Message

From: Cook, William [William.Cook@dnr.ga.gov]
Sent: 2/9/2018 9:36:18 PM
To: Celeste, Laurel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8f5194a050ce4b758e02e6835fe0b43d-Celeste, Laurel]; Simonson, Davy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=85befa3309014aa5af2ba25870a05a0a-Simonson, Davy]
CC: Williams, Laura [laura.williams@dnr.ga.gov]
Subject: Georgia Attorney General Certification - Quick call
Attachments: Georgia Attorney General Certification for CCR program approval.docx

Importance: High

Hello Laurel and Davy,

Could Laura Williams and I take about 10 minutes of your time in a conference call the week of February 12th? We would like to ask you a question about language we would like to use in stating the effective date of our Solid Waste Management Rules (see highlighted language in the attached document). Please let me know a few dates and times next week, if possible, that we could have a quick conference call.

Thank you

William Cook
Solid Waste Program Manager
Georgia Environmental Protection Division
4244 International Pkwy., Ste 104
Atlanta, GA 30354
Phone: 404-362-4500
E-mail: William.cook@dnr.state.ga.us

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Message

From: Jenkins, Devin M [dmjenkins@adem.alabama.gov]
Sent: 7/12/2018 8:48:41 PM
To: Simonson, Davy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=85befa3309014aa5af2ba25870a05a0a-Simonson, Davy]
CC: Story, S Scott [SSS@adem.alabama.gov]; Sanderson, Eric [ELS@adem.alabama.gov]; Cobb, Steve [SAC@adem.alabama.gov]
Subject: AL CCR Permit Program Approval Application
Attachments: CCR Approval Application.pdf

Davy:

Please see the attached documents regarding Alabama's Coal Combustion Residuals (CCR) Permit Program Approval Application. A hard copy is being sent via FedEx.

Should you have any questions, please call.

Thank you,

Devin M. Jenkins
Environmental Engineering Specialist, Sr.
Solid Waste Branch
Land Division
Alabama Dept. of Environmental Management
1400 Coliseum Boulevard
Montgomery, AL 36110
Phone: (334) 270-5605
adem.alabama.gov

ADEM
Mission: Assure for all citizens of the state a safe, healthful and productive environment

Message

From: Simonson, Davy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=85BEFA3309014AA5AF2BA25870A05A0A-SIMONSON, DAVY]
Sent: 7/3/2017 1:02:22 PM
To: 'Cook, William' [William.Cook@dnr.ga.gov]
CC: 'Hall, Chad' [Chad.Hall@dnr.ga.gov]; 'Kehn-Lewis, Christy' [Christy.Kehn-Lewis@dnr.ga.gov]
Subject: RE: EPA Consolidated Comments - FW: First Draft Narrative for CCR Permit Program Approval
Attachments: CCRPP-GA - EPA Cmts on... EPD's DRAFT Narrative for CCR Permit Program Application 2017_06_07 clean.docx

Good morning William.

That is weird! I included myself on the cc line just to make sure the email went through.....since I was in the mountains and wondering about the WiFi I had access to. I saw that it did go through before I shut down my computer later Friday morning. I just looked again, and both attachments did indeed arrive on my computer. Very strange. I'll have to check with the HQ folks to see if they received it.

Anyhoo, here it is again. Please confirm that it came through this time. I'm working today, so please call me on my cell if need be. Thanks!

Davy

From: Cook, William [mailto:William.Cook@dnr.ga.gov]
Sent: Friday, June 30, 2017 1:36 PM
To: Simonson, Davy <Simonson.Davy@epa.gov>
Cc: Hall, Chad <Chad.Hall@dnr.ga.gov>; Kehn-Lewis, Christy <Christy.Kehn-Lewis@dnr.ga.gov>
Subject: RE: EPA Consolidated Comments - FW: First Draft Narrative for CCR Permit Program Approval

Good afternoon Davy,

I hope that you and your wife have been able to enjoy Cherokee and the Smoky Mountains. The Smoky Mountains is one of my favorite places!

Thank you for sending us the Consolidated comments this morning. In your e-mail you noted that EPA's comments were in two attached documents. Please note that only 1 document was attached, which is the companion "Comment Pages". Can you send the document with EPA comments in TrackChanges? Chad, Christy, and I plan to review the comments and begin revisions on Monday.

Thank you
William

From: Simonson, Davy [mailto:Simonson.Davy@epa.gov]
Sent: Friday, June 30, 2017 9:12 AM
To: Cook, William; Hall, Chad; Kehn-Lewis, Christy; Williams, Laura; Blalock, Beth; Visser, Sarah; Cown, Jeff
Cc: Johnston, Jon; Torres, Ramon; Binford, Marshall; Smith, Stephen; Rodgers-Smith, Delores; Monell, Carol; Behan, Frank; Jackson, Mary; Hillyer, Kirsten; Mooney, Susan; Celeste, Laurel; Souders, Steve; Dufficy, Craig; Livnat, Alexander; Devlin, Betsy; Simonson, Davy
Subject: EPA Consolidated Comments - FW: First Draft Narrative for CCR Permit Program Approval

Good Morning.

Attached are EPA's consolidated comments (i.e., ORCR, OGC, Region 4, and EPA CCR Implementation Workgroup Co-Chair combined comments) on Georgia's Initial Draft Narrative portion of its CCRPP Approval

Application, sent by EPD to EPA on June 7, 2017. The Agency's comments are included in the two attached documents -- the June 7th version of EPD's Initial Draft Narrative with EPA comments in TrackChanges, and, a companion "Comment Pages" document. Together, these two documents constitute EPA's consolidated comments on the Initial Draft Narrative.

William, please feel free to call me on my cell phone between now and Monday p.m. if you have immediate questions or wish to discuss anything. Otherwise, we'll discuss the comments/issues during the next Georgia EPD-EPA biweekly call that is scheduled for Thursday, July 6th, 1:00 to 2:00 p.m.

EPA is also in receipt of EPD's revised (i.e., second draft) AG Certification letter that you sent to us June 27th, as well as the amended/partially revised draft version of the original Initial Draft Narrative that was sent to us yesterday evening. We will discuss these documents on next week's EPD-EPA call, also.

Thank you. Happy 4th of July to everyone! Talk with you soon.

Davy Simonson | Senior Solid Waste Specialist
Resource Conservation and Restoration Division | Region 4
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
☎ 404-562-8457 (w) ✉ simonson.davy@epa.gov 💻 www.epa.gov

From: Cook, William [mailto:William.Cook@dnr.ga.gov]
Sent: Wednesday, June 07, 2017 4:20 PM
To: Johnston, Jon <Johnston.Jon@epa.gov>; Binford, Marshall <Binford.Marshall@epa.gov>; Celeste, Laurel <celeste.laurel@epa.gov>; Devlin, Betsy <Devlin.Betsy@epa.gov>; Hillyer, Kirsten <hillyer.kirsten@epa.gov>; Jackson, Mary <Jackson.Mary@epa.gov>; Livnat, Alexander <Livnat.Alexander@epa.gov>; Monell, Carol <Monell.Carol@epa.gov>; Mooney, Susan <mooney.susan@epa.gov>; Simonson, Davy <Simonson.Davy@epa.gov>; Torres, Ramon <Torres.Ramon@epa.gov>; Souders, Steve <Souders.Steve@epa.gov>
Cc: Cown, Jeff <Jeff.Cown@dnr.ga.gov>; Hall, Chad <Chad.Hall@dnr.ga.gov>; Kehn-Lewis, Christy <Christy.Kehn-Lewis@dnr.ga.gov>; Williams, Laura <laura.williams@dnr.ga.gov>; Blalock, Beth <Beth.Blalock@dnr.ga.gov>
Subject: First Draft Narrative for CCR Permit Program Approval

Good afternoon,

I look forward to hearing from each of you on the conference call tomorrow at 1:00 p.m. on Georgia's CCR Permit Program. I have a couple of attachments for your review. The first attachment is the draft Attorney General Certification. I first sent this to all of you about two weeks ago and requested comments. I have not received any comments to date. We will go over the certification briefly tomorrow. If no edits are needed, we will send on to our Attorney General's office for signature.

The second attachment is a very rough draft of the narrative that we plan to submit as an addendum to the CCR Permit Program approval that we submitted on March 30th. If possible, please take a quick look at the narrative and let us know if we are missing any sections/information that you need us to include. We will plan to go over the rough draft in the call. At this point we want to make sure that we are headed in the right direction and have included everything that you will need to review.

Please let me know if you have any questions about the attachments or feel free to ask on the call tomorrow.

From: Hall, Chad [mailto:Chad.Hall@dnr.ga.gov]
Sent: Friday, February 23, 2018 3:57 PM
To: Simonson, Davy <Simonson.Davy@epa.gov>; Langston, David <Langston.David@epa.gov>
Cc: Cook, William <William.Cook@dnr.ga.gov>
Subject: GA CCR Narrative and public participation for draft CCR permits

Davy and David,

I've attached the current version of our narrative. I believe it addresses the concerns raised our last meeting. I've also attached three documents related to our proposed process to give public notices and opportunity for comments on draft CCR permits. We would appreciate any comments on the narrative; especially on the newly proposed public participation requirement for draft CCR permits.

Our solid waste rule amendments go before the DNR board on 2/28. We would like to move forward with submitting the CCR permit program application as soon as possible after those amendments are adopted.

Thanks again for all of the constructive feedback on previous versions of our submittal.

-Chad

Chad Hall, PhD, PE
Manager
Solid Waste Permitting Unit

Georgia Environmental Protection Division
Solid Waste Management Program
Atlanta Tradeport, Suite 104
4244 International Parkway
Atlanta, GA 30354
(404) 362-4893

From: Cobb, Steve [mailto:SAC@adem.alabama.gov]
Sent: Thursday, July 12, 2018 5:15 PM
To: Monell, Carol <Monell.Carol@epa.gov>
Subject: FW: AL CCR Permit Program Approval Application
Importance: High

Carol,

FYI. The hardcopy of this submittal should be in your offices tomorrow. We look forward to working with you and your staff to facilitate EPA's review and approval of our CCR program. I know that your staff will be in close communication with Eric and Scott, but also please let me know if you need additional information.

Thank you,

SAC
Stephen A. Cobb, P.E.
Chief, Land Division
ADEM
(334)271-7732
(334)279-3050 (fax)
sac@adem.alabama.gov

From: Jenkins, Devin M
Sent: Thursday, July 12, 2018 3:49 PM
To: simonson.davy@epa.gov
Cc: Story, S Scott <SSS@adem.alabama.gov>; Sanderson, Eric <ELS@adem.alabama.gov>; Cobb, Steve <SAC@adem.alabama.gov>
Subject: AL CCR Permit Program Approval Application

Davy:

Please see the attached documents regarding Alabama's Coal Combustion Residuals (CCR) Permit Program Approval Application. A hard copy is being sent via FedEx.

From: Simonson, Davy
Sent: Thursday, March 22, 2018 3:57 PM
To: 'chad.hall@dnr.ga.gov' ; william.cook@dnr.ga.gov
Subject: EPA Consolidated Comments on GA Draft CCRPP Narrative & Draft Public Participation Memo

Hi guys.

Here are our consolidated comments on EPD's latest draft Program Narrative and on the draft policy Memo describing the enhanced public comment process.

As with previous consolidated comments, below is a bulleted summary of our primary comments and in the attached are the more-detailed comments in Track Changes.

Please call at your convenience to discuss. - DS

Comments on Georgia's Program Narrative (Attached)

- More clarity is needed on what are: CCR units vs MSWLFs vs CILs vs PISWDFs
    - Please see comments throughout the document. When you say CCR units, do you mean all of these types of units, or just those units that are not MSWLFs/CILs/PISWDFs that take CCR?
    - How are each of these types of units regulated now, and how will that change with Georgia's new regulations? Please expand this discussion and be clear about each type.
- There are a number of instances where the document refers to part 258 regulations; It seems like it should be part 257 (please see inserted comments in the document).
- Variance section: OGC has provided language.
    - The section is not clear about how/when variances can be granted. It does not seem to reflect the most recent discussions we have had.
- Figure 1: Need to make clear what/which units this chart refers to. If it does not refer to all types of units that can take CCR, then additional figures for those other types of units would be useful and should be included.
- Need to spell out the public participation for each different type of unit that can take CCR. Also, please explain length of permit.
- Table 3: See the question about the CCR website. If all units don't have to have the publicly-accessible websites, how will the public be able to access information on the other types of units and/or how is that equally protective?
- Section VIII. Inspections, etc.
    - There needs to be more detail on this.maybe sim;y cut and paste. Can't just refer to the 258 document. Also, we will need the actual document for the record. Please see inserted comment in the document.
- Please see other suggested edits throughout the Narrative, for your consideration.

Comments on Georgia's Draft Memo, *SUBJECT: CCR Draft Permit Public Comment Process*, and its Attachments

- Please provide, in the Narrative, how the person authorized to bind EPD to this policy (appears it's the Director) will concur with the proposed process as described in the Memo from the LPB Chief.
- Please provide a short discussion in the Narrative on how the policy described in the Memo could be affected when EPD Directors change (e.g., Will the policy continue as is? Will a new Director have to concur with a new memo? Etc.).
- Please ensure consistency between the Narrative section on Public Participation and the contents of the Memo and its two attachments.
- Please see corrections and suggested edits in the draft Memo (e.g., "Water Infrastructure Improvements for the Nation"; etc.).

Davy Simonson | Senior Solid Waste Specialist
Resource Conservation and Restoration Division | Region 4
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303

☎ 404-562-8457 (o) ☎ 202-510-0392 (m) ✉ simonson.davy@epa.gov 💻 www.epa.gov

LANCE R. LEFLEUR
DIRECTOR

ADEM

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

July 12, 2018

DELIVERED VIA FEDEX
TRACKING: 8054 7434 7540

Mr. Onis "Trey" Glenn, III
Regional Administrator
U.S. EPA Region IV
61 Forsyth Street SW
Atlanta, GA 30303

RE: Coal Combustion Residuals (CCR) Permit Program Approval Application
State of Alabama

Dear Mr. Glenn:

I am pleased to submit the State of Alabama's application for approval of the Solid Waste Coal Combustion Residuals Permit Program. This application includes a program narrative, a legal certification from the Office of the Attorney General, and copies of applicable state statutes and regulations.

On April 7, 2015, the EPA finalized the CCR regulations under Subtitle D of the Resource Conservation and Recovery Act, which prescribes requirements pertaining to the disposal of CCR generated from the combustion of coal at electric utilities and independent power producers.

On December 16, 2016, the Water Infrastructure for Improvements to the Nation Act was signed into law which established the requirements and process for states to establish CCR permit programs and to obtain approval to implement a state CCR permitting program in lieu of the self-implementing federal regulations.

On April 20, 2018, the Department, by and through the Alabama EMC amended ADEM Admin. Code r. 335-13 to include ADEM Admin. Code r 335-13-15 *Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments,* regulations which are consistent with both the Federal Subtitle D regulations for CCR, as well as the WIIN Act requirements for state CCR permitting programs.

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

The Department of Environmental Management has been designated as the lead agency in Alabama for this program. I look forward to your timely approval of Alabama's Solid Waste Coal Combustion Residuals Permit Program.

Sincerely,

Lance R. LeFleur, Director
Alabama Department of Environmental Management

STATE OF ALABAMA

Coal Combustion Residuals Permit Program Approval Application to EPA Region IV

In Accordance with

Section 2301 of Subtitle C of the

Water Infrastructure Improvements for the Nation Act

ADEM

Alabama Department of Environmental Management

Land Division - Solid Waste Branch

Requirement	Notes
Basic Application Packet Components	
Signed Transmittal letter	Attached
A Narrative Description of the permit program	Attached
State Legal Certification	Appendix A
Copies of all applicable State statutes, regulations, and guidance	Appendix B
257 Checklist (Side by Side Comparison)	Appendix C
Narrative Description Components	
An explanation of the jurisdiction and responsibilities of all State agencies and local agencies implementing the permit program	§II
An explanation of how the State will ensure existing and new facilities are permitted or otherwise approved and in compliance with either 40 CFR part 257 or other State criteria	§§III-V, VII
A demonstration that the State meets permitting requirements, requirements for compliance monitoring authority, requirements for enforcement authority, and intervention in civil enforcement proceedings section	Permitting Requirements §V Compliance Monitoring Authority §VII Enforcement Authority §VIII Civil Enforcement §IX
A description of the State's public participation procedures as specified in the permitting requirements section	§VI
State Legal Certification	
Signed Certification from Attorney General or independent legal counsel for the State that has full authority to independently represent the lead State agency in court on all matters pertaining to the State program	Appendix A
Permitting Requirements	
State Law requires that documents for permit determinations are made available for public review and comment and final determinations on permit applications are made known to the public	§VI
State procedures that ensure public comments are considered	§VI
State description on public participation procedures for permit issuance and post-permit actions	§VI

Requirement	Notes
The state shall have the authority to collect all information necessary to issue permits that are adequate to ensure compliance with relevant 40 CFR 257, subpart D.	§V
State law should require that all CCR units permits shall incorporate that States have the authority to impose requirements for CCR units adequate to ensure compliance with either 40 CFR part 257 subpart D or such other State criteria that has been determined and approved by the Regional Administrator to be at least as protective as 40 CFR part 257.	§1.B
Requirements for Compliance Monitoring Authority	
The State should have the authority to: (1) Obtain any and all information necessary, including records and reports, from an owner or operator of a CCR unit, to determine whether the owner or operator is in compliance with the State requirements; (2) Conduct monitoring or testing to ensure that owners and operators are in compliance with the State requirements; and (3) Enter any site or premise subject to the permit program or in which records relevant to the operation of the CCR unit or activities are kept.	§VII
State should demonstrate that its compliance monitoring program provides for inspections adequate to determine compliance with the approved program	§VII
A State should demonstrate that its compliance monitoring program provides processes to: (1) Verify the accuracy of information submitted by owners or operators of the CCR unit; (2) Verify the adequacy of methods (including sampling) used by owners or operators in developing that information; (3) Produce evidence admissible in an enforcement proceeding; and (4) Receive and ensure proper consideration of information submitted by the public	§VII

Requirement	Notes
Requirements for Enforcement Authority	
A State should have the authority to restrain immediately and effectively any person by administrative or court order or by suit in a court of competent jurisdiction from engaging in any activity which may endanger or cause damage to human health or the environment	§VIII
A State should have the authority to sue in a court of competent jurisdiction to enjoin any threatened or continuing activity which violates any statute, regulation, order, or permit which is part of or issued pursuant to the State program	§VIII
A State should have the authority to sue in a court of competent jurisdiction to recover civil penalties for violations of a statute or regulation which is part of the State program or of an order or permit which is issued pursuant to the State program	§VIII
Intervention in Civil Enforcement Proceedings	
A State should demonstrate that intervention is possible in the State civil enforcement process by providing either: (a) Authority that allows intervention, as a right, in any civil action to obtain remedies specified in the requirements for enforcement authority section by any citizen having an interest that is or may be adversely affected; or (b) Assurance by the appropriate State agency that: (1) It will provide notice and opportunity for public involvement in all proposed settlements of civil enforcement actions (except where immediate action is necessary to adequately protect human health and the environment); and, (2) It will investigate and provide responses to citizen complaints about violations; and, (3) It will not oppose citizen intervention when permissive intervention is allowed by statute, rule, or regulation	§IX

ED_002047_00000009-00006

Table of Contents

I.	INTRODUCTION	1
	A. SCOPE	1
	B. THE SOLID WASTE PROGRAM	1
	C. THE SOLID WASTE COAL COMBUSTION RESIDUALS PROGRAM	3
II.	JURISDICTION AND RESPONSIBILITIES	4
III.	STAFF RESOURCES FOR CCR PERMIT PROGRAM IMPLEMENTATION	7
IV.	CCR UNITS IN ALABAMA	8
V.	PERMITTING PROCEDURES	8
VI.	PUBLIC PARTICIPATION	9
VII.	COMPLIANCE, INSPECTIONS AND MONITORING	10
VIII.	ENFORCEMENT AUTHORITY	11
IX.	INTERVENTION IN CIVIL ENFORCEMENT PROCEEDINGS	12
APPENDIX A – LEGAL CERTIFICATION		A-1
APPENDIX B – APPLICABLE STATUTES AND REGULATIONS		B-1
APPENDIX C – SIDE BY SIDE COMPARISON		C-1

ALABAMA'S PROGRAM DESCRIPTION

I. INTRODUCTION

A. Scope

Pursuant to Section 4005(d)(1) of the Solid Waste Disposal Act, (42 U.S. Code § 6945(d)(1)), the State of Alabama, through the Alabama Department of Environmental Management (ADEM or Department), submits this application seeking approval from the United States Environmental Protection Agency (EPA) of the Department's coal combustion residuals (CCR) permit program. The Department's CCR permit program will be at least as protective as the criteria described in subpart D of part 257 of title 40, Code of Federal Regulations, *Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments.*

B. The Solid Waste Program

The early years of Alabama's Solid Waste Program consisted of the Alabama Department of Public Health (ADPH) investigating open dumps on a complaint basis. The majority of these complaints were the result of vector problems or public nuisances. Two employees with the ADPH would investigate all solid waste complaints for the entire State. This system remained in place until the Alabama Solid Waste Disposal Act (SWDA) – later amended as the Solid Wastes and Recyclable Materials Management Act (SWRMMA) - went into effect on September 12, 1971.

