirements of 40 Code of Federal Regulations (CFR) §257.73(d)(1) as adopted by reference in §352.731 of this title for an existing CCR surface impoundment; or 40 CFR §257.74(d)(1) as adopted by reference in §352.741 of this title for a new or lateral expansion of a CCR surface impoundment.

(C) Safety factor assessment. The owner or operator shall provide a current safety factor assessment for each CCR surface impoundment. A safety factor

assessment must demonstrate whether the calculated CCR surface impoundment safety factors achieve the minimum safety factors specified in 40 CFR §257.73(e)(1) as adopted by reference in §352.731 of this title for an existing CCR surface impoundment; or 40 CFR §257.74(e)(1) as adopted by reference in §352.741 of this title for a new or lateral expansion of a CCR surface impoundment. The documentation must include the engineering calculations required by the safety factor assessments.

§352.271. Operating Criteria Application Submission.

(a) The owner or operator shall demonstrate compliance with Subchapter G of this chapter (relating to Operating Criteria). This demonstration shall include, at a minimum, the information in this section.

(b) Coal combustion residuals (CCR) fugitive dust control plan. The owner or operator shall submit the current fugitive dust control plan. If chemical dust suppressants will be used in lieu of water, the Safety Data Sheet for each chemical dust suppressant shall be provided. The plan is in addition to, not in place of, any applicable standards under the Occupational Safety and Health Act.

(c) Run-on and run-off controls for CCR landfills. For each CCR landfill, the owner or operator shall submit a current run-on and run-off control system plan demonstrating compliance with §352.811 of this title (relating to Run-On and Run-Off

Controls for Coal Combustion Residuals Landfills). Additionally, the owner and operator shall submit:

(1) drawings showing the drainage areas for each CCR landfill;

(2) drawings displaying associated drainage calculations, such as curve numbers, land use, soil types, etc., for each CCR landfill;

(3) designs of all drainage structures within each CCR landfill area, including such features as typical cross-sectional areas, ditch grades, flow rates, water surface elevation, velocities, and flowline elevations along the entire length of the ditches;

(4) appropriate engineering calculations that verify the existing drainage structures are effective at controlling run-on and run-off for each CCR landfill;

(5) for each new or laterally expanding CCR landfill, appropriate engineering calculations verifying existing drainage patterns will not be adversely altered by each proposed new or laterally expanding CCR landfill; and

(6) a description of the hydrologic method and calculations used to estimate peak flow rates and run-off volumes, including justification of necessary assumptions, based on:

(A) the 24-hour, 25-year rainfall intensity used for CCR landfill run-on and run-off control systems, including the source of the data; all other data and necessary input parameters used in conjunction with the selected hydrologic method and all sources should be documented and described;

(B) hydraulic calculations and designs for sizing the necessary collection, drainage, and/or detention facilities; and

(C) collection, drainage, and/or storage facilities structural designs.

(d) Hydrologic and hydraulic capacity requirements for surface impoundments. The owner or operator shall submit a current inflow design flood control system plan and demonstrate compliance with §352.821 of this title (relating to Hydrologic and Hydraulic Capacity Requirements for Coal Combustion Residuals Surface Impoundments). Additionally, the owner or operator shall submit:

(1) drawings showing the drainage areas and drainage calculations for each CCR surface impoundment;

(2) appropriate engineering calculations, verifying that existing flood controls are effective at controlling flows into and from the unit, and complying with the inflow design flood requirements of §352.821 of this title;

(3) for each new or laterally expanding CCR surface impoundment, appropriate engineering calculations verifying that existing drainage patterns will not be adversely altered by each new or laterally expanded surface impoundment; and

(4) a description of the hydrologic method and calculations used to estimate peak flow rates required for the inflow design flood control system based on the surface impoundment hazard potential the requirements of §352.821 of this title:

(A) hydraulic calculations and designs for sizing the necessary collection, drainage, and detention facilities; and

(B) collection, drainage, and/or storage facilities structural designs.

(e) Annual surface impoundment inspection reports. For CCR surface impoundments that either have a height of five-feet or more with a storage volume of 20 acre-feet or more, or have a height of 20 feet or more, the owner or operator shall submit the current annual inspection report certified by a licensed professional

engineer as required by 40 CFR §257.83(b) as adopted by reference in §352.831 of this title (relating to Inspection Requirements for Coal Combustion Residuals Surface Impoundments).

(f) Annual landfill inspection reports. The owner or operator shall submit the current annual inspection report certified by a licensed professional engineer that is required by 40 CFR §257.84(b) as adopted by reference in §352.841 of this title (relating to Inspection Requirements for Coal Combustion Residuals Landfills).

§352.281. Groundwater Monitoring and Corrective Action Application Submission.

(a) Annual groundwater monitoring and corrective action report. The owner or operator shall submit the current annual groundwater monitoring and corrective action report required by §352.901 of this title (relating to Applicability).

(b) Groundwater sampling and analysis procedures. The owner or operator shall submit a groundwater sampling and analysis procedures for all existing or new coal combustion residuals (CCR) landfills, existing or new CCR surface impoundments, or any lateral expansion of a CCR unit prepared in accordance with Subchapter H of this chapter (relating to Groundwater Monitoring and Corrective Action). The plan shall include, at a minimum:

(1) a topographic map delineating:

(A) the CCR waste management areas;

(B) the facility property boundary;

(C) the proposed point of compliance;

(D) the proposed groundwater monitoring well locations as required under §352.911 of this title (relating to Groundwater Monitoring Systems); and

(E) the extent of any plume of contamination that has entered the groundwater from a CCR landfill or surface impoundment;

(2) a narrative description of any plume of contamination that has entered the groundwater from a CCR unit at the time of application, which identifies the concentration of each required assessment constituent from Appendix IV in §352.1431 of this title (relating to Appendix IV - Constituents for Assessment Monitoring), in accordance with §352.951 of this title (relating to Assessment Monitoring Program) throughout the plume;

(3) an analysis of the most likely pathway(s) for pollutant migration to occur if the primary barrier liner system is breached; and

(4) detailed plans and an engineering report describing the proposed groundwater monitoring and analysis procedures implemented to meet the requirements of §352.911 and §352.931 of this title (relating to Groundwater Sampling and Analysis Requirements).

(c) Detection monitoring. If the Appendix III constituents listed in §352.1421 of this title (relating to Appendix III - Constituents for Detection Monitoring) are detected in the groundwater at statistically significant increases over background levels at the time of registration application submission, the owner or operator shall submit sufficient information, supporting data, and analyses to support a detection monitoring program meeting the requirements of §352.941 of this title (relating to Detection Monitoring Program). This submission must address the information required by §352.941 of this title, including:

(1) background values for each Appendix III and IV constituent listed in §352.1421 and §352.1431 of this title;

(2) detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of §352.911 of this title; and

(3) a description of the proposed sampling, analysis, and statistical comparison procedures to be used in evaluating groundwater monitoring data, in accordance with the requirements of §352.931 of this title.

(d) Assessment monitoring. If any Appendix III constituents listed in §352.1421 of this title have been detected in the groundwater at statistically significant increases over background values at the time of registration application submission, the owner or operator shall submit sufficient information, supporting data, and analyses to support an assessment monitoring program that meets the requirements of §352.951 of this title. To demonstrate compliance with §352.951 of this title, the owner or operator shall submit:

(1) a characterization of the groundwater, including the concentration of Appendix IV constituents detected from §352.1431 of this title in accordance with §352.951 of this title;

(2) a list of the Appendix III and IV constituents in §352.1421 and §352.1431 of this title, that will be sampled in accordance with the requirements of

§352.931 of this title to fulfill the requirements of the assessment monitoring program;

(3) a list of the established groundwater protection standards for the required Appendix IV constituents from §352.1431 of this title;

(4) detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of §352.911 of this title; and

(5) a description of the proposed sampling, analysis, and statistical comparison procedures to be used in evaluating groundwater monitoring data, in accordance with the requirements of §352.931 of this title.

(e) Corrective action. If any Appendix IV constituents listed in §352.1431 of this title have been measured in the groundwater and exceed the groundwater protection standards established in §352.951 of this title, the owner or operator shall submit sufficient information, supporting data, and analyses to establish a corrective action program that meets the requirements of §352.961 and §352.971 of this title (relating to Assessment of Corrective Measures; and Selection of Remedy). To demonstrate compliance with §352.961 of this title, the owner or operator shall submit, at a minimum:

(1) a characterization of the contaminated groundwater, including concentrations of Appendix IV constituents from §352.1431 of this title, as described in §352.951 of this title;

(2) the groundwater protection standard for each Appendix IV constituent from §352.1431 of this title found in the groundwater;

(3) detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of §352.911 of this title;

(4) a description of the proposed sampling, analysis, and statistical comparison procedures to be used in evaluating groundwater monitoring data, in accordance with the requirements of §352.931 of this title;

(5) the Impacted Property Assessment Report required by §352.1031 of this title (relating to Impacted Property Assessment Report);

(6) the Corrective Action Remedy Report required by §352.1041 of this title (relating to Corrective Action Remedy Report);

(7) a schedule for submission of the information required in paragraphs (5) and (6) of this subsection, provided the owner or operator obtains written authorization from the executive director before submittal of these items; and

(8) the cost estimate for post-response corrective action care required by §352.1101(b) of this title (relating to Financial Assurance Required).

§352.291. Closure and Post-Closure Care Application Submission.

(a) Compliance demonstration. The owner or operator shall demonstrate to the executive director compliance with Subchapter J of this chapter (relating to Closure and Post-Closure Care). This demonstration shall include, at a minimum, the information in this section.

(b) Closure plan. The owner or operator shall submit the closure plan required by Subchapter J of this chapter. The plan shall also include cross-sections and a contour map showing the final constructed contour of all coal combustion residuals units, the internal drainage and side slopes, accommodation of surface drainage entering and departing the completed area, and areas subject to flooding due to a 100-year frequency flood.

(c) Post-closure care plan. The owner or operator shall submit the facility post-closure care plan prepared in accordance with Subchapter J of this chapter.

§352.301. Retention of Application Data.

The owner or operator shall retain all submissions, including application data, in accordance with §305.47 of this title (relating to Retention of Application Data).

SUBCHAPTER D: REGISTRATION APPLICATION PROCEDURES §§352.401, 352.411, 352.421, 352.431, 352.441, 352.451, 352.461, 352.471, 352.481

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.401. Application Deficiencies.

The executive director will notify an applicant of any additional information or application materials required to complete the review of an application by transmitting a notice of deficiency (NOD) to the applicant. The applicant's response to an NOD is due 60 days after the date the executive director transmits the NOD to the applicant.

§352.411. Extensions.

The applicant may submit a written request for additional time to respond to a notice of deficiency that sets forth the reasons why the applicant cannot respond within the time provided and specifies the amount of additional time requested. The executive director may approve or deny the request.

§352.421. Applications Returned.

If the executive director does not receive an adequate and timely response to a notice of deficiency by the response deadline, the executive director may return the incomplete application to the applicant.

§352.431. Public Notice of Application.

(a) Applicability. This section applies to an application for a new coal combustion residuals (CCR) registration, and an application for a major amendment of a CCR registration.

(b) Public Notice. Notice of receipt of application, the executive director's initial decision, and an opportunity to provide public comment and request a public meeting shall be made in accordance with the procedures contained in §39.503(c) of this title (relating to Application for Industrial or Hazardous Waste Facility Permit), without regard to the date of administrative completeness.

(c) Text of public notice. The text of the notice under this section shall include the internet address required by §352.1321 of this title (relating to Publicly Accessible Internet Site Requirements).

(d) Comment period. The public comment period for an application under this section shall be a minimum of 30 days after the publication of the notice in the newspaper.

(e) Public comments. The executive director shall consider all public comments received before the close of the public comment period.

§352.441. Revised Notice of Changes to Application.

Revised notice is required if changes to an application that would constitute a major amendment under §352.131 of this title (relating to Amendments) are made after notice of receipt of application has been mailed and published.

§352.451. Public Meeting.

(a) The owner or operator under this chapter and the commission may hold a public meeting under §55.154 of this title (relating to Public Meetings) in the county in which the facility is located.

(b) The commission shall hold a public meeting if a public meeting is required based on the criteria contained in:

(1) §39.503(e) of this title (relating to Application for Industrial or Hazardous Waste Facility Permit); or

(2) §55.154(c) of this title (relating to Public Meetings).

(c) Notice of a public meeting shall be provided in accordance with the procedures contained in §39.503(e)(6) of this title, and shall be mailed by the chief clerk to the persons listed in §39.413 of this title (relating to Mailed Notice).

(d) The purpose of a public meeting held on an application submitted under this chapter is to provide information and receive public comment. A public meeting held on an application submitted under this chapter is not a contested case hearing.

§352.461. General Notice Provisions.

(a) Notice under this subchapter shall comply with the requirements of:

(1) §39.405 of this title (relating to General Notice Provisions);

(2) §39.407 of this title (relating to Mailing Lists);

(3) §39.409 of this title (relating to Deadline for Public Comment, and for Requests for Reconsideration, Contested Case Hearing, or Notice and Comment Hearing);

(4) §39.411 of this title (relating to Text of Public Notice);

(5) §39.413 of this title (relating to Mailed Notice); and

(6) §39.420 of this title (relating to Transmittal of the Executive Director's Response to Comments and Decision).

(b) This subchapter does not require the executive director to respond to comments, and it does not create an opportunity for a contested case hearing.

§352.471. Draft Registration.

Upon the executive director's preliminary determination that an application for a new registration or a major amendment of a registration meets the regulatory requirements for issuance, the executive director shall prepare a draft registration.

§352.481. Motion to Overturn the Executive Director's Decision.

The executive director's action on an application for a new registration or an amendment of a registration under this chapter is subject to §50.133(b) and §50.139 of this title (relating to Executive Director Action on Application or WQMP Update; and Motion to Overturn Executive Director's Decision).

SUBCHAPTER E: LOCATION RESTRICTIONS §§352.601, 352.611, 352.621, 352.631, 352.641

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.601. Placement Above the Uppermost Aquifer.

The commission adopts by reference 40 Code of Federal Regulations §257.60 (Placement above the uppermost aquifer) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.611. Wetlands.

The commission adopts by reference 40 Code of Federal Regulations §257.61 (Wetlands) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.621. Fault Areas.

The commission adopts by reference 40 Code of Federal Regulations §257.62 (Fault areas) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.631. Seismic Impact Zones.

The commission adopts by reference 40 Code of Federal Regulations §257.63 (Seismic impact zones) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.641. Unstable Areas.

The commission adopts by reference 40 Code of Federal Regulations §257.64 (Unstable areas) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

SUBCHAPTER F: DESIGN CRITERIA
§§352.701, 352.711, 352.721, 352.731, 352.741

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.701. Design Criteria for Coal Combustion Residuals Landfills.

The commission adopts by reference 40 Code of Federal Regulations §257.70 (Design criteria for new CCR landfills and any lateral expansion of a CCR landfill) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.711. Liner Design Criteria for Existing Coal Combustion Residuals Surface Impoundments.

The commission adopts by reference 40 Code of Federal Regulations §257.71 (Liner design criteria for existing CCR surface impoundments) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.721. Liner Design Criteria for New and Lateral Expansions of Coal Combustion Residuals Surface Impoundments.