Passage and implementation of the Alabama SWDA had a positive impact on environmental issues resulting from improper management of solid waste within the State. A statewide survey performed by ADPH personnel prior to the passage of the Alabama SWDA revealed approximately 400 open burning dumps handling all types of wastes. By September 1971, 30-40% of these burning dumps had been abolished.

ED_002047_00000009-00008

The remaining dumps were issued Notices of Violation (NOV) and required to obtain a letter of approval to operate from the ADPH. The ADPH-approved dumps were required to operate in compliance with the Alabama SWDA. In 1980, formal permits to operate were issued to sanitary landfills by the ADPH. The ADPH would continue to regulate solid waste within the State until 1982.

A comprehensive program of environmental management for the State was established with the enactment by the Alabama Legislature of the Alabama Environmental Management Act in 1982, promulgated in the Code of Alabama 1975, §22-22A-6. The law created the Alabama Environmental Management Commission (EMC) and established the Alabama Department of Environmental Management. ADEM absorbed several commissions, agencies and programs that had been responsible for implementing environmental laws. Regulatory authority for the disposal of solid waste was transferred from the ADPH to ADEM. Regulatory authority for the collection, storage, and transportation of solid waste remained with the ADPH.

The EPA promulgated 40 CFR Part 258 (Subtitle D), which established criteria for municipal solid waste (MSW) Landfills in 1991. In 1993, the Alabama EMC adopted equivalent regulations at the State level, which encompassed all requirements of Subtitle D except the financial assurance requirements. These regulations were codified in ADEM Admin. Code r. 335-13 (Solid Waste Program) on November 2, 1993. On March 2, 1994, the Department received partial approval for the Solid Waste Program. On August 1, 2005, the Alabama Legislature established financial assurance requirements for closure care, post-closure care, and corrective action for MSW landfills. The Department's Financial Assurance Program approval, by the EPA, went into effect on February 13, 2018.

From 1993 until 2011, the Solid Waste Program did not include ash resulting exclusively from the combustion of fossil fuels (Coal Combustion Residuals or CCR) at electric generating plants in the definition of solid waste. This exclusion exempted the disposal of CCR from the requirements of the Department's Solid Waste

ED_002047_00000009-00009

Regulations. On May 5, 2011, Act No. 2011-258 of the Alabama Legislature removed the exemption of CCR as a solid waste and authorized the regulation of those substances as solid waste. In 2012, the Alabama EMC amended the Solid Waste Program regulations to remove the exemption and further define Coal Combustion By-products, or CCR, as fly ash, bottom ash, boiler slag, or flue gas emission control by-products which result primarily from the combustion of coal or other fossil fuels at electric generating plants.

As promulgated in Code of Alabama 1975 (as amended), §22-27-3(h), ADEM has the authority to develop and adopt rules as necessary to implement a state CCR regulatory program consistent with the federal requirements.

C. The Solid Waste Coal Combustion Residuals Program

On April 7, 2015, the EPA finalized the CCR regulations as non-hazardous under Subtitle D, which prescribes requirements pertaining to the disposal of CCR generated from the combustion of coal at electric utilities and independent power producers.

In 2016, through Section 2301 of Subtitle C of the Water Infrastructure Improvements for the Nation (WIIN) Act, Subtitle D of the Resource Conservation and Recovery Act (RCRA) was amended to authorize state permit programs for CCR that allow states, after approval by the EPA, to elect to administer the state program in lieu of the federal CCR regulations.

In August 2017, the EPA issued guidance entitled, *Coal Combustion Residuals State Permit Program Guidance Document; Interim Final,* which is intended to describe the statutorily required components of the state permit program application, demonstration of adequacy including legal and procedural requirements, allowable state flexibilities, and a checklist to help ensure that a state CCR permit program meets the statutory requirement of "as protective as" the federal part 257 regulations. ADEM used this

document in conjunction with the April 2015 Final Rule in the development of the Department's CCR Permit Program.

On February 2, 2018, notice of a public hearing before ADEM was given to the public to consider the adoption of standards for the disposal of CCR in landfills and surface impoundments. The public hearing was held on March 21, 2018, at which time the Department received over 400 public comments. During the public notice period, a proposed rule to amend the April 2015 Final Rule was signed by the EPA Administrator. This proposed rule, in addition to the numerous oral and written comments received during both the public hearing and public comment period, were considered prior to submitting the draft CCR regulations to the Alabama EMC. The draft CCR regulations in essence mirrored the federal rule, however, additional regulations were added to consistent with Subtitle D. Similarly, in order to take advantage of flexibilities offered by the draft Remand Rule and/or Subtitle D, ADEM added these flexibilities along with language that states these regulations will become applicable 45 days after specific approval by EPA through the state program approval process.

On April 20, 2018, the Department, by and through the Alabama EMC amended ADEM Admin. Code r. 335-13 to (1) modify Chapters 1, 4, and 5 and (2) include Chapter 15 S*tandards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments* regulations. These regulations are consistent with both the Federal Subtitle D regulations for CCR, as well as the WIIN Act requirements for state CCR permitting programs. ADEM also issued a response to the public comments received during the public comment period on the proposed rules.

II. JURISDICTION AND RESPONSIBILITES

ADEM, as established by Code of Alabama 1975, §22-22A-4, is the sole agency responsible for regulating the disposal of solid waste, except within the boundaries of the designated tribal land of the federally-recognized Poarch Band of Creek Indians in

Escambia County. In accordance with Code of Alabama 1975, §22-27-9, ADPH has sole authority over the collection, storage and transportation of solid waste.
ADEM's main office and laboratory is centrally located in Montgomery, with field offices strategically stationed in Montgomery, Decatur, Birmingham and Mobile. The core functions of Alabama's Solid Waste Program lie within the central office, with support functions available from the field offices.

The Land Division of ADEM is responsible for the implementation of the Solid Waste Program, which is placed within the Solid Waste Branch. The Solid Waste Branch's primary function is the regulatory oversight of solid waste management and disposal within Alabama through ADEM Admin. Code r. 335-13. This includes permitting, compliance and enforcement activities for MSW landfills, construction and demolition (C/D) landfills and industrial (IND) landfills. Additionally, the Solid Waste Branch is responsible for regulatory oversight of recycling facilities, scrap tire businesses and composting facilities. With the adoption of ADEM's CCR Permitting Program, permitting, compliance and enforcement of CCR units will also be a function of the Solid Waste Branch. In performing these tasks, it is necessary for the Solid Waste Branch to also utilize staff and resources from other sections within ADEM. Additional assistance is provided by the Industrial Hazardous Waste Compliance and Enforcement Section, the Hydrogeology Section and the Removal and Response Section of the Land Division, the Office of Field Services of the Field Operations Division, the Industrial/Municipal Branch of the Water Division, the Industrial Chemical Section of the Air Division and the Office of General Counsel.

Specific responsibilities for the Solid Waste Program are defined below:

(a) **Land Division Chief** – Responsible for all permitting and compliance activities/decisions. Makes final permit decisions and recommendations to ADEM's Director concerning permits and compliance issues. Further responsible for new legislation/regulation revisions. Directly supervises Branch Chiefs.

(b) **Solid Waste Branch Chief** – Responsible for coordination between the Solid Waste Branch, Field Operations Division, the Hydrogeology Section and other ADEM program offices. Advises the Land Division Chief concerning permitting, compliance issues, enforcement and new legislation/regulation revisions. The Solid Waste Branch Chief supervises the Solid Waste Engineering Section, Solid Waste Compliance and Enforcement Section and Materials Management Section.

(c) **Solid Waste Engineering Section Chief** – Responsible for implementing the permitting programs for CCR units, C/D landfills, IND landfills, MSW landfills and composting facilities, as well as reviewing and approving municipal, county, and regional Solid Waste Management Plans (SWMPs). Also, supervises the review and tracking of MSW landfill financial assurance requirements.

(d) **Solid Waste Compliance and Enforcement Section Chief** – Responsible for compliance and enforcement oversight of CCR units, C/D landfills, IND landfills, MSW landfills, recycling facilities, and scrap tire facilities. Also, responsible for enforcing compliance with financial assurance requirements for MSW landfills.

(e) **Materials Management Section Chief** - Responsible for permitting/registration and inspections of recycling and scrap tire facilities, and oversight of the recycling grants program.

(f) **Office of Field Services** – Performs landfill inspections, complaint investigations and emergency response.

(g) **Hydrogeology Section** – Provides recommendations to the Solid Waste Branch concerning the geology and hydrogeology of existing and proposed landfills.

(h) **Industrial Hazardous Waste Compliance and Enforcement Section** - Responsible for waste determinations/approvals for industrial wastes to ensure that hazardous wastes are not sent to MSWLFs for disposal.

(i) **Removal and Response Section** – Responsible for remediation of unauthorized dumps and scrap tire accumulations.

(j) **Industrial/Municipal Branch** – Responsible for the implementation of the National Pollutant Discharge Elimination System (NPDES) and pretreatment programs for industrial discharges through permitting, compliance and enforcement oversight.

(k) **Industrial Chemical Section** – Administers ADEMs Air Pollution Control Program and the delegable provisions of the Clean Air Act by enforcing laws and regulations regarding air emissions.

(l) **Office of General Counsel** – Provides legal interpretations of existing statutes, provides hearing officers during ADEM public hearings and defends the Solid Waste Branch in case of legal suits. Also advises on legal issues concerning new legislation and regulations.

III. STAFF RESOURCES FOR CCR PERMIT PROGRAM IMPLEMENTATION

The Solid Waste Branch currently has 14 employees that take part in the permitting, compliance and enforcement of solid waste disposal facilities, as well as 6 employees within ADEM's Office of Field Services who inspect solid waste disposal facilities. These employees are also responsible for CCR facilities. Additional employees outside of the Solid Waste Branch provide support to help implement the program. The following illustrates ADEM personnel supporting the permitting, compliance, and enforcement aspects of Alabama's Solid Waste Program.

Solid Waste Branch

Branch Chief

Engineering	Compliance & Enforcement	Materials Management
1 Section Chief &	**1 Section Chief &**	**1 Section Chief &**
6 Environmental Engineers	**5 Environmental Scientists**	**7 Environmental Scientists**

Solid Waste Support

Field Operations	Hydrogeology	Industrial Hazardous Waste
4 Supervisors &	**1 Section Chief &**	**1 Section Chief &**
6 Inspectors	**3 Hydrogeologists**	**2 Environmental Scientists**

ED_002047_00000009-00014

Removals & Response	Industrial Branch (Water)	General Counsel
1 Section Chief &	**1 Section Chief &**	**1 Attorney Supervisor &**
4 Environmental Scientists	**2 Environmental Engineers**	**1 Attorney**

IV. CCR UNITS IN ALABAMA

ADEM has identified twenty-five disposal units for CCR generated and disposed at electric utilities and independent power producers. Seven of these units are landfills with the remainder being surface impoundments. Eleven CCR units closed prior to the promulgation of the Federal 2015 Final Rule. Two units closed after the effective date of those rules, or are closing, and must submit an application to the Department for a closure or post-closure permit. Twelve units are currently operating and subject to the ADEM Admin. Code r. 335-13-15 requirements of submitting a permit application for an initial CCR permit.

V. PERMITTING PROCEDURES

In addition to the permitting provisions in ADEM Admin. Code r. 335-13, permit applications for new and existing CCR units, including lateral expansions of such units, are subject to the SWRMMA Act. All solid waste management of CCR generated from the combustion of coal at electrical utilities and independent power producers shall take place in a CCR unit permitted by the Department.

ADEM Admin. Code r. 335-13-5 and 15 outlines the procedures for obtaining a solid waste disposal permit for CCR units, including application, public notice and public hearing requirements. Also outlined are conditions for permit denial, suspension or revocation and procedures to modify or transfer permits ADEM Admin. Code r. 335-13-5-.02 specifically details information needed for a CCR landfill permit application while ADEM Admin. Code r. 335-13-5-.02(1)(h)6. allows the Department to request

ED_002047_00000009-00015

additional information to ensure compliance with all State and Federal requirements. Similarly, ADEM Admin. Code r. 335-13-15-.09 specifically details information needed for a CCR surface impoundment permit application while ADEM Admin. Code r. 335-13-15-.09(1)(a) allows the Department to request additional information to ensure compliance with all State and Federal requirements.

Requests for an initial permit for an existing surface impoundment shall be filed with the Department within 180 days after the effective date of ADEM Admin. Code r. 335-13-15. Requests for a new permit for any CCR surface impoundment shall be filed with the Department by the operating agency at least 180 days prior to the proposed construction date for new facilities.

Inactive CCR surface impoundments that no longer receive CCR but still contain waste and water at active facilities of electric utilities or independent power producers, or CCR units that have initiated closure or are otherwise subject to the closure requirements of ADEM Admin. Code r. 335-13-15 will be required to submit a request for a closure or post-closure permit or a permit for alternative closure as authorized by ADEM Admin. Code r. 335-13-15-.07(4).

VI. PUBLIC PARTICIPATION

ADEM Admin. Code r. 335-13-15-.08(3) requires that each owner or operator of a CCR unit maintain a publicly accessible internet site containing the information specified in the Department's CCR permit program. The web site must be titled, "CCR Rule Compliance Data and Information". Furthermore, copies of all permitting and compliance documents are available for public inspection electronically via ADEM's eFile service which can be found at www.adem.alabama.gov or by contacting the ADEM Records Manager at records@adem.alabama.gov.

For CCR Surface impoundments, ADEM Admin. Code r. 335-13-15-.10 and .11 outline public notice requirements the Department follows when providing notice and

an opportunity for a public hearing prior to issuing an initial CCR permit, renewing a CCR permit or making any major modification to the permit. For CCR landfills, ADEM Admin. Code r. 335-13-5-.03 and .04 outline public notice requirements the Department follows when providing notice and an opportunity for a public hearing prior to issuing an initial CCR permit, renewing a CCR permit or making any major modification to the permit. In both cases, the Department notifies the interested and potentially interested public as well as landowners adjacent to the CCR unit. Additionally, for initial permit applications, ADEM's practice is to hold a public hearing prior to making a permitting decision regardless of the volume or nature of comments received during the public notice period. All comments that are received during the comment period are compiled and evaluated by Solid Waste Engineering Section staff. Per ADEM Admin. Code r. 335-13-5-.03(2) and 335-13-15-.11(3), upon review of the comments the Department will take one of the following actions (a) deny the permit, stating in writing the reasons for denial and informing the person requesting the permit of appeal procedures; (b) issue the permit if the application complies with this Division; or (c) require additional information, elements of design for the facility, and specify procedures for inclusion into the permit prior to issuance of the permit.

Complaints that are submitted by the public are received by the Compliance & Enforcement Section, given a complaint #, and entered into the compliant database. The complaint is assigned to the appropriate staff which investigates the complaint and makes a compliance determination. The public can use the assigned complaint # to track the status and progress of each complaint.

VII. COMPLIANCE, INSPECTIONS AND MONITORING

The permittee must comply with all conditions of this permit except to the extent and for the duration such noncompliance is authorized by a variance granted by the Department. Any permit noncompliance, other than noncompliance authorized by a variance, constitutes a violation of Code of Alabama 1975, § 22-27-1 et seq., as

amended, and is grounds for enforcement action, permit suspension, revocation, modification, and/or denial of a permit renewal application.

Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the employees of ADEM or their authorized representative to enter the Permittee's premises where the regulated facility or activity is located or conducted, have access to and copy the records that must be kept under the conditions of this permit, inspect the facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, or sample or monitor the substances or parameters at a location for the purposes of assuring permit compliance or as otherwise authorized by Code of Alabama 1975, §§22-27-1 et seq.

Samples and measurements taken for the purpose of monitoring or corrective action shall be representative of the monitored activity. The methods used to obtain representative samples to be analyzed must be the appropriate methods from ADEM Admin. Code r. 335-13 or the methods as specified in the application. Laboratory methods must be those specified in Standard Methods for the Examination of Water and Wastewater (American Public Health Association, latest edition), Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020), Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (EPA Publication SW-846, latest edition), other appropriate EPA methods, or as specified in the approved permit application. All field tests must be conducted using approved EPA test kits and procedures.

VIII. ENFORCEMENT AUTHORITY

Code of Alabama 1975, §22-22A-5(10) authorizes ADEM to "issue, modify, suspend or revoke orders, citations, notices of violation, licenses, certifications or permits." Orders issued by ADEM without civil penalties may be issued immediately without a prior hearing. Code of Alabama 1975, §22-22A-5(12) authorizes ADEM to "enforce all provisions of this chapter and all provisions of law identified in subdivision (1) of

ED_002047_00000009-00018

this section and to file legal actions in the name of the department....". Subdivision (1) of this section includes the CCR landfills and impoundments.

Alabama Code Sections 22-27-7, 22-27-9, and 22-27-12 grant ADEM regulatory control over the management of solid wastes as may be necessary to enforce the requirements of ADEM, and they authorize ADEM to adopt such rules and regulations as may be needed to meet the requirements of the article.