The commission adopts by reference 40 Code of Federal Regulations §257.72 (Liner design criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.731. Structural Integrity Criteria for Existing Coal Combustion Residuals Surface Impoundments.

(a) The commission adopts by reference 40 Code of Federal Regulations (CFR) §257.73 (Structural integrity criteria for existing CCR surface impoundments) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468) subject to the additions set forth in this section.

(b) The owner or operator shall comply with the following.

(1) Upon activation of the Emergency Action Plan under 40 CFR §257.73(a)(v), notify the executive director and appropriate local government officials verbally within 24 hours, and in writing within five days.

(2) Notify the executive director in writing of significant changes to the history of construction as required by 40 CFR §257.73(c)(2) within 14 days.

(3) Notify the executive director in writing of changes to the hazard potential classification within 14 days

(4) Notify the executive director and appropriate local government officials verbally within 24 hours and in writing within five days if a deficiency under 40 CFR §257.73(d)(2) could result in harm to human health, the environment, or has resulted in a release. Notify the executive director in writing within 14 days of all other deficiencies under 40 CFR §257.73(d)(2).

(5) Notify the executive director in writing of intent to close a coal combustion residuals surface impoundment in accordance with 40 CFR §257.73(f)(4) within 14 days of:

(A) a failure to meet the minimum safety factors during a safety factor assessment; or

(B) a failure to complete a safety factor assessment in the timeframe prescribed by this section.

§352.741. Structural Integrity Criteria for New and Lateral Expansions of Coal Combustion Residuals Surface Impoundments.

(a) The commission adopts by reference 40 Code of Federal Regulations (CFR) §257.74 (Structural integrity criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468), subject to the additions in this section.

(b) The owner or operator shall comply with the following.

(1) Upon activation of the Emergency Action Plan under 40 CFR §257.74(a)(iii)(B), verbally notify the executive director and appropriate local government officials within 24 hours, and in writing within five days.

(2) Notify the executive director in writing within 14 days of significant changes to the design and construction plans under 40 CFR §257.74(c)(2).

(3) Notify the executive director in writing of changes to the hazard potential classification within 14 days

(4) Notify the executive director and appropriate local government officials verbally within 24 hours, and in writing within five days if a deficiency under 40 CFR §257.74(d)(2) could result in harm to human health, the environment, or has resulted in a release. Notify the executive director in writing within 14 days of all other deficiencies under 40 CFR §257.74(d)(2).

(5) Notify the executive director in writing of intent to close a coal combustion residuals surface impoundment in accordance with 40 CFR §257.74(f)(4) within 14 days of:

(A) a failure to meet the minimum safety factors during a safety factor assessment; or

(B) a failure to complete a safety factor assessment in the timeframe prescribed by this section.

SUBCHAPTER G: OPERATING CRITERIA
§§352.801, 352.811, 352.821, 352.831, 352.841, 352.851

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.801. Air Criteria.

The commission adopts by reference 40 Code of Federal Regulations §257.80 (Air criteria) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.811. Run-On and Run-Off Controls for Coal Combustion Residuals Landfills.

The commission adopts by reference 40 Code of Federal Regulations §257.81 (Run-on and run-off controls for CCR landfills) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.821. Hydrologic and Hydraulic Capacity Requirements for Coal Combustion Residuals Surface Impoundments.

The commission adopts by reference 40 Code of Federal Regulations §257.82 (Hydrologic and hydraulic capacity requirements for CCR surface impoundments) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.831. Inspection Requirements for Coal Combustion Residuals Surface Impoundments.

(a) The commission adopts by reference 40 Code of Federal Regulations (CFR) §257.83 (Inspection requirements for CCR surface impoundments) as amended

through the July 2, 2015, issue of the *Federal Register* (80 FR 37992) subject to the addition in this section.

(b) Notify the executive director verbally within 24 hours and in writing within five days if a deficiency under 40 CFR §257.83(b)(5) could result in harm to human health, the environment, or has resulted in a release. Notify the executive director in writing within 14 days of all other deficiencies under 40 CFR §257.83(b)(5).

§352.841. Inspection Requirements for Coal Combustion Residuals Landfills.

(a) The commission adopts by reference 40 Code of Federal Regulations (CFR) §257.84 (Inspection requirements for CCR landfills) as amended through the July 2, 2015, issue of the *Federal Register* (80 FR 37992) subject to the addition in this section.

(b) Notify the executive director verbally within 24 hours and in writing within five days if a deficiency under 40 CFR §257.84(b)(5) could result in harm to human health, the environment, or has resulted in a release. Notify the executive director in writing within 14 days of all other deficiencies under 40 CFR §257.84(b)(2).

§352.851. Pre-Opening Inspection.

For a new or lateral expansion of a coal combustion residuals (CCR) landfill or surface impoundment, the owner or operator may not commence CCR disposal or waste management in the new or laterally expanded unit until:

(1) the owner or operator has submitted to the executive director a letter signed by the signatory and a Texas licensed professional engineer stating that the unit has been constructed or expanded in compliance with the specifications of the registration; and

(2) the executive director has inspected the expanded or newly constructed unit and finds it in compliance with the conditions of the registration; or if within 15 days of submission of the letter required by paragraph (1) of this section, the owner or operator has not received notice from the executive director of an intent to inspect and prior inspection is waived, at which point the owner or operator may commence CCR disposal or waste management.

SUBCHAPTER H: GROUNDWATER MONITORING AND CORRECTIVE ACTION
§§352.901, 352.911, 352.931, 352.941, 352.951, 352.961, 352.971, 352.981, 352.991, 352.1001, 352.1011, 352.1021, 352.1031, 352.1041, 352.1051, 352.1061, 352.1071, 352.1081

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.901. Applicability.

The commission adopts by reference 40 Code of Federal Regulations §257.90 (Applicability) as amended through the August 5, 2016, issue of the *Federal Register* (81 FR 51807).

§352.911. Groundwater Monitoring Systems.

(a) The commission adopts by reference 40 Code of Federal Regulations §257.91 (Groundwater monitoring systems) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468) subject to the additions in this section.

(b) Changes to an approved groundwater monitoring system required by this section must be approved by the executive director in accordance with §352.131 of this title (relating to Amendments).

(c) Installation, plugging, and abandonment of wells or borings must be done in accordance with 16 TAC Chapter 76 (relating to Licensing and Regulation of Water Well Drills and Water Well Pump Installers).

§352.931. Groundwater Sampling and Analysis Requirements.

(a) The commission adopts by reference 40 Code of Federal Regulations §257.93 (Groundwater sampling and analysis requirements) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468) subject to the addition in this section.

(b) Changes to an approved groundwater sampling and analysis program required by this section must be approved by the executive director in accordance with §352.131 of this title (relating to Amendments).

§352.941. Detection Monitoring Program.

(a) The commission adopts by reference 40 Code of Federal Regulations (CFR) §257.94 (Detection monitoring program) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468) subject to the additions in this section.

(b) After making a determination of a statistically significant increase (SSI) over the background value for any Appendix III constituent in §352.1421 of this title (relating to Appendix III - Constituents for Detection Monitoring) at any point of compliance monitoring well, the owner or operator shall notify the executive director, and any local pollution agency with jurisdiction that has requested to be notified, in writing within 14 days of this determination.

(c) After making a determination of a SSI over the background value for any Appendix III constituent in §352.1421 of this title at any point of compliance well, the owner or operator may submit an alternative source demonstration to the executive director under 40 CFR §257.94(e)(2). In making a demonstration under this subsection, the owner or operator must:

(1) notify the executive director, and any local pollution agency with jurisdiction that has requested to be notified, in writing within 14 days that the owner or operator intends to make an alternative source demonstration under this paragraph;

(2) within 90 days of making a determination of a SSI over the background value for any Appendix III constituent in §352.1421 of this title, submit a report prepared and certified by a licensed professional geoscientist to the executive director, and any local pollution agency with jurisdiction that has requested to be notified, demonstrating that a source other than a CCR unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality; and

(3) continue to monitor in accordance with the detection monitoring program established under this section.

(d) If the owner or operator does not make a satisfactory demonstration to the

executive director under subsection (c) of this section, then the owner or operator shall initiate an assessment monitoring program as required in 40 CFR §257.94(e) within 14 days of the executive director's decision that the demonstration is not satisfactory. The executive director may require the owner or operator to install additional wells at the point of compliance to determine whether the demonstration is satisfactory.

§352.951. Assessment Monitoring Program.

(a) The commission adopts by reference 40 Code of Federal Regulations (CFR) §257.95 (Assessment monitoring program) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468) subject to the additions in this section.

(b) The owner or operator may return to detection monitoring only after satisfying the conditions of 40 CFR §257.95(e), and after obtaining written approval from the executive director.

(c) If a statistically significant increase (SSI) exceeding any groundwater protection standards at any monitoring well has occurred, the owner or operator shall notify the executive director, and any local pollution agency with jurisdiction that has requested to be notified, in writing within seven days of this determination.

(d) If a SSI exceeding any groundwater protection standard at any monitoring well has occurred, then the owner or operator may submit an alternative source demonstration to the executive director under 40 CFR §257.95(g)(3). In making a demonstration under this subsection, the owner or operator must:

(1) within 90 days of determining a SSI over the groundwater protection standards, submit a report prepared and certified by a licensed professional geoscientist to the executive director, and any local pollution agency with jurisdiction that has requested to be notified, demonstrating that a source other than a coal combustion residuals unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality; and

(2) continue to monitor in accordance with the assessment monitoring program established under this section.

(e) If the owner or operator does not make an alternative source demonstration satisfactory to the executive director, then the owner or operator shall initiate assessment of corrective measures as required in 40 CFR §257.95(g)(4) within 14 days of the executive director's decision that the demonstration is not satisfactory. The executive director may require the owner or operator to install additional wells at the point of compliance to determine whether the demonstration is satisfactory.

(f) Within 60 days of making the determination of a SSI exceeding groundwater protection standards, the owner or operator shall submit to the executive director the notification required by 40 CFR §257.106(h)(6) (Notification requirements). The notification shall include the list of potentially impacted persons identified in accordance with 40 CFR §257.95(g)(2); and:

(1) the name, mailing address, and telephone number of the contact person or office for the on-site impacted property;

(2) the identification number of the unit or units that have had a release; and

(3) the physical address or location of the impacted property, including accurate latitude and longitude and associated spatial data attributes in a format approved or required by the executive director.

§352.961. Assessment of Corrective Measures.

(a) The commission adopts by reference 40 Code of Federal Regulations §257.96 (Assessment of corrective measures) as amended through the April 17, 2015, issue of

the *Federal Register* (80 FR 21468) subject to the additions set forth in subsection (b) of this section.

(b) Within 30 days of completing the assessment of corrective measures required by this section, and before remedy implementation, the owner or operator shall submit an amendment application in accordance with §352.131 of this title (relating to Amendments). The application must include, at a minimum:

(1) the Impacted Property Assessment Report required by §352.1031 of this title (relating to Impacted Property Assessment Report);

(2) the proposed Corrective Action Remedy Report required by §352.1041 of this title (relating to Corrective Action Remedy Report);

(3) the concentration of all Appendix III constituents listed in §352.1421 of this title (relating to Appendix III - Constituents for Detection Monitoring) with a statistically significant increase over the background value at each monitoring well;

(4) the concentration of any constituent listed in Appendix IV in §352.1431 of this title (relating to Appendix IV - Constituents for Assessment Monitoring) detected in the groundwater at each monitoring well;

(5) the established groundwater protection standard for each detected Appendix IV constituent listed in §352.1431 of this title; and

(6) the cost estimate for post-response corrective action care required by §352.1101(b) of this title (relating to Financial Assurance Required).

§352.971. Selection of Remedy.

(a) The commission adopts by reference 40 Code of Federal Regulations §257.97 (Selection of remedy) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468) subject to the addition in this section.

(b) The remedy selection shall be achieved through issuance of the registration amendment required under §352.961 of this title (relating to Assessment of Corrective Measures).

§352.981. Implementation of the Corrective Action Program.

(a) The commission adopts by reference 40 Code of Federal Regulations §257.98 (Implementation of the corrective action program) as amended through the April 17, 2015 issue of the *Federal Register* (80 FR 21468) subject to the modifications and additions in this section.

(b) The owner or operator may return to either detection monitoring or assessment monitoring only after satisfying the conditions of §352.981 and §352.1061 of this title (relating to Implementation of the Corrective Action Program; Corrective Action Completion Report), and after obtaining written approval from the executive director.

(c) The owner or operator required to implement a corrective action program under this chapter must submit the Corrective Action Effectiveness Report required by §352.1051 of this title (relating to Corrective Action Effectiveness Report).

(d) All coal combustion residuals managed under a remedy required under §352.971 of this title (relating to Selection of Remedy), or an interim measure required under this section, shall be managed in a manner that complies with all applicable United States Resource Conservation and Recovery Act and state requirements.

§352.991. Spatial and Electronic Information.

(a) The owner or operator shall provide accurate spatial coordinates and associated data attributes reported in a format approved or required by the executive director.

(b) Reports required by §§352.1031, 352.1041, 352.1051, 352.1061, and 352.1071 of this title (relating to Impacted Property Assessment Report; Corrective Action Remedy Report; Corrective Action Effectiveness Report; Corrective Action Completion Report; and Post-Response Corrective Action Care Reports) shall be submitted in a hardcopy and electronic format, according to a schedule established by the executive director.

§352.1001. Data Acquisition and Reporting Requirements.

(a) The owner or operator submitting data to the agency is responsible for the quality of the data.

(b) The owner or operator shall provide data that are of sufficient and documented quality to meet the program and project objectives. The data package, including the supporting quality control data generated by the laboratory, shall be available in response to a reasonable request by the agency within and up to three years after submittal of the report. The project data quality objectives shall be included in the Impacted Property Assessment Report. These data quality objectives shall include, but are not limited to:

(1) the rationale for the sampling design, including the number, type, location, and intended use of samples;

(2) the levels of required performance, and the applicable method quantitation limit, in accordance with subsection (e)(3) of this section for each Appendix IV constituent in §352.1431 of this title (relating to Appendix IV - Constituents for Assessment Monitoring); and

(3) the precision, accuracy, representativeness, comparability, and data completeness objectives for the project.

(c) The report shall indicate the method or standard operating procedure by which the groundwater sample was collected. Samples shall represent the groundwater of the impacted property being monitored or assessed. Field quality control shall be adequate to demonstrate that the constituent is present or absent from the groundwater.

(d) The owner or operator shall ensure the laboratory selected to perform the analyses of samples has an adequate and documented quality assurance program in place, and the capability to meet the project and measurement objectives. The laboratory's quality assurance program must be compliant with the requirements in Chapter 25 of this title (relating to Environmental Testing Laboratory Accreditation and Certification).

(e) The owner or operator shall ensure the data generated by a laboratory performing the analytical methods meet the intralaboratory performance standards for the method, and that those performance standards are sufficient to meet the bias, precision, sensitivity, representativeness, comparability, and completeness, as specified in the following project data quality objectives.

(1) The method bias may be demonstrated using reference materials, comparison to alternative methods, or spiked samples.

(2) The method precision may be determined by evaluating the relative standard deviation, or the relative percent difference, using replicate analyses.