Alabama Code Section 22-22A-5(18)(a) authorizes ADEM to issue an administrative order assessing civil penalties (up to $25,000.00 per violation) for a violation of any provision of law, any rule, regulation or standard promulgated by ADEM, any provision of any order, or any condition of any permit, license, certification or variance issued by ADEM. Additionally, Section 22-22A-5(18)(b) authorizes ADEM to commence a civil action to recover a civil penalty for the violation of any provision of law, any rule, regulation or standard promulgated by ADEM, any provision of any order, or any condition of any permit, license, certification or variance issued by ADEM. Finally, Section 22-22A-5(20) authorizes ADEM to take any action necessary for the implementation and enforcement of the Alabama Environmental Management Act, Sections 22-22A-1 *et seq.*

IX. INTERVENTION IN CIVIL ENFORCEMENT PROCEEDINGS

Alabama Code Section 22-22A-5(18)(b), which authorizes ADEM to commence a civil action to recover civil penalties for any statutory or regulatory violation or the violation of any permit, order, license, certificate, standard or variance, allows any person having an interest which is or may be adversely affected to intervene in the civil action as a matter of right. Section 22-22A-5(19), which authorizes ADEM to commence a civil action to enjoin any of the aforesaid violations, allows any person having an interest which is or may be adversely affected to intervene as a matter of right.

ED_002047_00000009-00019

Alabama Code Section 22-22A-7(c) entitles any person aggrieved by an administrative action (i.e., the issuance, denial, modification, or revocation of a Notice of Violation, order, permit citation, license, certification or variance) to an administrative hearing before the Alabama EMC.

Finally, Rule 24(a) of the Alabama Rules of Civil Procedure is virtually identical to Rule 24(a) of the Federal Rules of Civil Procedure (F.R.C.P.) and allows intervention in an issue "(1) when a statute confers an unconditional right to intervene; or (2) when the applicant claims an interest relating to the property or transaction which is subject of the action...."

ED_002047_00000009-00020

Appendix A

Legal Certification

ADEM

Alabama Department of Environmental Management

Land Division - Solid Waste Branch

STATE OF ALABAMA
OFFICE OF THE ATTORNEY GENERAL

STEVEN T. MARSHALL
ATTORNEY GENERAL

501 WASHINGTON AVENUE
P.O. BOX 300152
MONTGOMERY, AL 36130-0152
(334) 242-7300
WWW.AGO.ALABAMA.GOV

July 5, 2018

Lance R. LeFleur, Director
Alabama Department of Environmental Management
1400 Coliseum Boulevard
P. O. Box 301463
Montgomery, Alabama 36130-1463

RE: Attorney General's Statement for Alabama Coal Combustion Residuals Regulations

Dear Mr. LeFleur:

I am pleased to certify that the laws and regulations of the State of Alabama cited in its application for a determination of Subtitle D Permit Program – Coal Combustion Residuals have been lawfully adopted and are enforceable under state law.

These regulations to the ADEM Administrative Code, Division 13, were adopted by the Alabama Environmental Management Commission on April 20, 2018 and pursuant to the Alabama Administrative Procedures Act, Ala. Code § 41-22-6(c), as amended, became effective on June 8, 2018.

Sincerely,

Steve Marshall
Attorney General
By:

Robert D. Tambling
Assistant Attorney General
Office of the Attorney General

RECEIVED
JUL 2018
ADEM
ADMINISTRATION

Appendix B

Applicable Regulations and Statutes

ADEM

Alabama Department of Environmental Management

Land Division - Solid Waste Branch

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
LAND DIVISION - SOLID WASTE PROGRAM

CHAPTER 335-13-1
GENERAL PROVISIONS

TABLE OF CONTENTS

335-13-1-.01	**Purpose**
335-13-1-.02	**Statutory Authority**
335-13-1-.03	**Definitions**
335-13-1-.04	**Limitations**
335-13-1-.05	**Communications**
335-13-1-.06	**Penalty for Violations**
335-13-1-.07	**Appeals**
335-13-1-.08	**Severability**
335-13-1-.09	**Repealer**
335-13-1-.10	**[Reserved]**
335-13-1-.11	**General**
335-13-1-.12	**[Reserved]**
335-13-1-.13	**Unauthorized Dumps**

335-13-1-.01 Purpose. The purpose of this Division is to establish minimum criteria for use under the Act, as amended, primarily for the disposal of solid waste and the design, location and operation of landfill and CCR units.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, § 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April, 24, 2018; Effective: June 8, 2018.

335-13-1-.02 Statutory Authority. The Department is authorized to promulgate these rules and regulations under and by virtue of authority granted in the Code of Alabama 1975, §§ 22-27-7, 22-27-9, 22-27-12, 22-22A-5 and 22-22A-8.

Author: Phillip D. Davis
Statutory Authority: Code of Alabama 1975, §§ 22-27-7, 22-27-9, 22-27-12, 22-22A-5 and 22-22A-8.
History: November 18, 1981.
Amended: July 21, 1988, August 3, 2010.

ED_002047_00000009-00024

335-13-1-.03 Definitions. For the purpose of these rules and regulations, the following words and phrases shall have the meanings ascribed to them in this rule and as ascribed by law unless the context of the regulations indicate differently.

(1) Act - the "Solid Wastes and Recyclable Materials Management Act", Act No. 151, Regular Session 2008 as amended (formerly the "Solid Waste Disposal Act, Act No. 771 Regular Session, 1969, as amended by Act No. 2247 Regular Session, 1971) Code of Alabama 1975, § 22-27-1 et. seq.

(2) Active Life - the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with the applicable requirements of rule 335-13-4-.20.

(3) Active Portion (or Active Footprint) - that part of a facility or unit that has received, is receiving, or is authorized and maintained as capable to receive wastes, and that has not been closed in accordance with the applicable requirements of rule 335-13-4-.20.

(4) Adjacent Property Owner - an owner whose property is adjacent to a proposed site.

(5) Agency - any controlling agency, public or private, elected, appointed or volunteer utilizing methods approved by the Health Department or the Department for the purpose of controlling and supervising the collection or management of solid wastes or recyclable materials.

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

(7) Ambient - normal atmospheric conditions.

(8) Annular Space of a Well - the space between the bore hole and the casing.

(9) Aquifer - a geologic formation, group of formations or part of a formation capable of yielding a significant amount of groundwater to wells, springs or waters of the State.

(10) Areas Susceptible To Mass Movement - those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the landfill unit, because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.

ED_002047_00000009-00025

(11) Ashes - the solid residue from burning of wood, coal, coke or other combustible material used for heating, the burning or incineration of solid wastes, or for the production of electricity at electric generating plants.

(12) ASTM International - American Society for Testing and Materials International. A not-for-profit standards development company with headquarters located at 100 Barr Harbor Drive (PO Box C700) in West Conshohocken, Pennsylvania, 19428-2959, which develops and publishes technical standards for materials, products, systems, and services..

(13) Beach - for this definition, refer to Division 8 of the ADEM Administrative Code.

(14) Bird Hazard - an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

(15) Bladeable - the physical condition of a sludge or similar waste. Physical conditions include, but are not limited to, the absence of free liquids and of a consistency that can be easily managed by heavy equipment normally utilized at a landfill unit.

(16) Bore Hole - a man-made hole in a geological formation which has been drilled, jetted, driven or made by other similar techniques.

(17) CCR unit – 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.

(18) Cell - a volume of compacted solid waste that is covered by means of compacted earth or some other approved alternative cover usually on a daily or weekly basis in a landfill unit.

(19) Certification - a statement of professional opinion based upon knowledge and belief.

(20) CFR - Code of Federal Regulations.

(21) Closure - the process by which a landfill unit permanently ceases to accept waste, to include those actions taken by the permittee or owner of the facility to prepare the site for post-closure monitoring and maintenance or to make it suitable for other uses.

(22) Coal Combustion By-products - fly ash, bottom ash, boiler slag, or flue gas emission control by-products which result primarily from the combustion of coal or other fossil fuels at electric generating plants.

(23) Coastal Area - for this definition, refer to Division 8 of the ADEM Administrative Code.

(24) Coastal Waters - those waters adjacent to the shoreline, which contain a measurable quantity or percentage of seawater, including but not limited to, sounds, bays, lagoons, bayous, ponds and estuaries.

(25) Commercial Solid Waste - all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

(26) Composite Liner - a system consisting of two components; the upper component must consist of a minimum 40 mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. FML components consisting of High Density Polyethylene (HDPE) shall be at least 60 mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

(27) Composting or Compost Plant - an officially controlled method or operation whereby putrescible solid wastes are broken down through microbic action to a material offering no hazard or nuisance factors to public health or well-being.

(28) Construction/Demolition-Inert Landfill Unit (C/DLF) - a discrete area of land or an excavation that receives construction/demolition waste, and/or rubbish and/or water treatment (alum) sludge, foundry waste meeting rule 335-13-4-.26(3), and that is not a land application unit, surface impoundment, or injection well as those terms are defined in this rule.

(29) Construction/Demolition Waste - waste building materials, packaging, and rubble resulting from construction, remodeling, repair, or demolition operations on houses, commercial buildings, and other structures. Such wastes include, but are not limited to, masonry materials, sheet rock, roofing waste, insulation (not including asbestos), scrap metal, and wood products. Uncontaminated concrete, soil, brick, waste asphalt paving, ash resulting from the combustion of untreated wood, rock, and similar materials are excluded from this definition.

(30) Contingency Plan - a document setting out an organized, planned and coordinated course of action to be followed in case of a fire, explosion or release of solid waste which could threaten human health or the environment.

(31) Cover - soil or other suitable natural or manufactured material specifically marketed as such, or a combination of both, acceptable to the Department that is used to cover compacted solid waste in a landfill unit.

(32) Decontamination - a process of reducing or eliminating the presence of harmful substances, such as infectious agents, so as to reduce the likelihood of disease transmission from those substances.

(33) Department - the Alabama Department of Environmental Management as established by Code of Alabama 1975, § 22-22A-4.

ED_002047_00000009-00027

(34) Destruction or Adverse Modification - a direct or indirect alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(35) Director - the Director of the Alabama Department of Environmental Management, appointed pursuant to Code of Alabama 1975, § 22-22A-4, or his or her designee.

(36) Discarded Material - material thrown away, abandoned, disposed of, or otherwise given up without intent to reuse, recycle or reclaim.

(37) Discharge - the accidental or intentional spilling, leaking, pumping, emitting, emptying, or dumping of solid waste, including leachate, into or on any land or water.

(38) Disease Vector - an organism that is capable of transmitting a disease from one host to another.

(39) Displacement - the relative movement of any two sides of a fault measured in any direction.

(40) Disposal - the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste into or on any land or water so that the waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including, but not limited to, ground-waters.

(41) Drill Cuttings - solid materials generated by subsurface drilling operations.

(42) Dune - see definition of primary dune system.

(43) Endangered or Threatened Species - any species listed as such pursuant to Section 4 of the Endangered Species Act of 1973, as amended.

(44) Electric Generating Plants - an industrial site, or that portion of an industrial site, that produces electricity, to be used either on-site or off-site.

(45) Engineer - a person currently registered as a professional engineer with the State of Alabama Board of Registration for Professional Engineers and Land Surveyors.

(46) Explosive Gas - a gas that is explosive under ordinary conditions as used herein generally refers to methane (CH_4).

(47) Facility - all contiguous land, structures and other appurtenances used for the processing, treatment, storage or disposal of solid waste, or the recovery of recyclable materials from solid waste, whether or not authorized or permitted, including, but not limited to, waste disposal areas and waste disposed therein.

ED_002047_00000009-00028

(48) Facility Structures - any buildings and sheds or utility or drainage lines on the facility.

(49) Fault - 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.

(50) Financial Assurance - a financial arrangement by the owner or operator of a municipal solid waste landfill which guarantees the availability of funds which may be used to close, provide post-closure care, or conduct corrective action at that facility if the owner or operator fails to properly execute his or her responsibilities under this article and any rules promulgated by the Department for closure, post-closure care, or corrective action and the terms of any permit issued for operation of that facility.

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

(52) Foundry Waste - waste, including but not limited to, slag, sand, baghouse dust, etc. generated from foundry smelting and metal casting processes.

(53) Free Liquids - liquids which readily separate from the solid portion of a waste under ambient temperature and pressure as determined by the Paint Filter Test referenced in USEPA Publication SW-846, Method 9095.

(54) Garbage - putrescible animal and vegetable waste resulting from the handling, preparation, cooking and consumption of food, including, but not limited to, waste from markets, storage facilities, handling and sale of produce and other food products and excepting such materials that may be serviced by garbage grinders and handled as household sewage.

(55) Gas Condensate - the liquid generated as a result of the gas collection and recovery process at the landfill unit.

(56) Generation - the act or process of producing solid waste. Solid waste shall be considered to be generated at the point that waste materials are first discarded or collected, regardless of any subsequent materials recovery or recycling.

(57) Generator - any person who utilizes any process or conducts any activity which results in the production of solid waste.

(58) Groundwater - water below the land surface in the zone of saturation.

(59) Hazardous constituents – those substances listed in 335-14-2 Appendix VIII and/or 335-14-5 Appendix IX and include hazardous constituents released from solid waste, hazardous waste, or hazardous waste constituents that are reaction by-products.

ED_002047_00000009-00029

(60) Hazardous Waste - those wastes defined in, and regulated under, the Alabama Hazardous Wastes Management and Minimization Act of 1978, as amended.

(61) Health Department - an approved county or district health department, including the Alabama State Department of Public Health and the affected state and county health department.

(62) Health Officer - the State or affected county health officer or his or her designee.

(63) Holocene - the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch, at 11,700 years before present, to the present.

(64) Household Waste - any solid waste, including, but not limited to, garbage, trash, and sanitary waste in septic tanks derived from households, including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas. Sanitary waste in septic tanks shall be considered as household waste only when it is disposed in a landfill or unauthorized dump and its inclusion as a household waste shall in no way prohibit or supersede the authority of the Department or the Health Department to regulate onsite sewage systems or the management of sanitary waste in septic tanks.

(65) Incinerator or Combustion Unit - a device designed to burn that portion of garbage and rubbish which will be consumed at temperatures generally ranging 1600 degrees Fahrenheit or over. The unburned residue from an incinerator, including metal, glass, and the like shall be called ashes.

(66) Industrial Landfill (ILF) Unit - a discrete area of land or an excavation that receives industrial solid waste and may in addition receive construction/demolition waste and/or rubbish and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined in this rule.

(67) Industrial Solid Waste - solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Chapters 22 to 30, inclusive, of Title 22, Code of Alabama 1975, and the regulations promulgated thereunder.

(68) Infectious Agent - any organism (such as a virus or a bacterium) that is capable of causing disease or adverse health impacts in humans by invasion and multiplication in body tissues, fluids or secretions.

(69) Injection Well - a bored, drilled, or driven shaft or dug hole which is used for the injection of pollutants.

(70) Innocent Landowner - an owner of real property upon which there is located an unauthorized dump and who meets all of the following conditions:

(a) The solid waste was disposed of on the property after the owner acquired title to the property or the waste was disposed of before the owner acquired title to the property and the owner lacked actual knowledge of the waste after conducting reasonable due diligence or title was acquired by bequest or devise.

(b) The owner did not have knowledge that the waste was being disposed of on the property or the owner took steps, including, but not limited to, posting signs to prevent disposal on the property.

(c) The owner did not participate in or consent to the disposal of solid waste on the property.

(d) The owner did not receive any financial benefit from the disposal of solid waste on the property.

(e) Title to the property was not transferred to the owner for the purpose of evading liability for operating an unauthorized dump.

(f) The person or persons responsible for disposing of the solid waste on the property, in doing so, was not acting as an agent for the owner.

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

(72) Land Application Unit - an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment and disposal.

(73) Landfill (LF) - a method of compaction and earth cover of solid wastes other than those containing garbage or other putrescible wastes, including, but not limited to, tree limbs and stumps, demolition materials, incinerator residues, and like materials not constituting a health or nuisance hazard, where cover need not be applied on a per day used basis.

(74) Landfill (LF) Unit - this term shall include MSWLF, C/DLF, ILF units.

(75) Land Surveyor - a person currently registered as a land surveyor with the State of Alabama Board of Registration for Professional Engineers and Land Surveyors.

(76) Lateral Expansion - a horizontal expansion of the waste boundaries of an existing landfill unit.

(77) Leachate - any liquid, including any soluble, suspended or miscible components in the liquid, that has percolated through or emerged from solid waste other than construction/demolition waste and or rubbish.

ED_002047_00000009-00031

(78) Leachate Recirculation - the recycling or reintroduction of leachate into or on a landfill unit constructed with liners and leachate collection systems.

(79) Lift - the compacted vertical thickness of a horizontal series of cells which have been accumulated and covered with earth or some other approved alternative cover. The cover may be either daily, weekly, intermediate, or final as required.

(80) Liquid Waste - any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846), and is not considered bladeable.

(81) Lithified Earth Material - 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.

(82) Lower Explosive Limit (LEL) - the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at 25°C and atmospheric pressure. For methane (CH_4) the LEL is considered to be 5 percent.

(83) Materials Recovery Facility - a solid waste management facility that provides for the extraction from solid waste of recyclable materials, materials suitable for use as a fuel or soil amendment, or any combination of those materials. A materials recovery facility shall be deemed to be a solid waste treatment facility.

(84) Maximum Contaminant Level (MCL) – the maximum permissible level of a contaminant allowed in the saturated zone unless occurring naturally or found to already exist during background sampling.

(85) Maximum Horizontal Acceleration in Lithified Earth Material - the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(86) Medical Waste - any infectious solid or liquid waste from a medical waste generator, as defined in chapter 335-17-1.

(87) Municipal Solid Waste Landfill (MSWLF) Unit - a discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile. A municipal solid waste landfill may also receive other types of solid wastes, such as commercial solid waste, nonhazardous sludge, very small quantity generator waste, industrial solid waste, construction/demolition waste, and rubbish. A municipal solid waste landfill is a sanitary landfill. Such a landfill may be publicly

ED_002047_00000009-00032

or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion.

(88) Off-site - not a part of what is defined as on-site.

(89) On-site - the same or geographically contiguous property which may be divided by public or private right-of-way. Non-contiguous properties owned by the same person or entity connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.

(90) One Hundred Year Flood - a flood that has a one percent or greater chance of recurring in any given year or a flood of a magnitude equaled or exceeded once in 100 years on the average over a significantly long period.

(91) Open Burning - the combustion of any material without the following characteristics:

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

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

(c) Control of emission of the gaseous combustion products.

(92) Operating Record - a collection of documents relating to the permitting or operation of any landfill unit as listed in rule 335-13-4-.29.

(93) Operator - the person(s) having direct supervision over and responsibility for the daily operation of a landfill unit or part of a landfill unit.

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

(95) Partial Closure - the closure of a discrete part of a facility in accordance with the applicable closure requirements of rule 335-13-4-.20. For example, partial closure may include the closure of a trench, a unit operation, a landfill cell or a pit, while other parts of the same facility continue in operation or will be placed in operation in the future.

(96) Permit - written authorization granted to a person by the Department to operate a solid waste management facility for the disposal of solid waste.