(3) To address sensitivity requirements, the owner or operator shall select a standard available analytical method, which provides a method quantitation limit below the necessary level of required performance, for purposes of assessment and demonstration of conformance with the groundwater protection standards established for Appendix IV constituents from §352.1431 of this title. If it is not possible to achieve a method quantitation limit below the necessary level of required performance, then the owner or operator shall select the standard available analytical method that provides the lowest possible method quantitation limit for that constituent. The executive director may require the owner or operator to demonstrate that a lower

method quantitation limit is not achievable or is not practicable using standard available analytical methods.

(4) The method detection limit must be verified after major instrument maintenance, or after major changes in instrumentation or instrument conditions. The owner or operator shall ensure that the laboratory performed and documented an initial demonstration of proficiency for the analysis of each constituent and method used, and has also demonstrated and documented, in a scientifically valid manner, the method detection limit the laboratory can achieve. This demonstration and documentation shall be preparatory and method specific, and include any cleanup method used. The method detection limit shall be routinely reviewed for reasonableness.

(5) The method representativeness may be demonstrated by the laboratory through proper storage, preparation, and subsampling techniques.

(6) The standard available analytical method may either be a documented method from the: United States Environmental Protection Agency (EPA); American Society for Testing and Materials; other organizations nationally recognized as having scientifically acceptable methods; the executive director; or a laboratory method that is comprehensively documented in an appropriate standard operating procedure. All methods derived by a laboratory must meet the quality control criteria recommended

by the EPA Test Methods for Evaluation of Solid Waste, Update III, as amended, unless the project and/or samples require less stringent quality control requirements than those recommended by the EPA Test Methods. Those projects or samples that require less stringent quality control shall be clearly identified, and shall document the rationale for lesser levels of quality control.

(7) Application of the method shall include the use of instrument calibration that brackets the reported value or includes a low standard that is below the necessary level of required performance. The calibration range shall yield results demonstrating the sample reporting level has not exceeded the necessary level of required performance.

(8) Laboratory control samples must be used to demonstrate the method can produce results for the constituents that meet the bias and precision requirements at, or below, the necessary level of required performance, or at the method quantitation limit in a clean laboratory matrix. The matrix must be similar to the medium of the environmental samples. Results for a sample spike may be substituted for the laboratory control samples, if the bias and precision criteria have been met.

(f) The owner or operator shall identify any data that were affected by laboratory deviations from the analytical method, or by the laboratory not meeting the project-required performance and/or method-required quality control acceptance

criteria. The owner or operator shall also identify any data that may be affected by improper field procedures.

(g) The owner or operator shall have readily available all documentation demonstrating that the sample integrity was not compromised, and an appropriate analytical method was used, and shall provide all reasonable information requested by the executive director.

(h) Further, the owner or operator shall report:

(1) all results reflecting any necessary corrections for sample preparations and/or laboratory adjustments, that are greater than the method detection limit and meeting the qualitative identification criteria recommended in the analytical method used, and shall use a qualifier flag on all those results reported as greater than the method detection limit and less than the method quantitation limit; and

(2) all non-detected results as less than the value of the sample detection limit; or

(3) as otherwise requested by the executive director, when the reporting specified in paragraphs (1) and (2) of this subsection is not warranted.

(i) When necessary to make a determination of compliance, the executive director shall require persons to perform confirmation analysis for tentatively identified compounds.

§352.1011. Impacted Property Assessment.

(a) The owner or operator shall conduct an impacted property assessment in a timely manner, considering the size and complexity of the situation, and in a manner appropriate for the property considering the hydrogeology, physical and chemical properties of the constituents, and location of potential receptors. The assessment shall be designed to collect information necessary to:

(1) determine whether water resources have been affected or are threatened;

(2) support notification of potentially impacted landowners;

(3) support remedy selection; and

(4) evaluate the effectiveness of existing physical controls, if applicable.

(b) The owner or operator shall conduct the assessment in a manner most likely to detect the presence and distribution of the Appendix IV constituents in §352.1431 of this title (relating to Appendix IV - Constituents for Assessment Monitoring) above the groundwater protection standards established in §352.951 of this title (relating to Assessment Monitoring Program), considering the nature of the release and subsequent modifications to the impacted property.

(c) The owner or operator shall perform an impacted property assessment to reliably characterize the nature and degree of contamination from a release through the collection and analysis of a sufficient number of samples from groundwater in the source areas contaminated at levels equal to or exceeding the groundwater protection standards established in §352.951 of this title.

(d) The owner or operator shall use appropriate quality assurance/quality control measures complying with §352.931 and §352.1001 of this title (relating to Groundwater Sampling and Analysis Requirements; and Data Acquisition and Reporting Requirements). When determining concentrations of constituents in groundwater, the owner or operator shall use sample collection and handling techniques meeting the data quality requirements of the sampling methodologies in §352.931 and §352.1001 of this title, and that are acceptable to the executive director.

(e) The owner or operator shall adequately characterize the geology and hydrogeology of the impacted property, such that constituent fate and transport can be reliably predicted to locate groundwater impacted at levels equal to or above the groundwater protection standards established in §352.951 of this title, and an appropriate remedy can be designed.

(f) The owner or operator shall demonstrate that a release from a coal combustion residuals unit into groundwater has been characterized horizontally in all directions. If the assessment level is based on groundwater concentrations that were determined by background concentrations, then the assessment shall only extend to the background concentration level.

(g) The owner or operator shall define the vertical extent of groundwater containing constituent concentrations above the groundwater protection standards by collecting a representative sample from a deeper groundwater-bearing unit with concentrations less than the groundwater protection standards, unless the owner or operator demonstrates that vertical migration to a lower groundwater-bearing unit is not possible. The owner or operator shall base this demonstration on the hydrogeology, and the chemical and physical properties of the constituents. The owner or operator shall take proper precautions to prevent cross-contamination when collecting a sample from a deeper groundwater-bearing unit. The executive director

may omit or modify this requirement on a site-specific basis if the vertical assessment would exacerbate the vertical migration of constituents.

(h) The owner or operator shall use concentrations measured in groundwater at or immediately upgradient of the zone of groundwater discharge to surface water to determine if constituents in groundwater have discharged to surface waters.

(i) The owner or operator shall attempt to identify all surface and subsurface structures at the impacted property which may influence constituent migration, including subsurface utilities.

(j) The owner or operator shall conduct a field survey to at least 500 feet beyond the boundary of the impacted property to locate potential receptors, including water wells and surface waters, and conduct a records survey to identify all water wells and surface water bodies within one-half mile of the limits of groundwater containing constituents in excess of the groundwater protection standards.

(k) The owner or operator may also attempt to identify any off-site properties within one-quarter mile of the impacted property that have environmental information available, such as soil boring logs, analytical results from samples of environmental media, etc., for collection and submission to the agency. This information may be

useful in fulfilling the requirements of this section, although collection and submittal of this information by the owner or operator is not required.

(l) Whether doing direct comparisons of individual measurements, or using statistical background approaches, all analytical results should be considered, including non-detected results. Non-detected results shall be considered in the following manner.

(1) In cases based on available analytical data where there is reason to believe that the constituent could be present at that sampling location, and the concentration of the constituent is suspected to be near but below the sample detection limit, the full value of the sample detection limit should be used as a proxy for the non-detected result.

(2) If there is reason to believe, based on available analytical data, that the constituent could be present at that sampling location and the concentration of the constituent is suspected to be below, but not near to, the sample detection limit, then one-half of the sample detection limit should be used as a proxy for the non-detected result.

(3) Other statistically-based approaches for handling non-detected results or assigning proxy values may be appropriate and approved if there is sufficient technical basis.

(4) If greater than 15 percent non-detected results are reported for a medium, and the exposure area cannot be definitively identified based on documented and verifiable site-specific information, the executive director may require persons to use alternative statistical methods for calculating the concentration term.

(m) The results of the impacted property assessment shall be documented in an Impacted Property Assessment Report in accordance with §352.1031 of this title (relating to Impacted Property Assessment Report).

§352.1021. Impacted Property Notification Requirements.

(a) If while conducting the impacted property assessment under §352.1011 of this title (relating to Impacted Property Assessment), or while complying with this chapter, the owner collects any samples from property they do not own (i.e., leased lands and off-site properties), then the analytical results for any samples collected from that property shall be provided to the executive director and made available to that property owner. The analytical results of any samples collected at any depth from within an easement/franchise area (e.g., municipal or private utility, right-of-way, etc.)

exceeding the groundwater protection standards established in §352.951 of this title (relating to Assessment Monitoring Program) shall be provided to the executive director, and to those current easement holders/franchisees. The information made available shall include, at a minimum, all analytical results from the sample analyses, along with the groundwater protection standard for the applicable constituent. The owner or operator shall initially provide a notice of availability no later than at the time of submission of a plan and/or report containing this information to the executive director for review. Notices of availability shall be delivered to the chief clerk or city secretary for municipal entities.

(b) If the owner or operator submits other information (i.e., evidence other than samples of groundwater collected from a particular property, such as but not limited to, contamination distribution maps) to the executive director indicating that contamination originating from on-site activities potentially exceeds the groundwater protection standard on property they do not own, then the owner or operator shall, at a minimum, make this information and the groundwater protection standard for the applicable constituent available to the owner of the off-site property. The required information shall also be provided to current easement holders/franchisees when there is other information suggesting groundwater protection standards are exceeded at any depth within an easement/franchise area (e.g., municipal or private utility, right-of-way, etc.). The owner or operator shall provide a notice of availability no later than at the time of submission of a plan and/or report containing this information for

executive director review. Notices of availability shall be delivered to the chief clerk or city secretary for municipal entities.

(c) The owner or operator shall provide notice of the availability of historical information (i.e., actual sampling and analysis data collected on the property described in subsections (a) and (b) of this section before these rules being applicable to that property) to the parties listed in subsections (a) and (b) of this section, as applicable, at the time of submission of the first plan and/or report including this same historical information to the executive director for review under this rule.

(d) When subsection (a), (b), or (c) of this section require information to be made available, the notice of availability shall indicate: that information is available regarding groundwater analysis results for the specific property, what information is available, and how to obtain that information (e.g., submit written request to identified point of contact). To document that all required notices have been completed, the owner or operator shall provide a notarized statement of this fact including the names and addresses of persons receiving direct notice, such as mail, personal contact, public meeting, fliers, etc., if any, to the executive director. The statement must be signed by the owner or operator, or their appropriate authorized agent, certifying that the required notifications have been completed. The notarized statement is to be provided to the executive director within 60 calendar days of the date the notices are due, and may be included within any report submitted under this chapter that is to be

submitted within this same period. The owner or operator shall keep on file information documenting that notice was completed for a minimum of five years following the issuance of a no further action letter in accordance with §352.1081 of this title (relating to Post-Response Corrective Action Care Period) for the impacted property. The owner or operator shall provide the information documenting that notice was completed when requested by the executive director. If the executive director determines that the notice was not sufficient (e.g., it is not factual or clear, or not all appropriate parties were notified), then the owner or operator shall complete the notice in a sufficient manner.

(e) When there is an actual or probable human exposure to a constituent at a concentration which exceeds the groundwater protection standards established in §352.1011 of this title (relating to Impacted Property Assessment), the owner or operator shall take the following actions.

(1) The owner or operator shall provide notice, as soon as possible, but no later than 60 calendar days from receipt of the laboratory analysis from the performing laboratory, to those actually or probably exposed, the property owner, and the executive director. The determination of those who could be exposed shall consider, at a minimum: tenants and leaseholders; human activity patterns at the impacted property; presence of any areas of congregation or recreation, such as but not limited to, playgrounds, natural areas, green belts, or break areas; the distribution

and concentration of constituents; conditions of any structures which may allow or prevent exposure to constituents in soils, water or vapors; and the source of drinking water. As new information becomes available, which indicates that additional parties could be exposed, then those additional parties and the executive director shall be notified as soon as possible, but not later than 14 days of the date actual or probable exposure is determined; unless the actual or probable exposure was determined by additional sampling results in which case notice must occur no later than 60 days from the date of receipt of the laboratory analyses from the performing laboratory.

(2) The owner or operator shall ensure that the notice indicates information is available regarding groundwater sample analysis results for the specific property, that exposure to constituents is possible given existing conditions, the groundwater protection standard, how the exposure could be occurring, that more information is available on request, what that additional information is, and how to obtain the additional information (e.g., submit written request to point of contact).

(3) The owner or operator shall use and maintain legible signs to provide public notice in instances where potential exposure for publicly accessible areas such as playgrounds or other similar situations may occur. The owner or operator shall also maintain the sign so long as the actual or probable exposure conditions exist.

(4) The owner or operator shall document that all required notices have been completed by providing a notarized statement of this fact including the names and addresses of persons receiving direct notice such as mail, personal contact, public meeting, fliers, etc., if any, and to the executive director which is signed by the owner or operator or their appropriate authorized agent certifying that the required notifications have been completed. The certification is to be provided to the executive director within 30 calendar days of the date the notices are due, or within a report to be submitted under this chapter within this same period. The owner or operators shall keep on file information which documents that notice was completed for a minimum of five years following the issuance of a no further action letter in accordance with §352.1081 of this title (relating to Post-Response Corrective Action Care Period) for the impacted property. The owner or operator shall provide the information which documents notice was completed when requested by the executive director. If the executive director determines that the notice was not sufficient (e.g., it is not factual or clear, or not all appropriate parties were notified), then the owner or operator shall complete the notice in a sufficient manner.

(f) Once a party identified in subsection (a), (b), or (c) of this section provides a written request to the owner or operator providing the notice, and at the address provided in the notice, the owner or operator must deliver the information required to be made available in subsection (a), (b), or (c) of this section to the requestor within 14 calendar days of the date of receipt of the request.

§352.1031. Impacted Property Assessment Report.

(a) The owner or operator shall include the information in paragraphs (1) - (3) of this subsection in an Impacted Property Assessment Report (IPAR):

(1) the name, mailing address, and telephone number of the contact person or office for the on-site impacted property;

(2) the identification numbers of the unit; and

(3) the physical address or location of the impacted property, including accurate latitude and longitude and associated spatial data attributes in a format approved or required by the executive director.

(b) An IPAR shall document descriptions of procedures and conclusions of the assessment and shall include all information and demonstrations required by §352.1011 of this title (relating to Impacted Property Assessment). This includes, but is not limited to:

(1) the identification and characterization of all source areas;

(2) a characterization of the local geology and hydrogeology;

(3) the direction and rate of movement, composition, and representative concentrations of Appendix IV constituents from §352.1431 of this title (relating to Appendix IV - Constituents for Assessment Monitoring) in groundwater;

(4) summaries of sampling methodology;

(5) all analytical data in accordance with §§352.5, 352.931, and 352.1001 of this title (relating to Laboratory Accreditation and Certification; Groundwater Sampling and Analysis Requirements; Data Acquisition and Reporting Requirements);

(6) a tabular comparison between concentrations of Appendix IV constituents from §352.1431 of this title and the groundwater protection standards;

(7) graphical representations (e.g., maps and cross-sections) of the groundwater contamination zones;

(8) notifications required under §352.1021 of this title (relating to Impacted Property Notification Requirements);

(9) accurate spatial coordinates and associated data attributes, in a format approved or required by the executive director, for all locations where samples of groundwater were collected; and

(10) any other reasonable information as required by the executive director.

§352.1041. Corrective Action Remedy Report.

(a) The owner or operator shall address all groundwater affected by a release in a Corrective Action Remedy Report (CARR).

(b) The owner or operator must demonstrate that the proposed remedial actions can achieve the selected remedy within a reasonable time frame.