(97) Permittee - any person possessing a valid permit issued by the Department to dispose of solid waste. This person is responsible for the overall operation of a solid waste facility.

(98) Person - any individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, agent, agency,

ED_002047_00000009-00033

association, State, municipality, commission, political subdivision of a state, any interstate body, or any other private or public legal entity.

(99) Personnel - all persons who work at or supervise the operations of a solid waste facility, and whose actions or inactions may responsible for achieving compliance with the requirements of this Division.

(100) Petroleum Contaminated Waste (PCW) - any material, including but not limited to soil, debris, absorbent pads/booms, oil dry, etc., that has been exposed to petroleum products in such a manner that the petroleum product can be detected by a total petroleum hydrocarbon (TPH) analysis using Standard Method 503 D & E, EPA Methods 9071 or 418.1 (Spectrophotometric, Infrared), and that analysis exceeds 100 ppm TPH.

(101) Poor Foundation Conditions - those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of a landfill unit.

(102) Post Closure - the activities, including monitoring and maintenance at the site, following completion of closure activities if solid waste will remain at the site after closure.

(103) Practice - any operating method, technique or procedure for the management of solid waste.

(104) Primary Dune System - for this definition, refer to Division 8 of the ADEM Administrative Code.

(105) Private Solid Waste Management Facility - a solid waste management facility that is operated exclusively by and for a private solid waste generator for the purpose of accepting solid waste generated on-site or by the permittee.

(106) Product - any material which is an intended output or result of a fabrication, manufacturing or production process, and is sold and distributed in the stream of commerce for consumption, use, or further processing into another desired commodity. A product must be managed as an item of value in a controlled manner and is not to be managed as a discarded material.

(107) Proposed Site - total acreage as identified by the legal survey included in the application submitted to the Department.

(108) Public Solid Waste Management Facility - a solid waste management facility that accepts solid waste from the public generally or for a fee, or any solid waste management facility that is not a private solid waste management facility.

(109) Qualified Groundwater Scientist - a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology

and related fields as may be demonstrated by state registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective-action.

(110) Recovered Materials - those materials which have known recycling potential; which can be feasibly recycled; which have been diverted or removed from the solid waste stream for recycling, whether or not requiring subsequent separation and processing; and which have a substantial portion that are consistently used in the manufacture of products which may otherwise be produced from raw or virgin materials. Recovered materials shall not include solvents or materials, except sawdust, bark, and paper materials that are destined for incineration, energy recovery, or any use which constitutes disposal. Recovered materials shall only be those materials for which during the calendar year (commencing on January 1), the amount of material recycled or diverted from the solid waste stream for recycling and transferred to a different site for recycling equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period.

(111) Recovered Materials Processing Facility - a facility primarily engaged in the storage, processing, and resale or reuse of recovered materials. A recovered materials processing facility is not a solid waste management facility; however, any solid waste resulting from the operation of a facility shall be subject to all applicable laws and regulations relating to solid waste and shall be deemed to be generated for purposes of reporting pursuant to solid waste reduction goals, at the point of collection of the recovered materials from which the solid waste resulted.

(112) Recyclable Materials - those materials which are capable of being recycled, whether or not the materials have been diverted or removed from the solid waste stream.

(113) Recycling - any process by which materials are collected, separated, stored, recovered, or processed and reused or returned to use in the form of raw materials or products, but does not include the use of materials as a fuel, or for any use which constitutes disposal.

(114) Relevant Point of Compliance - that point within the first saturated zone at which groundwater quality must be in compliance with water quality standards set forth by rule 335-13-4-.27. Groundwater monitoring wells are to be located in order to yield samples that are representative of the quality of groundwater passing the relative point of compliance.

(115) Representative Sample - 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 for a discussion and examples of representative samples.

ED_002047_00000009-00035

(116) Rubbish - nonputrescible solid wastes, excluding ashes, consisting of both combustible and noncombustible wastes. Combustible rubbish includes paper, rags, cartons, wood, furniture, rubber, plastics, and similar materials. Noncombustible rubbish includes glass, crockery, metal cans, metal furniture and like materials which will not burn at ordinary incinerator temperatures, not less than 1600 degree F. Uncontaminated concrete, soil, brick, waste asphalt paving, ash resulting from the combustion of untreated wood, rock, yard trimmings, leaves, stumps, limbs and similar materials are excluded from this definition.

(117) Run-Off - any rainwater, leachate, or other liquid that drains over land from any part of a facility.

(118) Run-On - any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

(119) Salvaging - the controlled removal for reuse of material from a solid waste landfill unit.

(120) Sanitary Landfill - a controlled area of land upon which solid waste is deposited and is compacted and covered with compacted earth each day as deposited, with no on-site burning of wastes, and so located, contoured and drained that it will not constitute a source of water pollution as determined by the Department. See definition of "Municipal Solid Waste Landfill Unit."

(121) Sanitary Sewer - any device or system used in the treatment of municipal sewage or industrial waste of a liquid nature. This includes sewers, pipes or other conveyances only if they convey wastewater to a facility providing treatment.

(122) Saturated Zone - that part of the earth's crust in which all voids are filled with water.

(123) Scavenging - the unauthorized removal of solid waste from a landfill unit permitted under these regulations.

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

(125) Service Area - the geographical area serviced by a solid waste facility from which solid waste is generated and collected, including any interim points, (i.e., transfer stations) at which the solid waste is repacked or reloaded onto vehicles or other methods of transport for delivery to that facility. For public solid waste management facilities, the service area is established as part of the local host government approval process, as described in Code of Alabama 1975, §22-27-48 and 48.1.

ED_002047_00000009-00036

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

(127) Solid Waste - any garbage, rubbish, construction or demolition debris, ash, or sludge from a waste treatment facility, water supply plant, or air pollution control facility, and any other discarded materials, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations or community activities, or materials intended for or capable of recycling, but which have not been diverted or removed from the solid waste stream. The term "solid waste" does not include recovered materials, solid or dissolved materials in domestic sewage, solid or dissolved material in irrigation return flows, or industrial discharges which are point sources subject to the National Pollutant Discharge Elimination System permits under the Federal Water Pollution Control Act, as amended, or the Alabama Water Pollution Control Act, as amended, or source, special, nuclear, or by-product materials as defined by the Atomic Energy Act of 1954, as amended. Also excluded from this definition are land applications of crop residues, animal manure, and ash resulting exclusively from the combustion of wood during accepted agricultural operations, waste from silvicultural operations, or refuse as defined and regulated pursuant to the Alabama Surface Mining Act of 1969 (Article 1, Chapter 16, Title 9, Sections 9-16-1 to 9-16-15, Code of Alabama 1975).

(128) Solid Waste Boundary - the outermost perimeter of the solid waste, projected in the horizontal plane, as it would exist at completion of the disposal activity.

(129) Solid Waste Disposal Facility - any landfill or part of a facility where final disposition of solid waste occurs and at which waste may remain after closure.

(130) Solid Waste Management - the systematic control of solid waste including its storage, processing, treatment, recovery of materials from solid waste, or disposal.

(131) Solid Waste Management Facility - any solid waste volume reduction plant, transfer station, material recovery facility, or other facility, the purpose of which is the storage, treatment, utilization, processing, disposal, or recovery of materials from solid waste, or any combination thereof.

(132) Special Waste - those wastes requiring specific processing, handling or disposal techniques as determined necessary by the Department which are different from the techniques normally utilized for handling or disposal. Examples of such waste types may include, but are not limited to: mining waste, fly ash, bottom ash, sludges, friable asbestos, industrial waste, liquid waste, large dead animals or large quantities of dead animals and residue, medical waste, foundry waste, petroleum contaminated wastes, municipal solid waste ash, or contaminated soil and water from the cleanup of a spill.

ED_002047_00000009-00037

(133) Spill - the unplanned, accidental or unpermitted discharge, deposit, injection, leaking, pumping, pouring, emitting, dumping, placing or releasing of solid or medical waste, or materials which when spilled become solid or medical waste, into or on the land, the air or the water.

(134) State - the State of Alabama.

(135) State Health Department - the Alabama Department of Public Health as defined by § 22-1-1, Code of Alabama 1975.

(136) State Health Officer - the Health Officer for the State of Alabama as set out in § 22-2-8, Code of Alabama 1975, or his or her designee provided by law.

(137) Structural Components - liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of the landfill unit that is necessary for protection of human health and the environment.

(138) Surface Impoundment or Impoundment - a facility or part of a facility that is a natural topographic depression, human-made excavation, or diked area formed primarily of earthen materials (although it may be lined with human-made materials), that is designed to hold an accumulation of liquid wastes or wastes containing free liquids and that is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds and lagoons.

(139) Twenty-Four Hour, Twenty-Five Year Storm (24 hour, 25 year Storm) - the maximum 24 hour precipitation event with a probable reoccurrence interval of once in twenty-five years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U. S.", May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom.

(140) Unauthorized Dump - any collection of solid wastes either dumped or caused to be dumped or placed on any public or private property, whether or not regularly used, and not having a permit from the Department. Abandoned automobiles, large appliances or similar large items of solid waste shall be considered as forming an unauthorized dump within the meaning of this Division. The careless littering of a relatively few, smaller individual items such as tires, bottles, cans and the like shall not be considered an unauthorized dump, unless the accumulation of the solid waste poses a threat to human health or the environment. An unauthorized dump shall also mean any solid waste disposal site which does not meet the regulatory provisions of this Division.

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

ED_002047_00000009-00038

(142) Uppermost Aquifer - 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.

(143) Washout - the carrying away of solid waste or earth cover by waters of the base flood.

(144) Waste Management Unit Boundary - a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

(145) Waste Pile or Pile - any noncontainerized accumulation of solid, non-flowing waste that is used for treatment or storage.

(146) Waters of the State (Waters) - all waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the State, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce.

(147) Wetlands - those areas as defined by the U.S. Army Corps of Engineers regulations.

(148) Wood Ash Waste – solid waste resulting from the burning of untreated wood with minimal amounts (<10% of total fuel based on a mass input basis) of other non-coal permitted solid fuels. Ash resulting exclusively from the combustion of non-processed and untreated wood is excluded from the definition of wood ash waste.

Author: Russell A. Kelly; Phillip D. Davis; James L. Bryant, Eric L. Sanderson, S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-2, 22-27-7, 22-27-9, and 22-27-12.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Effective: August 3, 2010. **Amended:** Effective: January 16, 2012. **Amended:** Effective: April 8, 2016. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-1-.04 Limitations. Nothing in these rules and regulations shall be construed to limit the authority of municipal and county governments, solid waste authorities, Local Health Officer or State Health Department from adopting more stringent solid waste management requirements than those set forth in this Division.

Author: Phillip D. Davis
Statutory Authority: Code of Alabama 1975, §§ 22-22A-4, 22-27-3, 22-27-5, 22-27-6, 22-27-7, 22-27-9, 22-27-10, 22-27-11, 22-27-12, 22-27-13, and 22-27-14.

ED_002047_00000009-00039

History: November 18, 1981.
Amended: July 21, 1988; October 2, 1990; August 3, 2010.

335-13-1-.05 Communications. All official communications, reports, and correspondence concerning this Division shall be addressed to the ADEM, Land Division, 1400 Coliseum Boulevard, Montgomery, Alabama 36110-2400 or P. O. Box 301463, Montgomery, Alabama 36130-1463.

Author: Russell A. Kelly; Phillip D. Davis; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-7, 22-27-11, and 22-27-12.
History: Effective: July 26, 1996. **Amended:** Effective: August 3, 2010. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-1-.06 Penalty for Violations. No person shall violate any of the provisions of these rules and regulations. Violation of these rules and regulations shall be deemed to be a violation of the Act, Code of Alabama 1975, §§ 22-27-7 and 22-27-11, and shall be punishable as provided therein or by other applicable penalties which may be more stringent.

Author: Russell A. Kelly; Phillip D. Davis.
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-7, 22-27-11 and 22-27-12.
History: July 26, 1996.
Amended: August 3, 2010.

335-13-1-.07 Appeals. Any person aggrieved by any administrative action of the Department with respect to these regulations, is entitled to a hearing before the Commission has the right of appeal in accordance with procedures established in chapter 335-2-1 of the ADEM Administrative Code.

Author: Russell A. Kelly; Phillip D. Davis.
Statutory Authority: Code of Alabama 1975, § 22-27-7, 22-27-12, and 22-22A-7.
History: Effective: July 26, 1996. **Amended:** Effective: August 3, 2010. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-1-.08 Severability. The chapters, rules, paragraphs and provisions of this Division are severable. Should any portion thereof be ruled unconstitutional or unenforceable by any court, the said ruling shall not affect any other provisions of this Division not ruled upon.

Author: Russell A. Kelly; S. Scott Story
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-6, 22-22A-8.
History: Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

ED_002047_00000009-00040

335-13-1-.09 Repealer. All rules and regulations promulgated and adopted by the Department which are in conflict with this Division or any provision thereof are hereby expressly repealed. This Division is intended to be comprehensive and include all the regulations of the Department dealing with solid waste management as enforced by the Solid Waste Branch of the Land Division.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, § 22-27-7.
History: July 26, 1996.

335-13-1-.10 [RESERVED].

335-13-1-.11 General. All solid waste shall be disposed of in a manner consistent with the requirements of this Division.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, §§ 22-22A-4, 22-22A-5, 22- 27-7.
History: November 18, 1981.
Amended: July 21, 1988; October 2, 1990; November 2, 1993.

335-13-1-.12 [Reserved]

335-13-1-.13 Unauthorized Dumps.

(1) Prohibition.

(a) Unauthorized dumps are prohibited by this Division, and are a violation of the Act.

(b) Unpermitted solid waste landfill units failing to satisfy the Division 13 regulations constitute unauthorized dumps, which are prohibited, and must be closed in accordance with rule 335-13-1-.13(2) or rule 335-13-4-.20.

(2) Closure. An agency or person discontinuing the use of an unauthorized dump, whether on his or her own initiative or at the direction of the Department, shall take one of the following actions as determined to be necessary by the Department:

(a) Remove all the solid waste from the site and place in an approved landfill unit, a registered recycling facility or an otherwise appropriate beneficial reuse in accordance with a clean-up, site restoration and monitoring plan, as approved by the Department. In accordance with Division 335-6 , Water Quality Program, the Department may also require monitoring of the site for unpermitted discharges to waters of the state as defined by the Alabama Water Pollution Control Act and other sources as may be necessary to protect public health and the environment; or,

(b) Undertake closure of the unauthorized dump subject to any or all of the following actions as determined necessary by the Department:

ED_002047_00000009-00041

1. Prepare and submit a site closure plan, subject to approval by the Department.

2. Barricade and secure entrance.

3. Implement effective rodent or vector controls, including baiting for at least two weeks after closing, to prevent rodent migration to adjacent properties and spraying of containers to control mosquitoes, or other measures as determined necessary by the Department.

4. Compact and cover existing solid waste. Final cover for the entire area shall be two feet or more of compacted earth or as otherwise determined by the Department. Earth cover shall be of a quality to be easily managed and with sufficient clay content to provide an adequate seal on the waste. The uppermost 6" of cover shall support an adequate stand of vegetation.

5. The establishment of a vegetative or some other appropriate cover to minimize erosion and, when applicable, maximize evapotranspiration shall be established. Within 30 days after completion of final grading, the owner or operator of the dump shall prepare the final cover for the establishment of a vegetative or approved alternative cover. For the establishment of a vegetative cover, such preparation shall include, but not be limited to:

(i.) Placement of appropriate species of grass seed, fertilizer and mulch; and

(ii.) Watering and maintenance necessary such that germination can reasonably be anticipated.

6. Implement and maintain erosion control measures by grading and re-establishing vegetative cover as needed or determined necessary.

7. Post signs indicating the dump site closure and location of the nearest approved disposal site when deemed necessary by the Department.

8. Based on site geology, hydrology or waste types, the Department may require additional measures, which may include but shall not be limited to, groundwater monitoring.

9. For all unauthorized dumps closed in accordance with the requirements of rule 335-13-1-.13(2)(b), the landowner shall enter into an Environmental Covenant in accordance with Division 335-5, Uniform Environmental Covenants Program.

(c) If all solid wastes are removed from the site according to subparagraph (a) of this rule, the environmental covenant in subparagraph (b)9 of this rule will not be required.

Author: Russell A. Kelly; Phillip D. Davis; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-4, 22-27-7, 22-27-10, 22-27-11, and 22-27-12.

ED_002047_00000009-00042

History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Effective: August 3, 2010. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

ED_002047_00000009-00043

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
LAND DIVISION - SOLID WASTE PROGRAM

CHAPTER 335-13-4
PERMIT REQUIREMENTS

TABLE OF CONTENTS

335-13-4-.01 Landfill Unit Siting Standards
335-13-4-.02 [Reserved]
335-13-4-.03 [Reserved]
335-13-4-.04 [Reserved]
335-13-4-.05 [Reserved]
335-13-4-.06 [Reserved]
335-13-4-.07 [Reserved]
335-13-4-.08 [Reserved]
335-13-4-.09 [Reserved]
335-13-4-.10 [Reserved]
335-13-4-.11 General Design Standards for Disposal Facilities
335-13-4-.12 Plans and Operational Reports
335-13-4-.13 Site Geology and Hydrology
335-13-4-.14 Groundwater Resources
335-13-4-.15 Cover
335-13-4-.16 Explosive Gases
335-13-4-.17 Drainage
335-13-4-.18 Liners and Leachate Collection
335-13-4-.19 Access
335-13-4-.20 Closure and Post-Closure
335-13-4-.21 General Operational Standards for Landfill Units
335-13-4-.22 Specific Requirements for Municipal Solid Waste Landfills
335-13-4-.23 Specific Requirements for Inert-Construction/Demolition Landfills and Industrial Landfills
335-13-4-.24 Septic Tank and Sewage Sludge
335-13-4-.25 [Reserved]
335-13-4-.26 Requirements for Management and Disposal of Special Waste
335-13-4-.27 Groundwater Monitoring and Corrective Action
335-13-4-.28 Financial Assurance Criteria
335-13-4-.29 Recordkeeping Requirements
335-13-4-Appendix I Constituents for Detection Monitoring
335-13-4-Appendix II List of Hazardous Inorganic and Organic Constituents

335-13-4-.01 **Landfill Unit Siting Standards.** New or existing landfill units shall comply with the following standards in order to prevent adverse effects on health or the environment. As part of the application, the owner/operator must submit documentation addressing to the satisfaction of the Department the following siting standards.

(1) Location Standards.

(a) A facility located in a floodplain shall not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste, so as to pose a hazard to human health and the environment.

(b) A facility shall be located in consideration of the following:

1. A facility shall not jeopardize the continued existence of endangered or threatened species protected under the Endangered Species Act of 1973.

2. The facility shall not result in the destruction or adverse modification of critical habitats protected under the Endangered Species Act of 1973.

(c) A MSWLF unit shall not be sited within 10,000 feet of any airport runway end. Owners or operators proposing to renew existing or site new MSWLF units located within a five-mile radius of any airport runway must notify the affected airport and the Federal Aviation Administration (FAA).

(d) Zones of active faults, seismic impact zones, and unstable areas shall be avoided in locating facilities and practices unless a site specific evaluation as described below, demonstrates minimum potential for adverse effects upon waters of the State.