(c) The CARR shall address the proposed monitoring frequencies, parameters, locations, analytical methods, and all associated quality control procedures.

(d) The CARR shall describe any groundwater treatment system proposed as a part of the corrective action remedy for the impacted property including, at a minimum, the following.

(1) The owner or operator shall list necessary inspection, operation and maintenance tasks, as well as characterize optimum operating conditions for any treatment system.

(2) The owner or operator shall discuss potential problems that can reasonably be expected to occur and indicate how they propose to respond to those potential problems.

(3) The owner or operator shall identify any authorizations needed to construct and/or implement the remedy.

(e) The owner or operator shall include a discussion of any sampling to be conducted to demonstrate conformance with the remedy objectives of §352.971 of this title (relating to Selection of Remedy).

(f) The CARR shall specify the type, location, duration, and implementation schedule for the remedy for the impacted property.

(g) The owner or operator shall include a schedule for submission of Corrective Action Effectiveness Reports to the executive director.

(h) The owner or operator shall include the following information regarding post-response corrective action care in a CARR:

(1) a description of the monitoring program during the post-response corrective action care period described in §352.1081 of this title (relating to Post-Response Corrective Action Care Period) including where applicable, but not limited to:

(A) plot plan(s) indicating monitoring locations (including attenuation monitoring points);

(B) well construction details;

(C) groundwater monitoring frequency;

(D) constituents from Appendix IV in §352.1431 of this title (relating to Appendix IV - Constituents for Assessment Monitoring) to be analyzed;

(E) sampling procedures, chain of custody protocols, and laboratory methods; and

(F) quality assurance/quality control procedures in accordance with §352.1001 of this title (relating to Data Acquisition and Reporting Requirements);

(2) a description of and schedule for the inspection, operation, and maintenance of any physical controls for the post-response corrective action care period;

(3) a description of the proposed post-response corrective action and a demonstration that the proposed post-response corrective action care:

(A) will not compromise the integrity of the physical controls;

(B) will not interfere with the function of the monitoring systems; and

(C) will not pose a threat to human health or the environment;

(4) a written financial assurance cost estimate, when applicable, for performing the post-response corrective action care, which has been prepared in accordance with §352.1101(b) of this title (relating to Financial Assurance Required); and

(5) a reporting schedule for submission of the Post-Response Corrective Action Care Reports based on annual reporting unless the executive director approves an alternate reporting schedule.

(i) The owner or operator shall include any other reasonable information as required by the executive director.

§352.1051. Corrective Action Effectiveness Report.

The owner or operator shall provide the following information in a Corrective Action Effectiveness Report (CAER):

(1) a summary of the corrective actions taken since the last reporting period;

(2) a comparison of:

(A) the groundwater protection standards;

(B) the initial concentration of Appendix IV constituents from §352.1431 of this title (relating to Appendix IV - Constituents for Assessment Monitoring); and

(C) the current (i.e., at the time of CAER submittal) concentrations of Appendix IV constituents from §352.1431 of this title;

(3) an estimate of the percentage of the corrective actions which have been completed;

(4) an estimate, in years, of the additional time necessary to complete the corrective actions;

(5) a determination whether sufficient progress is being made to achieve the selected remedy within a reasonable timeframe, given the circumstances of an impacted property; and

(6) any other reasonable information as required by the executive director.

§352.1061. Corrective Action Completion Report.

(a) The owner or operator shall provide the Corrective Action Completion Report (CACR), including:

(1) all analytical data prepared and presented in accordance with §352.931 of this title (relating to Groundwater Sampling and Analysis Requirements) and §352.1001 of this title (relating to Data Acquisition and Reporting Requirements); and

(2) a description of the volume and final disposal location, and a copy of any waste manifests or other documentation of disposition, for waste or environmental media which were removed from the impacted property.

(b) The CACR shall include information which documents that the corrective actions described in the approved Corrective Action Remedy Report (CARR) have been completed. The report shall:

(1) include a demonstration that the requirements of §352.981 of this title (relating to Implementation of the Corrective Action Program) have been fulfilled for the impacted property based on the concentration of Appendix IV constituents listed in §352.1431 of this title (relating to Appendix IV - Constituents for Assessment Monitoring); and

(2) document that any physical control or combination of physical controls has been constructed or completed, and is functioning as described in the approved CARR.

(c) The owner or operator shall provide any other reasonable information as required by the executive director.

§352.1071. Post-Response Corrective Action Care Report.

The owner or operator shall include the following information in a Post-Response Corrective Action Care Report:

(1) the results of any monitoring program with all analytical data prepared and presented in accordance with §352.1001 of this title (relating to Data Acquisition and Reporting Requirements);

(2) a summary of activities related to the inspection, operation, and maintenance of physical controls;

(3) a discussion of any corrective measures taken in response to failure of the selected remedy; and

(4) any other reasonable information required by the executive director.

§352.1081. Post-Response Corrective Action Care Period.

(a) The post-response corrective action care period begins upon the executive director's approval of a corrective action completion report. The owner or operator shall perform post-response corrective action care for a minimum of 30 years and until the executive director approves a demonstration that any physical controls do not require continued maintenance and that groundwater contaminants do not pose a threat to human health, the environment, or property.

(b) The post-response corrective action care activities shall continue during the post-response corrective action care period until the executive director issues a no further action letter approving a demonstration under subsection (a) of this section. The executive director's approval of a demonstration that constituents in groundwater do not pose a threat to human health, the environment, or property shall be made by adequately documenting:

(1) that the concentrations of Appendix IV constituents in groundwater are less than the groundwater protection standards as documented with three consecutive years of groundwater monitoring data; and

(2) that the post-response corrective action care activity consists entirely of monitoring the effectiveness of a physical control, and the physical control has been

proven successful and secure (i.e., the physical control is permanent and does not require any inspections or maintenance).

SUBCHAPTER I: FINANCIAL ASSURANCE
§§352.1101, 352.1111

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.1101. Financial Assurance Required.

(a) Applicability. This subchapter applies to owners and operators required to perform corrective action as set out in Subchapter H of this chapter (relating to Groundwater Monitoring and Corrective Action) and select a corrective action remedy using physical control measures to achieve the corrective action groundwater protection standards specified by §352.951 of this title (relating to Assessment Monitoring Program). Financial assurance shall be established and maintained for the duration of the post-response corrective action care period as prescribed in §352.1081 of this title (relating to Post-Response Corrective Action Care Period).

(b) Cost estimate. The owner or operator shall prepare and include with the amendment application containing the proposed remedy for corrective action prescribed in Subchapter H of this chapter, a written cost estimate in current dollars of the total cost of the 30-year post-response corrective action care period to maintain any physical controls after achievement of the remedy and for the duration of the post-response corrective action care period as prescribed in §352.1081 of this title. The cost estimate shall be based on the costs of hiring a third party to conduct post-response corrective action care. The most recent of these cost estimates is termed as the post-response corrective action care cost estimate. Post-response corrective action care shall mean the same as corrective action for purposes of financial assurance.

(c) Mechanism. No more than 90 days after the executive director's approval of an amendment and corrective action remedy including physical controls, an acceptable

financial assurance mechanism must be submitted for the cost of post-response corrective action care in an amount no less than the amount specified in the approved cost estimate. Financial assurance for post-response corrective action care shall be demonstrated in compliance with Chapter 37, Subchapters A - D of this title (relating to General Financial Assurance Requirements; Financial Assurance Requirements for Closure, Post Closure and Corrective Action; Financial Assurance Mechanisms for Closure, Post Closure and Corrective Action; and Wording of the Mechanisms for Closure, Post Closure and Corrective Action) except as indicated in §352.1111 of this title (relating to Exceptions).

(d) Post-response corrective action care financial assurance beyond the initial 30 years. Owners and operators unable to make a demonstration for ending the post-response corrective action care period in accordance with §352.1081(b) of this title, shall continue to maintain financial assurance for the post-response corrective action care period specified in §352.1081(c) of this title. At least 180 days before the end of the preceding post-response corrective action care period, a written cost estimate in current dollars shall be prepared and submitted for the cost of continuing the post-response corrective action care specified in the registration for the additional period specified in §352.1081(c) of this title. The cost estimate shall be based on the cost of hiring a third-party to conduct the post-response corrective action care. At least 90 days before the end of the preceding post-response corrective action care period, an acceptable financial assurance mechanism shall be submitted for the continued post-

response corrective action care period in an amount approved by the executive director. Financial assurance for post-response corrective action care shall be demonstrated in compliance with Chapter 37, Subchapters A - D of this title except as indicated in §352.1111 of this title. Insurance as specified in §37.241 of this title may not be used if closure of the unit has been completed.

(e) Executive director executed post-response corrective action care. The executive director may use funds provided for post-response corrective action care to perform post-response corrective action care at an impacted property when the executive director determines that a person has failed to provide the post-response corrective action care required under Subchapter H of this chapter.

§352.1111. Exceptions.

Exceptions to the financial assurance requirements of Chapter 37, Subchapters A - D of this title (relating to General Financial Assurance Requirements; Financial Assurance Requirements for Closure, Post Closure and Corrective Action; Financial Assurance Mechanisms for Closure, Post Closure and Corrective Action; and Wording of the Mechanisms for Closure, Post Closure and Corrective Action) as specified in §352.1101 of this title (relating to Financial Assurance Required) include:

(1) §37.31 of this title (relating to Submission of Documents) is not applicable;

(2) a pay-in trust as described in §37.201 of this title (relating to Trust Fund) may not be used;

(3) the owner or operator authorized to use insurance as a financial assurance mechanism must use the insurance endorsement approved by the executive director rather than the certificate of insurance specified by §37.241(c) of this title (relating to Insurance);

(4) the owner or operator using a financial test as described in §37.251 of this title (relating to Financial Test), or a corporate guarantee as described in §37.261 of this title (relating to Corporate Guarantee), must comply with §37.141 of this title (relating to Increase in Current Cost Estimate), except that mechanism increases must be made no later than 90 days after the close of each succeeding fiscal year;

(5) the owner or operator using a local government financial test as described in §37.271 of this title (relating to Local Government Financial Test), or a local government guarantee as described in §37.281 of this title (relating to Local Government Guarantee), must comply with §37.141 of this title, except that

mechanism increases must be made within 180 days after the close of each succeeding fiscal year;

(6) insurance as specified in §37.241 of this title (relating to Insurance) may not be used if closure of the unit has been completed; and

(7) the wording of an instrument under Chapter 37, Subchapter D of this title (relating to Wording of the Mechanisms for Closure, Post Closure and Corrective Action) used to satisfy a financial assurance condition shall be revised to replace the term "permit numbers" with the term "registration numbers."

SUBCHAPTER J: CLOSURE AND POST-CLOSURE CARE
§§352.1201, 352.1211, 352.1221, 352.1231, 352.1241

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.1201. Inactive Coal Combustion Residuals Surface Impoundments.

The commission adopts by reference 40 Code of Federal Regulations §257.100 (Inactive s) as amended through the August 5, 2016, issue of the *Federal Register* (81 FR 51807).

§352.1211. Closure or Retrofit of Coal Combustion Residuals Units.

The commission adopts by reference 40 Code of Federal Regulations §257.101 (Closure or retrofit of CCR units) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.1221. Criteria for Conducting the Closure or Retrofit of Coal Combustion Residuals Units.

The commission adopts by reference 40 Code of Federal Regulations §257.102 (Criteria for conducting the closure or retrofit of CCR units) as amended through the August 5, 2016, issue of the *Federal Register* (81 FR 51808).

§352.1231. Alternative Closure Requirements.

The commission adopts by reference 40 Code of Federal Regulations §257.103 (Alternative closure requirements) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.1241. Post-Closure Care Requirements.

(a) The commission adopts by reference 40 Code of Federal Regulations (CFR) §257.104 (Post-closure care requirements) as amended through the August 5, 2016, issue of the *Federal Register* (81 FR 51808), subject to the additions under this section.

(b) The owner or operator shall submit to the executive director:

(1) a copy of the Notification of Completion of Post-Closure Care Period required by 40 CFR §257.104(e); and

(2) a demonstration that the coal combustion residuals (CCR) unit poses no threat to human health, the environment, or property.

(c) The post-closure period shall be extended until the executive director approves a demonstration that the CCR unit poses no threat to human health, the environment, or property.

SUBCHAPTER K: RECORDKEEPING, NOTIFICATION, AND POSTING OF INFORMATION TO THE INTERNET §§352.1301, 352.1311, 352.1321

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.1301. Recordkeeping Requirements.

(a) The commission adopts by reference 40 Code of Federal Regulations §257.105 (Recordkeeping requirements) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468) subject to the modification in this section.

(b) The owner or operator shall retain records of groundwater monitoring and associated groundwater surface elevations for the active life and the post-closure care period of the coal combustion residuals unit in accordance with §305.143 of this title (relating to Recordkeeping).

§352.1311. Notification Requirements.

The commission adopts by reference 40 Code of Federal Regulations §257.106 (Notification requirements) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468).

§352.1321. Publicly Accessible Internet Site Requirements.

(a) The commission adopts by reference 40 Code of Federal Regulations §257.107 (Publicly accessible Internet site requirements) as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21468) subject to the additions and modifications in this section.

(b) The Coal Combustion Residuals Rule Compliance Data and Information website (CCR website) the owner or operator is required to maintain under this section shall be a publicly accessible website.

(c) The owner or operator shall post on the CCR website, upon submittal to or receipt from the executive director or the chief clerk:

(1) a complete copy of an issued effective registration;

(2) a complete copy of an application submitted under this chapter, including any revisions;

(3) a copy of public notice the owner or operator is required to publish under this chapter;

(4) a copy of a draft registration;

(5) a copy of the compliance summary; and

(6) a copy of any other document regarding and/or summarizing the executive director's review of or initial decision on an application submitted under this chapter.

SUBCHAPTER L: APPENDIXES
§§352.1401, 352.1421, 352.1431

Statutory Authority

The new rules are proposed under Texas Water Code (TWC), §5.102, which provides the commission the power to perform any acts necessary and convenient to the exercise of its jurisdiction and powers as provided by TWC and other laws; TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under TWC and other laws of this state; TWC, §5.105, which authorizes the commission to establish and approve all general policy of the commission by rule; under Texas Health and Safety Code (THSC), Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; and THSC, §361.090, which allows the commission to adopt rules to control the collection, handling, storage, processing, and disposal of industrial solid waste to protect the property of others, public property and rights-of-way, groundwater, and other rights requiring protection.

The proposed new rules implement THSC, §§361.017, 361.024, and 361.090.

§352.1401. Appendix I - Maximum Contaminant Levels Promulgated Under the Safe Drinking Water Act.

The following appendix contained in 40 Code of Federal Regulations Part 257, Subpart D is adopted by reference: Appendix I--Maximum Contaminant Levels (as amended through the October 9, 1991, issue of the *Federal Register* (56 FR 51016)).

§352.1421. Appendix III - Constituents for Detection Monitoring.

The following appendix contained in 40 Code of Federal Regulations Part 257, Subpart D is adopted by reference: Appendix III--Constituents for Detection Monitoring (as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21500)).

§352.1431. Appendix IV - Constituents for Assessment Monitoring.

The following appendix contained in 40 Code of Federal Regulations Part 257, Subpart D is adopted by reference: Appendix IV--Constituents for Assessment Monitoring (as amended through the April 17, 2015, issue of the *Federal Register* (80 FR 21500)).