1. Site specific evaluations for geology and hydrology shall comply with 335-13-4-.11 through 335-13-4-.14.

2. Site specific evaluation shall include minimum design parameters necessary to protect the waters of the State and human health to include minimum requirements of 335-13-4-.15 through 335-13-4-.24.

3. Landfill units shall not be located within 200 feet of a fault that has had displacement within the Holocene epoch unless the owner or operator demonstrates to the Department that an alternative setback distance of less than 200 feet will not result in damage to the structural integrity of the facility and will be protective of human health and the environment.

4. Landfill units shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Department that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

5. Landfill units shall not be located in an unstable area unless engineering measures have been incorporated in the design of the facility to ensure that the integrity of the structural components of the facility will not be disrupted. The following factors, at a minimum, must be considered when determining whether an area is unstable:

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

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

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

(e) Landfill units shall not be located on a site that is archaeologically or historically sensitive as determined by the Alabama Historical Commission. Written certification must be provided from the State Historic Preservation Officer.

(2) Water Quality Standards. A facility shall be located so as to not adversely impact water quality by complying with the following:

(a) A facility shall not cause a discharge of pollutants into waters of the State, including wetlands, that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES), Alabama Water Pollution Control Act, Code of Alabama 1975, §§ 22-22-1 to 22-22-14 and/or section 404 of the Clean Water Act, as amended.

(b) A facility shall not cause non-point source pollution of waters of the State, including wetlands, that violates any requirements of an area wide and statewide water quality management plan that has been approved under the Alabama Water Pollution Control Act.

(c) Landfill units including buffer zones shall not be permissible in wetlands, beaches or dunes.

(d) Landfill units shall not be permissible in any location where the disposal of solid waste would significantly degrade wetlands, beaches or dunes.

(e) Landfill units shall be located outside the boundaries of the coastal area, unless no other reasonable alternative is available. If a site within the coastal area is proposed for development as a landfill unit, it shall be demonstrated to the satisfaction of the Department that siting, design, construction, and operation will ensure that present levels of coastal plants and animals will be maintained.

(3) Other Requirements. Solid Waste Disposal Facilities must comply with any other applicable State or Federal rules, laws, regulations or other requirements.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.02 [Reserved]

335-13-4-.03 [Reserved]

335-13-4-.04 [Reserved]

335-13-4-.05 [Reserved]

335-13-4-.06 [Reserved]

335-13-4-.07 [Reserved]

335-13-4-.08 [Reserved]

ED_002047_00000009-00046

335-13-4-.09 [Reserved]

335-13-4-.10 [Reserved]

335-13-4-.11 General Design Standards for Disposal Facilities.

(1) General Standards. 335-13-4-.12 through 335-13-4-.20 provides standards for establishing a landfill unit providing that the siting standards of 335-13-4-.01 have been fully complied with to the satisfaction of the Department. Certain requirements contained in 335-13-4-.01 through 335-13-4-.20 may be enhanced or reduced by the Department as deemed necessary to comply with the Act and this Division.

(2) Hydrogeology Standards.

(a) For purposes of designing the bottom elevation of the liner system, the applicant shall measure the groundwater elevation at the location of the proposed cell or liner system. Such determinations shall be based on groundwater measurements taken in the area of the proposed cell or liner system as approved by the Department. At each measuring location, the applicant shall obtain a minimum of two measurements taken during each of the three consecutive months of February, March and April with no two measurements taken within any twelve-day period. Having obtained the measurements, the applicant shall design the facility so that the bottom elevation of the liner shall be a minimum of five feet above the highest measured groundwater level. The applicant shall submit to the Department all data known to exist concerning groundwater elevations at the landfill site and shall submit to the Department a location map showing all monitoring wells or piezometers and drilling logs for all monitoring wells or piezometers used to obtain any groundwater elevation data that is submitted. Nothing herein shall prevent the Department from requiring additional groundwater measurements or from requiring an additional buffer as it may deem appropriate with respect to a particular site.

(b) When the geological and hydrological data so indicate, the Department may specify greater separation distances, a liner(s), or a leachate collection system, or combination of the above to protect the groundwater.

(c) When the geological and hydrological data so indicate, the Department may allow engineering controls to remove, divert, drain, or otherwise modify zones of saturation above the uppermost aquifer.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: November 18, 1981.
Amended: July 21, 1988; November 2, 1993; July 26, 1996; November 28, 1996.

335-13-4-.12 Plans and Operational Reports.

(1) Compliance. Plans and operational reports for construction, operation, maintenance, closure, and post-closure care of landfill units shall be prepared and kept on site and shall comply with 335-13-5-.02(1) and this chapter.

(2) Plan Requirements. These plans and reports shall include the following as determined necessary by the Department:

(a) Sufficient control points on-site to provide for accurate horizontal and vertical control for facility construction, operation and closure and post-closure.

(b) Detail presentation of geological and hydrogeological units in the disposal site, with typical sections of disposal method and plan and profile sheets on all areas or trenches.

(c) Boundary plat and legal property description prepared, signed, and sealed by a land surveyor of the proposed boundary of the facility and disposal area of the facility.

(d) Initial and final topographical maps at contour intervals of five feet or as otherwise specified by the Department.

(e) Existing and proposed surface drainage pattern to include control structures designed to handle run-on and run-off. Design calculations for sediment control basins, etc. should be provided.

(f) Buffer zones, screening and other aesthetic control measures. Buffer zones around the perimeter of the landfill unit shall be a minimum of 100 feet in width measured in a horizontal plane. No disposal or storage practices for waste shall take place in the buffer zone. Roads, access control measures, earth storage, and buildings may be placed in the buffer zone.

(g) Details of plans for temporary and permanent all weather access roads.

(h) A summary of 335-13-4-.01 standards and conclusions of action to be taken and implemented into facility design.

(i) Location of any areas of the facility used for disposal of solid wastes.

(j) Presentation of special engineering features or considerations which must be included or maintained in facility construction, operation, maintenance and closure. Items required in 335-13-4-.12 through 335-13-4-.20 shall be included.

(k) Quality assurance/quality control (QA/QC) plan for all components of the liner, leachate collection, and cap systems.

(l) Location of all explosive gas wells and/or monitoring points.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988; **Amended:** Effective: November 2, 1993; **Amended:** Effective: July 26, 1996; **Amended:** Filed: April 24, 2018 Effective: June 8, 2018.

335-13-4-.13 Site Geology and Hydrology.

ED_002047_00000009-00048

(1) Site Hydrogeology. The site hydrogeology shall be established to the uppermost aquifer and subsequent interconnecting aquifers.

(2) Hydrogeological Evaluation. The hydrogeological evaluation for a specific site, as required by the Department, may be provided for as follows:

(a) A hydrogeological evaluation performed by a firm or individual having expertise in hydrogeology. The expense of this evaluation shall be borne wholly by the applicant. The following shall be required on such evaluations made under this rule:

1. The installation of a minimum of three exploration borings to include sampling and geologic logging and completion of these borings as piezometers. Subsequent establishment of the first saturated zone, the uppermost aquifer and subsequent underlying and interconnected aquifers, piezometer measuring point elevations, water table elevations and an estimate of groundwater flow direction and rate will be required.

2. A report shall be submitted to the Department which includes all items, information and analyses contained in 335-13-4-.13(2)(a)1.

3. Resumes and references, as necessary, to establish the qualifications of the firm or individual preparing the evaluation.

(b) A review of the information submitted under 335-13-4-.13(2)(a) shall be conducted by the Department.

(c) The requirement for a hydrogeological evaluation may be waived by the Department based on specific geology, hydrology, or waste types proposed for disposal.

(3) Department Action. The Department will conduct a site background hydrogeological evaluation and review all other related reports, plans or submittals.

(a) Expense for the background hydrogeological evaluation and reviews conducted by the Department shall be borne by the applicant in accordance with established procedures of the Department.

(b) The expense for soil borings, soil tests, piezometers, and other data as needed by the Department shall be borne by the applicant.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.14 Groundwater Resources.

(1) Groundwater. Groundwater resources in the vicinity of the landfill unit shall be determined as a basis for facility design, groundwater protection, and groundwater monitoring required under 335-13-4-.27.

(a) The depth to the groundwater and the direction of flow shall be established during the hydrogeological evaluation.

(b) The groundwater in the first saturated zone below the landfill unit shall be evaluated as follows:

1. A minimum of one hydraulically upgradient monitoring well for background data and two hydraulically downgradient monitoring wells shall be required.

2. The location and design of the monitoring wells shall be approved by the Department prior to installation and the upgradient well shall be located so as not to be affected by the landfill unit.

3. The monitoring wells shall be installed well in advance of projected facility opening so as to provide an undisputed background water quality sample from each well. Background water quality shall be established using the sampling and analysis procedures described in 335-13-4-.27.

4. Additional monitoring wells above the minimum may be required by the Department based on site hydrology, geology, topographical features and waste characteristics.

5. Groundwater monitoring wells shall be designed and constructed as described in 335-13-4-.27.

(c) The groundwater sampling and analysis plan shall be prepared in accordance with 335-13-4-.27.

(2) Soil Permeability. The permeability of on-site soils, specifically those underlying the disposal site, shall be determined by laboratory testing at a qualified soils laboratory and followed up by pump testing or slug testing of monitoring wells.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: November 18, 1981.
Amended: July 21, 1988; November 2, 1993; July 26, 1996.

335-13-4-.15 Cover. Daily, weekly, or some other periodic cover shall be required at all landfill units, as determined by the Department.

(1) The suitability and volume of any soils for daily, intermediate and final cover requirements shall be determined by soil borings and analysis.

(2) Any proposal to use alternate cover systems shall be submitted to and approved by the Department prior to implementation.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: November 18, 1981.
Amended: July 21, 1988; November 2, 1993.

335-13-4-.16 Explosive Gases. The generation of explosive gases, especially methane (CH_4), at a landfill unit which accepts organic waste shall be considered in the design

and operation of the facility. Special attention shall be given to control and monitoring of explosive gases as follows:

(1) Control.

(a) Explosive gases shall not exceed the lower explosive limit (LEL) at the facility boundary.

(b) Explosive gases shall not exceed 25 percent of the LEL in facility structures except for gas control or recovery system components.

(c) Facility structures shall be designed and constructed so as not to allow explosive gases to collect in, under or around structures in concentrations exceeding the requirements of this rule.

(2) Monitoring.

(a) Gas monitoring equipment as required by the Department shall be provided at the landfill unit by the operating agency.

(b) The Department, upon review of waste type, facility structures, site geology and surrounding land use, may require installation of permanent gas monitoring structures, gas vents, gas control or recovery systems.

(c) An explosive gas monitoring and reporting plan shall be prepared and filed at the facility for all landfill units receiving organic wastes. All sites required to monitor for explosive gases shall submit a plat which indicates permanent monitoring points. The plan shall also include what measures shall be taken by the permittee, landfill supervisor, and any operators present on-site to protect human health and property should explosive gases be detected which exceed the LEL. The plan must be prepared by a registered professional engineer and include seal or signature and registration number in accordance with rule 335-13-5-.02(1)(e)1. of the ADEM Administrative Code.

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

(i) Soil conditions;

(ii) Hydrogeological conditions surrounding the landfill unit;

(iii) Hydraulic conditions surrounding the landfill unit;

(iv) Location of the facility structures and property boundaries;

(v) Location of structures adjacent to facility.

2. The minimum frequency for monitoring shall be quarterly for MSWLF and yearly for C/DLF and ILF.

(i) All monitoring reports shall be submitted to the Department and placed in the operating record of the facility within 30 days of the monitoring event.

(ii) Levels of gas detected shall be expressed in percent LEL and percent volume.

3. If explosive gas levels exceeds the limits specified in this rule, the permittee shall:

(i) Immediately take all necessary steps to ensure protection of human health and property and notify the Department;

(ii) Within 7 days of detection, place in the operating record of the facility the explosive gas levels detected and the immediate steps taken to protect human health and property;

(iii) Within 20 days of detection, submit to the Department for approval a remedial plan for the explosive gas releases. This plan shall describe the nature and extent of the problem and the proposed remedy. The plan shall be implemented upon approval by the Department, but within 60 days of detection. Also, within 60 days of detection, a copy of the plan shall be placed in the operating record of the facility and the Department notified that the plan has been implemented.

4. Monitoring points shall be located every 300 feet along the landfill permit boundaries. In areas where a dwelling is within 1000 feet of the boundaries, the monitoring points shall be 100 feet apart or as otherwise directed by the Department.

(i) Monitoring shall be conducted in structures, culverts, under bridges, drop inlets, and any other place that is conducive to gas accumulation.

(ii) Permanent gas monitoring structures, or use of the bar hole punch method, are required by the Department.

(iii) A minimum depth of six feet must be obtained for permanent monitoring structures and four feet when using the bar hole punch method.

Author: Russell A. Kelly, Eric L. Sanderson, S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.17 Drainage. Owners or operators of all facilities must design, construct and maintain:

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

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

(3) On-site drainage structures to carry incident precipitation from the disposal site so as to minimize the generation of leachate, erosion and sedimentation.

Run-off from the active and/or closed portions of the landfill unit must be handled in accordance with 335-13-4-.01(2)(a), and (b) and shall be routed to a settling basin or other sedimentation control structure to remove sediment prior to release onto adjacent properties or waters.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: November 18, 1981.
Amended: July 21, 1988; November 2, 1993; July 26, 1996.

335-13-4-.18 Liners and Leachate Collection.

(1) Liners. Where natural hydrogeologic conditions may be determined by the Department to be insufficient to minimize the impact of leachate on waters, the use of an appropriate liner(s) shall be used as approved by the Department. New MSWLF units and lateral expansions, at a minimum, shall be constructed with a composite liner, as defined in 335-13-1-.03, or an alternate design as specified in 335-13-4-.18(3)(h). Multiple liners, including composite liners, may be required if determined necessary by the Department.

(2) Leachate Collection System. A leachate collection system shall be required that is designed and constructed to maintain less than a 30 cm depth of leachate over the liner.

(3) Specifications. The composite liner(s) shall comply with the following minimum standards:

(a) The permeability shall be $1x10^{-7}$ cm/sec or less for soil liners.

(b) The synthetic liner(s) shall be resistant to physical and chemical attack by leachate.

(c) The liner system shall be capable of maintaining integrity for the design life which must be determined on a site specific basis.

(d) The minimum allowable thickness of each layer of the composite liner shall be:

1. 40 mil for the flexible membrane liner component unless flexible membrane liner (FML) consists of high density polyethylene (HDPE) which requires 60 mil, and

2. Two feet, measured after compaction, for the natural soil liner component meeting the permeability requirements of 335-13-4-.18(3)(a).

(e) The installation of synthetic liners shall be as recommended by the manufacturer providing that:

1. The installation recommendations of the manufacturer to be used are provided to the Department for review.

2. The Department finds that the recommended installation procedures are consistent with the intent of the Act and this chapter.

3. The installation of the liner shall be under the supervision of an engineer who shall certify to the Department that the liner was installed and maintained in accordance with this Division, QA/QC plans, and approved design plans.

(f) The design and installation of soil liners and the properties of soils used in a soil liner shall meet the following minimum requirements:

1. Design of soil liner(s) shall be by a qualified soils engineer, or geotechnical engineer.

2. The soil liner must be compacted in lifts of 4 to 6 inches within 4 percent of optimum moisture content (or as approved by the Department) to a field density which correlates with a laboratory permeability of $1x10^{-7}$ cm/sec or less.

3. The installation of soil liner(s) shall be under the supervision of a soils engineer, geotechnical engineer or geologist who shall certify to the Department that the liner(s) was installed and maintained in accordance with this Division, QA/QC plans, and approved design plans.

4. The soils used in soil liners shall meet the minimum following criteria:

(i) Free of oversize particles, such as rocks, roots, limbs and other foreign substances which would alter the design integrity of the liner;

(ii) Classified under the Unified Soil Classification System as CL, CH or SC (ASTM Standard D2 487-69);

(iii) Allow greater than 30 percent passage through a No. 200 sieve (ASTM Test D-1140);

(iv) Have a liquid limit equal to or greater than 30 units (ASTM Test D-423); and

(v) Have a plasticity greater than or equal to 15 units (ASTM Test D-424).

(g) For a composite liner system, the synthetic liner shall be installed in direct contact with the soil liner.

(h) An alternate liner design may be approved by the Department provided that:

1. The owner or operator demonstrates that the alternate design ensures the concentration values listed in Table 1 of this rule will not be exceeded in the first saturated zone at the relevant point of compliance, as specified by the Department under 335-13-4-.27(2)(a)3.

2. When approving a design that complies with subparagraph (a) of this paragraph, the Department shall consider at least the following factors:

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

(ii) The climatic factors of the area; and

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

TABLE 1

Chemical	MCL (mg/l)
Arsenic	0.05
Barium	1.0
Benzene	0.005
Cadmium	0.01
Carbon tetrachloride	0.005
Chromium (hexavalent)	0.05
2,4-Dichlorophenoxy acetic acid	0.1
1,4-Dichlorobenzene	0.075
1,2-Dichloroethane	0.005
1,1-Dichloroethylene	0.007
Endrin	0.0002
Fluoride	4
Lindane	0.004
Lead	0.015
Mercury	0.002
Methoxychlor	0.1
Nitrate	10
Selenium	0.01
Silver	0.05
Toxaphene	0.005
1,1,1-Trichloromethane	0.2
Trichloroethylene	0.005
2,4,5-Trichlorophenoxy acetic acid	0.01
Vinyl Chloride	0.002

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: Effective: November 18, 1981. **Amended**: Effective: July 21, 1988. **Amended**: Effective: November 2, 1993. **Amended**: Effective: July 26, 1996. **Amended**: Filed April 24, 2018; Effective: June 8, 2018.

335-13-4-.19 Access. The owner or operator of the facility must control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: November 18, 1981.
Amended: July 21, 1988; November 2, 1993.

335-13-4-.20 Closure and Post-Closure.

(1) Submittal. The owner or operator must submit a closure/post-closure plan to the Department and place in the operating record, no later than the effective date of these regulations or by the initial receipt of waste, whichever is later.

(2) Closure. The requirements for closure of existing and proposed landfill units shall include the following unless otherwise noted.

(a) The owner or operator must prepare a written closure plan that describes the steps necessary to close all existing and proposed landfill units at any point during their active life in accordance with the cover design requirements in 335-13-4-.20(2)(b). The owner or operator must submit the closure plan as part of the permit application to the Department. The closure plan, at a minimum, must include the following information:

1. A description of the final cover, designed in accordance with 335-13-4-.20(2)(b) and the methods and procedures to be used to install the cover;

2. An estimate of the largest area of the landfill unit ever requiring a final cover as required under 335-13-4-.20(2)(b) at any time during the active life;

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

4. A schedule for completing all activities necessary to satisfy the closure criteria in this rule.

(b) A final cover system must be installed which is designed to minimize infiltration and erosion. The final cover system must be comprised of an erosion layer(s) underlain by an infiltration layer(s) as follows:

1. The infiltration layer for MSWLF and ILF must be comprised of a minimum of 18 inches of earthen material and/or a synthetic layer that has a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less. The infiltration layer for C/DLF must be comprised of a minimum of 18 inches of compacted earthen material excluding sands, and

2. The erosion layer must consist of a minimum 6 inches of earthen material that is capable of sustaining native plant growth, as specified in 335-13-4-.20(2)(d).

3. The Department may approve an alternative final cover design that includes:

(i) An infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in 335-13-4-.20(2)(b)1., and

(ii) An erosion layer that provides equivalent protection from wind and water erosion as the erosion layer specified in 335-13-4-.20(2)(b)2.

(c) Final soil cover shall be graded so that:

1. Surface water does not pond over the landfill unit.

2. The maximum final grade of the final cover system shall not exceed 25 percent or as specified by the Department to minimize erosion.

3. Slopes longer than 25 feet shall require horizontal terraces, of sufficient width for equipment operation, for every 20 feet rise in elevation or utilize other erosion control measures approved by the Department.

4. The minimum final grade of the final cover system shall not be less than 5 percent or as specified by the Department to minimize ponding.

5. For a permitted facility utilizing the area fill method or the trench method, final grading of the infiltration layer shall be completed within 90 days after the unit has received the last known receipt of waste.

(d) A vegetative or some other appropriate cover must be established to minimize erosion and, when applicable, maximize evapotranspiration. Within 90 days after completion of final grading requirements on each phase or each trench as specified in 335-13-4-.20(2)(a), the permittee or owner of a permitted landfill unit shall prepare the final cover for the establishment of a vegetative cover or alternative cover. Deep rooted vegetation (roots that may grow below the 6 inch erosion layer) shall be prohibited as vegetative cover. Preparation of a vegetative cover shall include, but not be limited to, the following:

1. Placement of appropriate species of grass seed, fertilizer and mulch; and

2. Watering and maintenance necessary such that germination of grass will occur.

(e) Prior to beginning closure of each landfill unit as specified in this rule, an owner or operator must submit to the Department and place in the operating record a notice of the intent to close the unit.

(f) The owner or operator must begin closure activities of each LF unit no later than 30 days after the date of which the LF unit receives the known final receipt of wastes. If the LF unit has remaining capacity and there is reasonable likelihood that the LF unit will receive additional wastes, closure activities of each LF unit must begin no later than one year after the date of known final receipt of wastes. Extensions beyond the one-year deadline for beginning closure may be granted by the Department if the owner or operator demonstrates that the LF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed LF unit.

(g) The owner or operator of all LF units must complete closure activities of each LF unit in accordance with the closure plan within 180 days following the last known receipt of waste. Extensions of the closure period may be granted by the Department if the owner or operator demonstrates that closure will, of necessity, take longer than 180 days and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed LF unit. Extensions granted for closure of each LF unit shall not exceed a total of 180 days.

(h) Following closure of each LF unit, the owner or operator must submit to the Department a certification, signed by an independent registered professional engineer verifying that closure has been completed in accordance with the closure plan, and a copy placed in the operating record. C/DLF and/or ILF owner or operator may submit certification signed by a registered professional engineer in lieu of an independent registered professional engineer.

(i) Within 90 days after permit expiration, revocation or when final closure requirements in 335-13-4-.20 are achieved as determined by the Department, the permittee or owner of a facility shall record a notation onto the land deed containing the property utilized for disposal, and/or some other legal instrument that is normally examined during a title search, that will in perpetuity, notify any potential purchaser of the property that:

1. The land has been used as a solid waste disposal facility landfill unit;

2. Its use is restricted by the items contained in 335-13-4-.20(3)(c) and 335-13-4-.20(3)(d);

3. The locations and dimensions of the landfill unit with respect to permanently surveyed benchmarks and section corners shall be on a plat prepared and sealed by a land surveyor;

4. Contain a note, prominently displayed, which states the name of the permittee or operating agency, the type of landfill unit and the beginning and closure dates of the disposal activity.

5. Certification by an engineer or land surveyor that all closure requirements have been completed as determined necessary by the Department.

(j) For a permitted facility, the permittee or land owner shall submit a certified copy of the recording instrument to the Department and place a copy in the operating record within 120 days after permit expiration, revocation or as otherwise directed by the Department.

(k) Detail design for the closure of existing and proposed LF units shall be shown on a final contour and drainage plan. Items required in 335-13-4-.20(2)(b) through (d), (i), (j), and (3)(a), (d), and (f) shall be included.

(3) Post-closure. The requirements for post-closure of existing and proposed landfill units shall include the following unless otherwise noted.

(a) Following closure of each LF unit, the owner or operator must conduct post-closure care. Post-closure care must be conducted for a minimum of 30 years; or a minimum of 5 years if closed prior to October 9, 1993, or the effective date of § 258.1 of 40 CFR 258, Solid Waste Disposal Criteria, whichever is later; except as provided under 335-13-4-.20(3)(b), and consist of at least the following:

1. Eroded areas shall be filled with suitable soil cover, compacted, graded and appropriate cover established as described in 335-13-4-.20(2)(d).

2. Areas which provide for ponding of surface water shall be filled, graded and an appropriate cover established as described in 335-13-4-.20(2)(d).

3. Landfilled areas with extensive surface cracks in soil cover shall be corrected as necessary, or as determined by the Department, to prevent infiltration of surface water.

4. An appropriate cover shall be maintained on the facility at all times as described in 335-13-4-.20(2)(d).

5. Access control structures shall be maintained or erected and signs shall be posted stating that the facility is closed and giving the location of the nearest permitted landfill unit.

6. Any waste dumped at the landfill unit following closure shall be removed to an approved landfill unit by the permittee, operating agency, or owner.

7. Monitoring devices and pollution control equipment such as groundwater monitoring wells, explosive gas monitoring systems, erosion, and surface water control structures, and leachate facilities shall be maintained. Monitoring requirements shall continue in effect throughout the active life and post-closure care period as determined by the Department unless all solid waste is removed and no unpermitted discharge to waters has occurred.

8. Other deficiencies, such as vector control, which may be observed by the Department shall be corrected.

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

1. Decreased by the Department if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the Department; or

2. Increased by the Department if the Department determines that the lengthened period is necessary to protect human health and the environment.

(c) The owner or operator of all LF units must submit to the Department and receive approval as part of the permit application, a written post-closure plan. A copy must also be placed in the operating record. The post-closure plan must include, at a minimum, the following information:

1. A description of the monitoring and maintenance activities required in 335-13-4-.20(3)(a) for each LF unit, and the frequency at which these activities will be performed;

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

3. A description of the planned uses of the property during the post-closure period.

ED_002047_00000009-00059

(d) Post-closure use of the property used for the disposal operation must never be allowed to disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems necessary to comply with the requirements of these rules. The Department may approve any other disturbance if the owner or operator demonstrates that the disturbance, including any removal of waste, complies with the following:

1. The activities will not increase the potential threat to human health or the environment; or

2. The activities are necessary to reduce a threat to human health or the environment.

(e) Following completion of the post-closure care period for each LF unit, the owner or operator must submit to the Department a certification, signed by an independent registered professional engineer verifying that post-closure care has been completed in accordance with the post-closure plan, and a copy placed in the operating record. A C/DLF owner or operator may submit certification signed by a registered professional engineer in lieu of an independent registered professional engineer.

(f) If the permittee or owner, or any subsequent owner of the land upon which a landfill unit is located wishes to remove waste, waste residues, the liner, if any, or any contaminated soils, the owner must request approval from the Department. The owner may also ask permission to remove the notation from the recording instrument if all waste and contaminated soils are removed from the property and no unpermitted discharges to waters have occurred.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-4, 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.21 General Operational Standards for Landfill Units. Any person or agency operating or planning to operate a landfill unit shall operate and maintain the facility consistent with this Division. General requirements for operating and maintaining an acceptable landfill unit shall be:

(1) General Operation.

(a) The operation and use of the landfill unit shall be as stipulated in the permit.

(b) Waste accepted at the facility shall be strictly controlled so as to allow only waste stipulated on the permit or otherwise as may be approved by the Department. The permittee of any facility permitted under these rules must have in the operating record a plan describing procedures the permittee will implement for detecting and preventing the disposal of free liquids, regulated hazardous wastes, regulated medical wastes, and regulated PCB wastes at the facility. This plan must include at a minimum:

1. Random inspections of incoming loads to ensure that incoming loads do not contain free liquids, regulated hazardous wastes, regulated medical wastes, or regulated PCB wastes.

2. Inspection of suspicious loads.

3. Records of all inspections to include the origin of waste suspected to be regulated hazardous, regulated medical, or regulated PCB waste, if known; transporters, to include transfer stations and all handlers of the waste en route to the disposal site; and any certifications from generators provided to the permittee or facility personnel. These records must be maintained on file in the operating record of the facility.

4. Training of facility personnel to recognize free liquids, regulated hazardous wastes, regulated medical wastes, and regulated PCB wastes.

5. Procedures for notifying the proper authorities if free liquids, regulated hazardous wastes, regulated medical wastes, or regulated PCB wastes are discovered at the facility.

6. Methods to identify all industrial users of the facility, producers of special wastes, and transporters of these wastes.

(c) Prior to disposal of industrial waste and/or medical waste, the permittee shall obtain from each generator a written certification that the material to be disposed does not contain free liquids, regulated hazardous wastes, regulated medical wastes, or regulated PCB wastes.

1. This certification may be based on laboratory analysis of the waste on a case-by-case basis, or documentation supporting the generator's knowledge of the wastestream(s), or as may be required by the Department.

2. Copies of the certification shall be submitted to the Department for disposal approval and for any specific requirements prior to disposal. After submittal of the required certification, the Department shall have five (5) working days to respond. If no response is given, the permittee may dispose of the material as proposed.

3. In the case of one-time emergency disposal requests, the permittee shall submit the required certification no later than five (5) days after the disposal of waste.

4. Certification shall be renewed or revised biennially (every two years) or at such time that operational changes at the point of generation could render the waste hazardous, whichever is more frequent and submitted to the Department for approval.

5. Copies of these certifications and approvals shall be maintained on file in the operating record of the facility and shall be made available for the Department upon request.

6. The above requirements notwithstanding and, as may otherwise be required, pursuant to Division 13 rules, generators will not be required to submit certification to the Department provided that:

(i) The waste will be disposed of at a non-commercial industrial waste landfill which has been permitted by the Department, and is owned either exclusively or mutually by the generator(s) of the waste, and which disposes of waste generated only by the owner(s);

(ii) The wastestream(s) to be disposed of are specifically described in the Solid Waste Landfill Permit issued by the Department or in the final application as referenced by the permit for the site designated to receive the waste;

(iii) The required certification, as described above, is maintained on-site by the owner(s) of the landfill; and

(iv) The required certification, as described above, is made available for inspection by the Department upon request.

(d) The landfill unit shall be operated in such a manner that there will be no water pollution or unauthorized discharge.

1. Any discharge resulting from a landfill unit or practice may require:

(i) A National Pollutant Discharge Elimination System (NPDES) permit under the Alabama Water Pollution Control Act as issued by the Department.

(ii) A dredge or fill permit from the Army Corps of Engineers as required under Section 404 of the Clean Water Act, as amended; or

(iii) That a non-point source of surface waters does not violate an area wide or statewide water quality management plan that has been approved under the Alabama Water Pollution Control Act.

2. The groundwater shall not be contaminated as specified by this Division.

(e) The facility shall be identified with a sufficient number of permanent markers which are at least visible from one marker to the next.

(f) Measuring or weighing devices shall be required for all municipal solid waste landfill units accepting solid waste. All solid waste shall be properly measured or weighed prior to disposal unless otherwise approved by the Department.

(2) Open Burning.

(a) Open burning of solid waste at any landfill unit is prohibited unless approved by the Department as follows:

1. Clearing debris at the landfill unit such as trees and stumps may be burned if prior approval is received from the Department and the Alabama Forestry Commission.

2. Emergency clean-up debris resulting from catastrophic incidents may be burned at a permitted landfill unit if consistent with the intent of this Division and air pollution control requirements. Prior approval must be received from this Department and other appropriate agencies.

3. If approved, the burning shall not occur over previously filled areas or within 200 feet of existing disposal operations unless otherwise specified by the Department and such burning shall not cause a public nuisance or pose a threat to public health.

(b) The person or agency requesting permission to burn solid waste shall apply in writing to the Department, outlining why a burn request should be granted. This request should include, but not be limited to, specifically what areas will be utilized, types of waste to be burned, the projected starting and completion dates for the project, and the projected days and hours of operation.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-4, 22-27-7, 22-27-47, 22-27-48.
History: Effective: November 18, 1981. **Amended:** Effective: March 31, 1988 (Emergency Regulations). **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.22 Specific Requirements for Municipal Solid Waste Landfills. The following requirements in conjunction with 335-13-4-.21 shall be for operating and maintaining an acceptable MSWLF:

(1) Daily Operation.

(a) All waste shall be covered as follows:

1. A minimum of six inches of compacted earth or other alternative cover material that includes but is not limited to foams, geosynthetic or waste products, and is approved by the Department shall be added at the conclusion of each day's operation or as otherwise approved by the Department to control disease vectors, fires, odors, blowing litter, and scavenging.

2. Final closure shall be carried out in accordance with rule 335-13-4-.20 of this Division.

(b) All waste shall be confined to as small an area as possible and spread to a depth not exceeding two feet prior to compaction, and such compaction shall be accomplished on a face slope not to exceed 4 to 1 (25%) or as otherwise approved by the Department.

(c) All waste shall be thoroughly compacted with adequate landfill equipment before the daily cover is applied. A completed daily cell shall not exceed eight feet in vertical thickness measured perpendicular to the slope of the preceding cell.

(d) The site shall be operated in accordance with approved plans and permits.

(e) Adequate personnel shall be provided to ensure continued and smooth operation of the facility.

ED_002047_00000009-00063

(f) Adequate equipment shall be provided to ensure continued operation in accordance with permit and regulations.

(g) Provisions shall be made for disposal activities in adverse weather conditions.

(h) The site shall be adequately secured using artificial barriers, natural barriers, or both to prevent entry of unauthorized vehicular traffic.

(i) A sign outlining instructions for use of the site shall be posted at the entrance and shall include:

1. Name of facility,

2. Name of permittee and/or operating agency or person,

3. Days and hours of operation,

4. Disposal fees, and

5. Types of waste accepted if the site is available to the general public or commercial haulers.

(j) Special provisions shall be made for handling large dead animals or highly putrescible waste. Immediately covering the waste with a minimum of 12 inches of cover in a designated area of the facility shall be included in these provisions.

(k) Bulk or noncontainerized liquid waste, or containers capable of holding liquids, shall not be accepted at a landfill unit unless:

1. The liquid is household waste other than septic waste;

2. The liquid is leachate or gas condensate derived from the MSWLF unit, and the MSWLF unit is designed with a minimum composite liner and leachate collection system or approved equivalent liner and leachate collection system; or

3. The containers:

(i) Are similar in size to that normally found in household waste;

(ii) Are designed to hold liquids for use other than storage; or

(iii) Contain household wastes.

(l) Empty containers larger in size than normally found in household waste must be rendered unsuitable for holding liquids prior to disposal in the landfill unit unless otherwise approved by the Department.

(m) MSWLF units containing sewage sludge and failing to satisfy the criteria in this Division violate Sections 309 and 405(e) of the Clean Water Act.

(2) Routine Maintenance.

(a) Scavenging shall be prohibited and salvaging operations shall be controlled.

(b) Litter shall be controlled within the permitted facility.

(c) An all-weather access road shall be provided to the dumping face.

(d) Measures shall be taken to prevent the breeding or accumulation of disease vectors. If determined necessary by the Department or the State Health Department, additional disease vector control measures shall be conducted.

(e) Environmental monitoring and treatment structures shall be clearly marked and identified, protected and maintained in good repair and shall be easily accessible.

(f) Completed sites or portions of sites shall be properly closed as provided by this Division and approved facility plans.

(g) Records shall be maintained on the daily volume of waste received at MSWLFs. A quarterly report utilizing a format approved by the Department which summarizes the daily volumes shall be submitted to the Department and maintained on file in the operating record of the facility by the permittee.

(3) Additional Requirements.

(a) Owners or operators of all MSWLFs must ensure that the units do not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to Section 110 of the Clean Air Act, as amended.

(b) Notwithstanding this rule, additional requirements for operating and maintaining a MSWLF may be imposed by the Department, as deemed necessary, to comply with the Act and this Division.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-4, 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.23 Specific Requirements for Inert- Construction/Demolition Landfills and Industrial Landfills. The following requirements in conjunction with 335-13-4-.21 shall be for operating and maintaining an acceptable C/DLF or ILF:

(1) Operation.

(a) All waste shall be covered as follows:

1. A minimum of six inches of compacted earth or other alternative cover material that includes but is not limited to foams, geosynthetic or waste products, and is approved by the Department shall be added at the conclusion of each week's operation

ED_002047_00000009-00065

or as otherwise specified by the Department to control disease vectors, fires, odors, blown litter and scavenging.

2. Final closure shall be carried out in accordance with 335-13-4-.20 of this Division.

(b) All waste shall be thoroughly spread in layers two feet or less in thickness and thoroughly compacted weekly with adequate landfill equipment prior to placing additional layers of waste or placing the weekly cover as specified in 335-13-4-.23(1)(a)1., unless otherwise approved by the Department. Waste, such as construction/demolition waste and other types of waste, which cannot be managed by landfill equipment in this manner shall be managed in a manner approved by the Department.

(c) All waste shall be confined to as small an area as possible and placed onto an appropriate slope not to exceed 4 to 1 (25%) or as approved by the Department.

(d) The facility shall be operated in accordance with approved plans and permits.

(e) The site shall be adequately secured to prevent entry except by authorized person(s) unless an operator is on site.

(f) If the site is available to the public or commercial haulers, a sign shall be posted at the landfill stating:

1. Name of permittee,

2. Owner and/or operator,

3. Name of landfill,

4. Days and hours of operation,

5. Waste types accepted, and

6. Disposal fees for use of the landfill.

(g) Provisions shall be made for disposal activities in adverse weather conditions.

(h) Adequate personnel shall be provided to ensure continued and smooth operation of the site.

(i) Adequate equipment shall be provided to ensure continued operation in accordance with permit and regulations.

(j) Bulk or non-containerized liquid waste, or containers capable of holding liquids, shall not be accepted at a C/DLF or ILF unless:

1. The liquid is leachate or gas condensate derived from the C/DLF or ILF unit, and

2. The C/DLF or ILF unit is designed with a minimum single liner and leachate collection system or approved equivalent liner and leachate collection system.

(k) Empty containers larger than 10 gallons in size must be rendered unsuitable for holding liquids prior to disposal in the landfill unit unless otherwise approved by the Department.

(2) Routine Maintenance.

(a) Scavenging shall not be permitted, and salvaging operations shall be controlled.

(b) Litter shall be controlled within the permitted facility.

(c) Completed sites or portions of sites shall be properly closed as provided by this Division and approved facility plans.

(d) An all-weather access road shall be provided to the dumping face.

(e) Environmental monitoring and treatment structures shall be protected and maintained in good repair and easily accessible.

(f) Records shall be maintained on the daily volume of waste received at C/DLFs and ILFs. A quarterly report utilizing a format approved by the Department which summarizes the daily volumes shall be submitted to the Department and maintained on file in the operating record of the facility by the permittee.

(g) Measures shall be taken to prevent the breeding or accumulation of disease vectors. If determined necessary by the Department or the State Health Department, additional disease vector control measures shall be conducted.

(3) Additional Requirements.

(a) Notwithstanding this rule, certain requirements for operating and maintaining a C/DLF or ILF may be enhanced or reduced by the Department as deemed necessary to comply with the Act and this Division. Any action by the Department to enhance or reduce the requirement(s) must be done in writing from the Department.

(b) [Reserved]

(c) Industrial landfills which accept coal combustion residuals must also adhere to the applicable requirements of ADEM Admin. Code 335-13-15.

Author: Russell A. Kelly, Eric L. Sanderson.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-4, 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.24 Septic Tank Pumpings and Sewage Sludge. The practice of accepting septic tank pumpings and sewage sludge shall not occur at landfill units unless specifically approved in writing by the Department.

Author:
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: November 18, 1981.
Amended: July 21, 1988; November 2, 1993.

335-13-4-.25 [Reserved]

335-13-4-.26 Requirements for Management and Disposal of Special Waste.

(1) Exceptions.

(a) Requirements for the management and disposal of special waste at a landfill unit permitted by the Department shall meet the requirements of this rule.

(b) Certain requirements may be modified by the Department as deemed necessary to comply with the Act and this Division.

1. Waste types for which specific rules and regulations under this Division have not been developed shall be managed and disposed of in a manner as determined by the Department to be consistent with the intent of the Act and this Division.

2. Generators of a special waste may be required by the Department to provide an analysis and certification that the waste is nonhazardous waste or treated medical waste.

(2) Disposal requirements for friable asbestos. Any person who generates, processes, treats, or disposes of friable asbestos shall comply with the following practices:

(a) Friable asbestos shall be disposed of in a facility permitted by the Department. The friable asbestos shall arrive at the landfill unit in properly labeled, leak-tight containers as determined by the Department's Air Division.

(b) Containers shall be placed intact in a specially prepared place and covered with a minimum of 12 inches of earth at the end of each working day. Asbestos waste may be landfilled in an excavation at the bottom of the operating face if no liner is present or the design depth restriction is not exceeded. The waste may also be placed in a separately designated area. If a separate area is utilized, it shall be clearly marked to prevent future excavation into the waste.

(c) Proper handling precautions shall be taken to ensure that containers are not ruptured prior to placing the required daily earth cover as noted in 335-13-4-.26(2)(b). No machinery shall be operated directly over uncovered containers.

(d) Final cover shall be as noted in 335-13-4-.20(2)(b).

(3) Disposal requirements for foundry wastes. Foundry waste which exhibits less than 50 percent of each of the TC Levels for metals as defined by the USEPA's Toxicity Characteristic Leaching Procedure (TCLP) may be managed in the following manner:

(a) Foundry waste may be managed in areas other than

1. Flood Plains;

2. Wetlands;

3. Residential zones; or

4. Areas less than 5 feet above the uppermost aquifer.

(b) Each foundry must maintain records at the manufacturing facility. These records must include:

1. A description of the site to within the ¼, ¼ Section of a specific township and range.

2. Volume of foundry waste disposed of at each location.

(c) The waste must be certified by the generator on a quarterly basis or whenever the process changes which would significantly alter the test results, whichever is more frequent. Certification of the foundry waste shall be accomplished by submitting the following:

1. A completed Solid/Hazardous Waste Determination Form.

2. A TCLP analysis for metals.

(d) Each foundry must contact the Water Division of ADEM with regards to General Stormwater and/or NPDES permits.

(e) Foundry waste from two or more foundries may be managed at one location provided adequate documentation and record keeping is maintained for each foundry.

(f) Foundry waste not meeting the requirements of paragraph (3) of this rule must be managed at an approved recycle/reuse facility or at a landfill unit approved for the disposal of foundry waste and permitted by the Department.

(4) Disposal requirements for petroleum contaminated waste. Any person who disposes of petroleum contaminated waste shall comply with the following practices:

(a) Petroleum contaminated waste must be disposed of in a MSWLF and/or a synthetically lined facility having a solid waste disposal permit issued by the Department and having groundwater monitoring wells.

(b) Prior to disposing of a petroleum contaminated waste in accordance with subparagraph (a) of this paragraph, the generator of the waste must provide the Department with a written certification that the waste is non-hazardous.

1. The generator of a petroleum contaminated waste may use knowledge of the processes producing the waste to certify that the waste is non-hazardous; however

the Department, on a case-by-case basis, may require additional information and/or laboratory analyses to support the generator's certification.

2. The written certification that the waste is non-hazardous must include laboratory analysis for metals if the source of the petroleum contamination is leaded gasoline, used automotive crank case oil, or if the generator has reason to believe that the source contains TCLP metals.

(c) Small quantities of petroleum contaminated waste may be disposed in MSWLFs, C/DLFs, or ILFs, and shall not require approval and/or testing, provided that the waste:

1. Contains less than twenty-five (25) gallons of petroleum; and

2. Total material (i.e., soil, rags, sorbent, etc.) is less than five (5) cubic yards per occurrence.

(5) Disposal requirements for municipal solid waste ash. Municipal solid waste ash shall be disposed of at a MSWLF meeting at a minimum the design criteria established under 335-13-4-.18. Alternative disposal methods or uses must be approved by the Department prior to implementation.

(6) Disposal requirements for wood ash waste. Wood ash waste which exhibits less than 50 percent of each of the TC Levels for metals as defined by the USEPA's Toxicity Characteristic Leaching Procedure (TCLP) may be managed in the following manner:

(a) Wood ash waste may be managed in areas other than

1. Flood Plains;

2. Wetlands;

3. Residential zones; or

4. Areas less than 5 feet above the uppermost aquifer.

(b) Facilities managing wood ash waste in an area that is not a permitted landfill unit, not within the property boundaries of the generator, and meets the requirements of 335-13-4-.26 (6)(a) must maintain records at the facility that include the following:

1. A description of the site to within the ¼, ¼ Section of a specific Township and Range.

2. Volume of the wood ash waste disposed of at each location on a quarterly basis.

3. Certification of the wood ash waste on a quarterly basis or whenever the waste generating process changes which would significantly alter the test results, whichever is more frequent. Certification of the wood ash waste must be accomplished by submitting the following:

(i) A completed Solid/Hazardous Waste Determination Form.

(ii) A TCLP analysis for metals.

(c) Facilities managing wood ash waste in an area that is not a permitted landfill unit, within the property boundaries of the generator, and meets the requirements of 335-13-4-.26 (6)(a) must maintain records at the facility that include the following:

1. Certification of the wood ash waste on a two (2) year basis or whenever the waste generating process changes which would significantly alter the test results, whichever is more frequent. Certification of the wood ash waste must be accomplished by submitting the following:

(i) A completed Solid/Hazardous Waste Determination Form.

(ii) A TCLP Analysis for metals.

(d) Each facility managing wood ash waste in accordance with 335-13-4-.26(6) shall submit an annual report on or before January 31st of each year utilizing a format approved by the Department which contains the following:

1. Summary of the components of 335-13-4-.26(6)(b) and/or (c).

2. Documentation of the non-coal permitted fuel burned on a quarterly basis to include the type, quantity (mass input basis), and the percentage of total fuel, of each type of fuel burned.

(e) Facilities managing wood ash waste in an area that is not a permitted landfill unit and meets the requirements of 335-13-4-.26 (6)(a) must contact the Water Division of the ADEM with regards to NPDES requirements for waste management areas.

(f) Wood ash waste from two or more facilities may be managed at one location provided adequate documentation and record keeping is maintained for each generator.

(g) Wood ash waste not meeting the requirements of paragraph (6) of this rule must be managed at a landfill unit approved for the disposal of wood ash waste and permitted by the Department.

Author: Russell A. Kelly, Eric L. Sanderson; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-4, 22-27-7.
History: Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Effective: April 8, 2016. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.27 Groundwater Monitoring and Corrective Action. The requirements for groundwater monitoring and corrective action at MSWLFs, C/DLFs, and ILFs are presented in the following paragraphs:

(1) Applicability.

(a) The requirements in this rule shall apply to all MSWLF units and, when determined necessary by the Department to protect public health and the environment, the requirements in this rule or any part thereof shall apply to C/DLF units and/or ILF units, except as provided in subparagraph (b) of this paragraph.

(b) Groundwater monitoring requirements under paragraphs (2) through (4) of this rule may be suspended by the Department for a LF unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that LF unit to the first saturated zone, as defined in 335-13-1-.03, during the active life of the unit and the post-closure care period. This demonstration must be certified by a qualified groundwater scientist, as defined in 335-13-1-.03, and approved by the Department, and must be based upon:

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

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

(c) Owners and operators of LF units must comply with the groundwater monitoring requirements of this rule according to the following schedule.

1. All LF units must be in compliance with the groundwater monitoring requirements specified in paragraphs (2) through (4) of this rule.

2. New LF units must be in compliance with the groundwater monitoring requirements specified in paragraphs (2) through (4) of this rule before waste can be placed in the unit.

(d) Once established at a LF unit, groundwater monitoring shall be conducted throughout the active life and post-closure care period of that LF unit as specified in 335-13-4-.20.

(e) The Department may establish alternative schedules for demonstrating compliance with Department notification (and placement of notification in operating record) requirements of this rule.

(2) Groundwater Monitoring Requirements.

(a) A groundwater monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the first saturated zone (as defined in 335-13-1-.03(121)) that:

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

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

(ii) Sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells; and

2. Represent the quality of groundwater passing the relevant point of compliance specified by the Department under subparagraph (a)3. of this paragraph.

(i) The downgradient monitoring system must be installed at the relevant point of compliance specified by the Department under subparagraph (a)3. of this paragraph that ensures detection of groundwater contamination in the first saturated zone.

(ii) When physical obstacles preclude installation of groundwater monitoring wells at the relevant point of compliance at existing units, the down-gradient monitoring system may be installed at the closest practicable distance hydraulically down-gradient from the relevant point of compliance specified by the Department under subparagraph (a)3. of this paragraph that ensures detection of groundwater contamination in the uppermost aquifer.

3. The relevant point of compliance shall be no more than 150 meters (492 feet) from the waste management unit boundary and shall be located on land owned by the owner of the landfill unit. In determining the relevant point of compliance, the following factors shall be considered, at a minimum:

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

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

(iii) The quantity, quality, and direction of groundwater flow;

(iv) The proximity and withdrawal rate of the groundwater users;

(v) The availability of alternative drinking water supplies;

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

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

(viii) Practicable capability of the owner or operator.

(b) The Department may approve a multi-unit groundwater monitoring system instead of separate groundwater monitoring systems for each MSWLF unit when the facility has several units, provided the multi-unit groundwater monitoring system meets the requirement of subparagraph (a) of this paragraph and will be as protective of human health and the environment as individual monitoring systems for each MSWLF unit. This approval will be based on the following factors:

1. Number, spacing, and orientation of the MSWLF units;

2. Hydrogeologic setting;

3. Site history;

4. Engineering design of the MSWLF units; and

5. Type of waste accepted at the MSWLF units.

(c) Well design and construction

1. Groundwater monitoring wells shall be designed and constructed in accordance with the following reference: "Design and Installation of Groundwater Monitoring Wells in Aquifers", ASTM Subcommittee D18.21 on Groundwater Monitoring, or otherwise as specifically approved by the Department.

2. Plans for groundwater monitoring well location, design, construction and/or abandonment shall be submitted to the Department for review and approval prior to installation.

3. The monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole.

(i) This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples.

(ii) The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the groundwater.

4. The owner or operator must notify the Department that the design, installation, development, and/or abandonment of any monitoring wells, piezometers and other measurement, sampling, and analytical devices has been documented and placed in the operating record; and

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

(e) Abandoned wells and bore holes shall be abandoned in accordance with the following procedures in order to prevent contamination of groundwater resources. A plan of abandonment must be submitted and approved by the Department prior to implementing abandonment of any well.

1. A well shall be measured for depth prior to sealing to ensure that it is free from any obstructions that may interfere with sealing operations.

2. Where feasible, wells shall be completely filled with neat cement. If the well cannot be completely filled, the sealing materials for the top 20 feet must be neat cement and no material that could impart taste, odor, or toxic components to water may be used in the sealing process.

3. Liner pipe shall be removed from each well in order to ensure placement of an effective seal. If the liner pipe cannot be readily removed, it shall be perforated to ensure that proper sealing is obtained.

4. Concrete, cement grout, or neat cement shall be used as primary sealing materials and shall be placed from the bottom upwards using methods that will avoid segregation or dilution of material.

5. Complete, accurate records of the abandonment procedure shall be kept for each well abandoned. The record of abandonment shall include, at a minimum, the depth of each layer of all sealing and backfilling materials, the quantity of sealing materials used, measurements of static water levels and depths, and any changes made in the well during the sealing. A copy of these records shall be submitted to the Department and a copy placed in the operating record.

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

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

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

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

2. Certified by a qualified groundwater scientist and approved by the Department. Within 14 days of the Department's approval, the owner or operator must notify the Department that the certification has been placed in the operating record.

(g) The groundwater monitoring program must include consistent sampling and analytical methods that are:

1. Designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells which have been installed in compliance with subparagraph (a) of this paragraph.

(i) The groundwater monitoring program, and subsequent documentation, must be submitted to the Department for approval and appropriate copies placed in the operating record.

(ii) The program must include procedures and techniques for:

(I) Sample collection;

(II) Sample preservation and shipment;

(III) Analytical procedures;

(IV) Chain of custody control; and

(V) Quality assurance and quality control.

2. Appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples.

(h) Groundwater samples shall not be field-filtered prior to laboratory analysis.

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

1. Groundwater elevations must be measured in each well immediately prior to purging, each time groundwater is sampled.

2. Groundwater elevations in wells which monitor the same waste management area must be measured within a 48 hour period to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction.

3. The owner or operator must determine the rate and direction of groundwater flow each time groundwater is sampled.

(j) The owner or operator must establish background groundwater quality in a hydraulically upgradient or background well(s) for each of the monitoring parameters or constituents required in the particular groundwater monitoring program that applies to the LF unit, as determined under subparagraphs (3)(a) or (4)(a) of this rule. Background groundwater quality may be established at wells that are not located hydraulically upgradient from the LF unit if it meets the requirements of subparagraph (a)1. of this paragraph.

(k) The number of samples collected to establish groundwater quality data must be consistent with the appropriate statistical procedures determined pursuant to subparagraph (l) of this paragraph. The sampling procedures shall be those specified under subparagraph (3)(b) of this rule for detection monitoring, subparagraphs (4)(b) and (4)(d) of this rule for assessment monitoring, and subparagraph (5)(b) of this rule for corrective action.

(l) The owner or operator must specify in writing to the Department and place in the operating record one of the following statistical methods to be used in evaluating groundwater monitoring data for each hazardous constituent. The statistical test chosen shall be conducted separately for each hazardous constituent in each well.

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

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

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

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

5. Another statistical test method that meets the performance standards of subparagraph (m) of this paragraph. The owner or operator must place a justification for this alternative in the operating record and submit it to the Department for approval to use this alternative test. The justification must demonstrate that the alternative method meets the performance standards of subparagraph (m) of this paragraph.

(m) Any statistical method chosen under subparagraph (l) of this paragraph shall comply with the following performance standards, as appropriate:

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

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

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

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

5. The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

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

(n) The owner or operator must determine and certify in writing to the Department if there is a statistically significant increase (SSI) over background values for each parameter or constituent required in the groundwater monitoring program.

1. In determining whether an SSI has occurred, the owner or operator must compare the groundwater quality of each parameter or constituent at each monitoring well to the background value of that constituent, according to the statistical procedures and performance standards specified under this rule.

2. Within 30 days after completing sampling and receiving analytical results, the owner or operator must determine whether there has been an SSI over background at each monitoring well.

3. If an SSI over background groundwater quality is detected, the owner/operator must notify the Department within 14 days of this event.

(3) Detection Monitoring.

(a) Detection monitoring is required at LF units for all groundwater monitoring wells defined under subparagraphs (2)(a)1.(i) and (ii) of this rule.

1. At a minimum, a detection monitoring program for MSWLF units must include monitoring for the constituents listed in Appendix I of this Chapter.

2. Detection monitoring programs for C/DLFs or ILFs must include monitoring for constituents as specified by the Department.

3. The Department may delete any of the detection monitoring parameters for a LF unit if it can be shown that the removed constituents are not reasonably expected to be contained in or derived from the waste contained in the unit.

4. The Department may establish an alternative list of indicator parameters for a MSWLF unit, in addition to the Appendix I constituents, if the additional parameters provide a reliable indication of releases from the MSWLF unit to the groundwater. In determining alternative parameters, the Department shall consider the following factors:

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

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

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

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

(b) Frequency.

1. The monitoring frequency for all constituents listed in Appendix I, or in the alternative list approved in accordance with subparagraph (a)4. of this paragraph, shall be at least semiannual during the active life of the facility (including closure) and the post-closure period. The owner or operator must submit a semi-annual report to the Department to coincide with and report the results of the semi-annual sampling event. The report shall be certified by a qualified groundwater scientist.

(i) A minimum of four independent samples from each well (background and downgradient) must be collected and analyzed for the Appendix I constituents, or the alternative list approved in accordance with subparagraph (a) of this paragraph, during the first semiannual sampling event.

(ii) At least one sample from each well (background and downgradient) must be collected and analyzed during subsequent semiannual sampling events.

2. The Department may specify an appropriate alternative frequency for repeated sampling and analysis for Appendix I constituents, or the alternative list approved in accordance with subparagraph (a) of this paragraph, during the active life (including closure) and the post-closure care period.

(i) The alternative frequency during the active life (including closure) shall be no less than annual.

(ii) The alternative frequency shall 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;

(III) Groundwater flow rates;

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

(V) Resource value of the aquifer.

(c) If the owner or operator determines, pursuant to subparagraph (2)(l) of this rule, that there is an SSI over background for one or more of the constituents listed in Appendix I, or in the alternative list approved in accordance with subparagraph (a) of this paragraph, at any monitoring well at the boundary specified under subparagraph (2)(a)1.(ii) of this rule, the owner or operator:

1. Must, within 14 days of this finding, place a notice in the operating record, and submit a copy of this notice to the Department, indicating which constituents have shown statistically significant changes from background levels, and notify the Department that this notice was placed in the operating record; and

2. Must establish an assessment monitoring program meeting the requirements of subparagraphs (4)(a) through (j) of this rule within 90 days except as provided for under subparagraph (2)(c)3. of this rule.

3. May demonstrate that a source other than a LF unit caused the contamination or that the SSI resulted from an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

(i) A report documenting this demonstration must be certified by a qualified groundwater scientist, approved by the Department and be placed in the operating record.

(ii) If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this rule. If, after 90 days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in subparagraphs (4)(a) through (j) of this rule.

(4) Assessment Monitoring.

(a) Assessment monitoring is required whenever an SSI over background has been detected for one or more of the constituents listed in Appendix I or in the alternative list approved in accordance with subparagraph (3)(a)4 of this rule.

(b) Frequency.

1. Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the groundwater for all constituents identified in Appendix II of this Chapter.

(i) A minimum of one sample from each downgradient well must be collected and analyzed during each sampling event.

(ii) For any constituent detected in the downgradient wells as the result of the complete Appendix II analysis, a minimum of four independent samples from each well (background and downgradient) must be collected and analyzed to establish background for the new constituents.

2. The Department may specify an appropriate subset of wells to be sampled and analyzed for Appendix II constituents during assessment monitoring. The Department may delete any of the Appendix II monitoring parameters for a LF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit. The Department may establish an alternative list of parameters for a facility required to conduct groundwater monitoring, in addition to the Appendix II constituents, if the addition of the parameters is warranted based on waste handling practices at the facility. In determining alternative parameters, the Department shall consider the factors listed in 335-4-.27(3)(a)4.(i) through (iv).

(c) The Department may specify an appropriate alternate frequency for repeated sampling and analysis for the full set of Appendix II constituents required by subparagraph (b) of this paragraph, during the active life (including closure) and post-closure care of the unit considering the following factors:

1. Lithology of the aquifer and unsaturated zone;

2. Hydraulic conductivity of the aquifer and unsaturated zone;

3. Groundwater flow rates;

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

5. Resource value of the aquifer; and

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

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

1. Within 14 days, place a notice in the operating record identifying the Appendix II constituents that have been detected and notify the Department that this notice has been placed in the operating record;

2. Within 90 days, and on at least a semiannual basis thereafter,

(i) Resample all wells specified by subparagraph (2)(a) of this rule with a minimum of one sample from each well (background and downgradient) being collected and analyzed during these sampling events,

(ii) Conduct analyses for all constituents in Appendix I or in the alternative list approved in accordance with subparagraph (3)(a)4. of this rule, and for those constituents in Appendix II that are detected in response to subparagraph (b) of this paragraph, and

(iii) Record their concentrations in the facility operating record.

The Department may specify an alternative monitoring frequency during the active life (including closure) and the post closure period for the constituents referred to in this paragraph. The alternative frequency for Appendix I constituents, or the alternative list approved in accordance with subparagraph (3)(a)4. of this rule, during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in subparagraph (c) of this paragraph;

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

4. Establish groundwater protection standards for all constituents detected pursuant to subparagraph (b) or subparagraph (d)2. of this paragraph. The groundwater protection standards shall be established in accordance with subparagraphs (h) or (i) of this paragraph.

(e) If the concentrations of all Appendix II constituents are shown to be at or below background values, using the statistical procedures in subparagraph (2)(l) of this rule, for two consecutive sampling events, the owner or operator must notify the Department of this finding and may return to detection monitoring.

(f) If the concentrations of any Appendix II constituents are above background values, but all concentrations are below the groundwater protection standard established under subparagraphs (h) or (i) of this paragraph, using the statistical procedures in subparagraph (2)(l) of this rule, the owner or operator must continue assessment monitoring in accordance with this rule.

(g) If one or more Appendix II constituents are detected at statistically significant levels above the groundwater protection standard established under subparagraphs (h) or (i) of this paragraph in any sampling event, within 14 days of this finding, the owner or operator must:

1. Place a notice in the operating record identifying the Appendix II constituents that have exceeded the groundwater protection standard and

2. Notify the Department and all appropriate local government officials that the notice has been placed in the operating record.

3. And must, either:

(i) Characterize the nature and extent of the release by installing additional monitoring wells as necessary,

(ii) Install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with subparagraph (d)2. of this paragraph,

(iii) 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 as indicated by sampling of wells in accordance with subparagraphs (g)3.(i) and (ii) of this paragraph, and

(iv) Initiate an assessment of corrective measures as required by subparagraphs (5)(a) through (d) of this rule within 90 days;

4. Or may demonstrate that a source other than a LF unit caused the contamination, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be certified by a qualified groundwater scientist or approved by the Department and placed in the operating record. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to subparagraphs (a) through (j) of this paragraph, and may return to detection monitoring if the Appendix II constituents are at or below background as specified in subparagraph (e) of this paragraph. Until a successful demonstration is made, the owner or operator must comply with subparagraph (g) of this paragraph, including initiating an assessment of corrective measures.

(h) The owner or operator must establish a groundwater protection standard for each Appendix II constituent detected in the groundwater. The groundwater protection standard shall be:

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

2. For constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with subparagraph (2)(a)1. of this rule; or

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

(i) The Department may establish an alternative groundwater protection standard for constituents for which MCLs have not been established. These groundwater protection standards shall be appropriate health based levels that satisfy the following criteria:

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

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

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

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

(j) In establishing groundwater protection standards under subparagraph (i) of this paragraph, the Department may consider the following:

1. Multiple contaminants in the groundwater;

2. Exposure threats to sensitive environmental receptors; and

3. Other site-specific exposure or potential exposure to groundwater.

(5) Corrective Action Requirements.

(a) Within 90 days of finding that any of the constituents listed in Appendix II have been detected at a statistically significant level exceeding the groundwater protection standards defined under subparagraphs (4)(h) or (i) of this rule, the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time.

(b) The owner or operator must continue to monitor in accordance with the assessment monitoring program as specified in subparagraphs (4)(a) through (j) of this rule.

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

1. The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

2. The time required to begin and complete the remedy;

3. The costs of remedy implementation; and

4. The institutional requirements such as State or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s).

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

(e) Based on the results of the corrective measures assessment conducted under subparagraphs (5)(a) through (d) of this paragraph, the owner or operator must select a remedy that, at a minimum, meets the standards listed in this paragraph. The owner or operator must notify the Department, within 14 days of selecting a remedy, that a report describing the selected remedy has been placed in the operating record and how it meets the standards in this paragraph. Remedies must:

1. Be protective of human health and the environment;

2. Attain the groundwater protection standard as specified pursuant to subparagraphs (4)(h) or (i) of this rule;

3. Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of Appendix II constituents into the environment that may pose a threat to human health or the environment; and

4. Comply with standards for management of wastes as specified in subparagraph (m) of this paragraph.

(f) In selecting a remedy that meets the standards of subparagraph (e) of this paragraph, the owner or operator shall consider the following evaluation factors:

1. The long- and short-term effectiveness and protectiveness of the potential remedy(ies), along with the degree of certainty that the remedy will prove successful based on consideration of the following:

(i) Magnitude of reduction of existing risks;

(ii) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;

(iii) The type and degree of long-term management required, including monitoring, operation, and maintenance;

(iv) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment;

(v) Time until full protection is achieved;

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

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

(viii) Potential need for replacement of the remedy.

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

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

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

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

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

(ii) Expected operational reliability of the technologies;

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

(iv) Availability of necessary equipment and specialists; and

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

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

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

(g) The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into

consideration the factors set forth in this paragraph. The owner or operator must consider the following factors in determining the schedule of remedial activities:

1. Extent and nature of contamination;

2. Practical capabilities of remedial technologies in achieving compliance with groundwater protection standards established under subparagraphs (4)(h) or (i) of this rule and other objectives of the remedy;

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

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

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

6. Resource value of the aquifer including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users;

(iii) Groundwater quantity and quality;

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

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

(vi) Groundwater removal and treatment costs; and

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

7. Practicable capability of the owner or operator.

8. Other relevant factors.

(h) The Department may determine that remediation of a release of an Appendix II constituent from a LF unit is not necessary if the owner or operator demonstrates to the Department that:

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

2. The constituent(s) is present in groundwater that:

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

(ii) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the groundwater protection standards established under subparagraphs (4)(h) or (i) of this rule; or

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

4. Remediation results in unacceptable cross-media impacts.

(i) A determination by the Department pursuant to subparagraph (h) of this paragraph shall not affect the authority of the State to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

(j) Based on the schedule established under subparagraph (g) of this paragraph for initiation and completion of remedial activities the owner/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 subparagraphs (4)(a) through (j) of this rule;

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

(iii) Demonstrates compliance with groundwater protection standards pursuant to subparagraph (n) of this paragraph.

2. Implement the corrective action remedy selected under subparagraphs (e) through (i) of this paragraph; and

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

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

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

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

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

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

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

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

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

(l) If the owner or operator determines that compliance with requirements under subparagraph (e) of this paragraph cannot be practically achieved with any currently available methods, the owner or operator must:

1. Obtain certification of a qualified groundwater scientist or approval by the Department that compliance with requirements under subparagraph (e) of this paragraph cannot be practically achieved with any currently available methods;

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

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

(i) Technically practicable; and

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

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

(m) All solid wastes that are managed pursuant to a remedy required under subparagraphs (e) through (i) of this paragraph, or an interim measure required under subparagraph (j)3. of this paragraph, shall be managed in a manner:

1. That is protective of human health and the environment; and

2. That complies with applicable RCRA requirements.

(n) Remedies selected pursuant to subparagraphs (e) through (i) of this paragraph shall be considered complete when:

1. The owner or operator complies with the groundwater protection standards established under subparagraphs (4)(h) or (i) of this rule at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under subparagraph (3)(a) of this rule.

2. Compliance with the groundwater protection standards established under subparagraphs (4)(h) or (i) of this rule has been achieved by demonstrating that concentrations of Appendix II constituents have not exceeded the groundwater protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in subparagraphs (4)(l) and (m) of this rule. The Department may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of Appendix II constituents have not exceeded the groundwater protection standard(s) taking into consideration:

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

(ii) Behavior characteristics of the hazardous constituents in the groundwater;

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

(iv) Characteristics of the groundwater.

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

(o) Upon completion of the remedy, the owner or operator must notify the Department within 14 days that a certification that the remedy has been completed in compliance with the requirements of subparagraph (n) of this paragraph 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 Department.

(p) When, upon completion of the certification, the owner or operator determines that the corrective action remedy has been completed in accordance with the requirements under subparagraph (n) of this paragraph, the owner or operator shall be released from the requirements for financial assurance for corrective action under 335-13-4-.28(4).

Author: Russell A. Kelly, Heather M. Jones.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-4, 22-27-7.
History: Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.28 Financial Assurance Criteria.

(1) The requirements of 335-13-4-.28 apply to owners and operators of all MSWLF, except owners or operators who are state or federal government entities whose debts and liabilities are the debts and liabilities of the State or the United States.

(2) Financial Assurance for Closure.

(a) The owner or operator shall have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of all landfill cells at the MSWLF ever requiring a final cover as required under 335-13-4-.20 at any time during the active life in accordance with the closure plan. The owner or operator shall

place the closure cost estimate in the operating record and submit a copy of the estimate to ADEM for approval.

1. The closure cost estimate shall equal the cost of closing the largest area of the MSWLF ever requiring a final cover at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan. The cost estimate shall include the costs of continuing the operation of the gas collection and control systems as may be required in 335-3-10-.02(75) or 335-3-19, as applicable.

2. During the active life of the MSWLF, the owner or operator shall annually adjust the closure cost estimate for inflation.

3. The owner or operator shall increase the closure cost estimate and the amount of financial assurance provided under 335-13-4-.28(2)(b) if changes to the closure plan or landfill conditions increase the maximum cost of closure at any time during the remaining active life.

4. The owner or operator may reduce the closure cost estimate and the amount of financial assurance provided under 335-13-4-.28(2)(b) if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the MSWLF. The owner or operator shall place the justification for the reduction of the closure cost estimate and the amount of financial assurance in the operating record and submit a copy of the justification and new estimate to ADEM for approval.

(b) The owner or operator of a MSWLF shall establish financial assurance for closure of the MSWLF in compliance with 335-13-4-.28(5). The owner or operator shall provide continuous coverage for closure until released from financial assurance requirements by ADEM.

(3) Financial Assurance for Post-Closure Care.

(a) The owner or operator shall have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the MSWLF in compliance with the post-closure requirements in 335-13-4-.20(3). The post-closure cost estimate used to demonstrate financial assurance in 335-13-4-.28(3)(b) shall account for the total costs of conducting post-closure care, including annual and periodic costs as described in the post-closure plan over the entire post-closure care period. The owner or operator shall place the estimate in the operating record and submit a copy of the estimate to ADEM for approval.

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

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

3. The owner or operator shall increase the post-closure care cost estimate and the amount of financial assurance provided under 335-13-4-.28(3)(b) if changes in the post-closure plan or MSWLF conditions increase the maximum costs of post-closure care.

4. The owner or operator may reduce the post-closure cost estimate and the amount of financial assurance provided under 335-13-4-.28(3)(b) if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period. The owner or operator shall place the justification for the reduction of the post-closure cost estimate and the amount of financial assurance in the operating record and submit a copy of the justification and new estimate to ADEM for approval.

(b) The owner or operator of a MSWLF shall establish, in accordance with 335-13-4-.28(5), financial assurance for the costs of post-closure care required under 335-13-4-.28(3). The owner or operator shall provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care under 335-13-4-.20(3)(e).

(4) Financial Assurance for Corrective Action.

(a) An owner or operator of a MSWLF required to undertake a corrective action program under 335-13-4-.27(5) shall have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under 335-13-4-.27(5). The corrective action cost estimate shall account for the total costs of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner or operator shall place the estimate in the operating record and submit a copy to ADEM for approval.

1. The owner or operator shall annually adjust the estimate for inflation until the corrective action program is completed in accordance with 335-13-4-.27(5).

2. The owner or operator shall increase the corrective action cost estimate and the amount of financial assurance provided under 335-13-4-.28(4)(b) if changes in the corrective action program or MSWLF conditions increase the maximum costs of corrective action.

3. The owner or operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under 335-13-4-.28(4)(b) if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator shall place the justification for the reduction of the corrective action cost estimate and the amount of financial assurance in the operating record and submit a copy of the justification and new estimate to ADEM for approval.

(b) The owner or operator of a MSWLF required to undertake a corrective action program under 335-13-4-.27(5) shall establish, in a manner in accordance with 335-13-4-.28(5), financial assurance for the most recent corrective action program. The owner or operator shall provide continuous coverage for corrective action until released from financial assurance requirements for corrective action by demonstrating compliance with 335-13-4-.27(5)(o) and (p).

(5) Allowable Mechanisms for Financial Assurance. Allowable mechanisms used to demonstrate financial assurance under 335-13-4-.28 shall ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed. Owners and operators shall choose from the options specified in 335-13-4-.28(5)(a) through (j).

(a) Trust Fund.

1. An owner or operator may satisfy the requirements of 335-13-4-.28 by establishing a trust fund that conforms to the requirements of 335-13-4-.28(5)(a). The trustee shall be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency. A copy of the trust agreement shall be placed in the MSWLF operating record and a copy submitted to ADEM for approval.

2. Payments into the trust fund shall be made annually by the owner or operator over the life of the MSWLF permit or over the remaining life of the MSWLF, whichever is shorter, in the case of a trust fund for closure or post-closure care, or over one-half of the estimated length of the corrective action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

3. For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund shall be at least equal to the current cost estimate for closure or post-closure care, except as provided in 335-13-4-.28(5)(k), divided by the number of years in the pay-in period as defined in 335-13-4-.28(5)(a)2. The amount of subsequent payments shall be determined by the following formula:

Next Payment = [CE - CV]/Y

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

4. For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund shall be at least equal to one-half of the current cost estimate for corrective action, except as provided in 335-13-4-.28(5)(k), divided by the number of years in the corrective action pay-in period as defined in 335-13-4-.28(5)(a)2. The amount of subsequent payments shall be determined by the following formula:

Next Payment = [RB - CV]/Y

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

5. The initial payment into the trust fund shall be made before the initial receipt of waste or before the effective date of the requirements of 335-13-4-.28 in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5).

6. If the owner or operator establishes a trust fund after having used one or more alternate mechanisms specified in 335-13-4-.28(5), the initial payment into the trust fund shall be at least the amount that the fund would contain if the trust fund were established initially and annual payments were made according to the specifications of 335-13-4-.28(5)(a).

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

8. The trust fund may be terminated by the owner or operator only if the owner or operator substitutes alternate financial assurance as specified in 335-13-4-.28(5) or if he is no longer required to demonstrate financial responsibility in accordance with the requirements of 335-13-4-.28(2)(b), (3)(b), or (4)(b).

(b) Surety Bond Guaranteeing Payment or Performance.

1. An owner or operator may demonstrate financial assurance for closure or post-closure care by obtaining a payment or performance surety bond which conforms to the requirements of 335-13-4-.28(5)(b). An owner or operator may demonstrate financial assurance for corrective action by obtaining a performance bond which conforms to the requirements of 335-13-4-.28(5)(b). The bond shall be effective before the initial receipt of waste or before the effective date of the requirements of 335-13-4-.28(2) and (3) in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5). The owner or operator shall place a copy of the bond in the operating record and submit a copy of the bond to ADEM for approval. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

2. The penal sum of the bond shall be in an amount at least equal to the current closure, post-closure care or corrective action cost estimate, whichever is applicable, except as provided in 335-13-4-.28(5)(k).

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

4. The owner or operator shall establish a standby trust fund. The standby trust fund shall meet the requirements of 335-13-4-.28(5)(a) except the requirements for initial payment and subsequent annual payments specified in 335-13-4-.28(5)(a)2. through 5.

5. Payments made under the terms of the bond will be deposited by the surety directly into the standby trust fund in accordance with instructions from ADEM. Payments from the trust fund shall be approved by the trustee and ADEM.

6. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner and operator and to ADEM 120 days in advance of cancellation. If the surety cancels the bond, the owner or operator shall obtain alternate financial assurance as specified in 335-13-4-.28(5).

7. The owner or operator may cancel the bond only if alternate financial assurance is substituted as specified in 335-13-4-.28(5) or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with 335-13-4-.28(2)(b), (3)(b), or (4)(b).

(c) Letter of Credit.

1. An owner or operator may satisfy the requirements of 335-13-4-.28(5) by obtaining an irrevocable standby letter of credit which conforms to the requirements of 335-13-4-.28(5)(c). The letter of credit shall be effective before the initial receipt of waste or before the effective date of the requirements of 335-13-4-.28(2) and (3) in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5). The owner or operator shall place a copy of the letter of credit in the operating record and submit a copy of the letter of credit to ADEM for approval. The issuing institution shall be an entity that has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

2. A letter from the owner or operator referring to the letter of credit by number, issuing institution, and date shall be included with the letter of credit in the operating record. The letter shall provide the name, address of the MSWLF, and the amount of funds assured.

3. The letter of credit shall be irrevocable and issued for a period of at least one year in an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable, except as provided in 335-13-4-.28(5)(k). The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution has cancelled the letter of credit by sending notice of cancellation by certified mail to the owner and operator and to ADEM 120 days in advance of cancellation. If the letter of credit is cancelled by the issuing institution, the owner or operator shall obtain alternate financial assurance.

4. The owner or operator may cancel the letter of credit only if alternate financial assurance is substituted as specified in 335-13-4-.28(5) or if the owner or operator is released from the financial assurance requirements in accordance with 335-13-4-.28(2)(b), (3)(b), or (4)(b).

(d) Insurance.

1. An owner or operator may demonstrate financial assurance for closure, post-closure care, and corrective action by obtaining insurance which conforms to the requirements of 335-13-4-.28(5). The insurance shall be effective before the initial receipt of waste or before the effective date of the requirements of 335-13-4-.28(2) and (3) in the case of closure and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5). At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States. The owner or operator shall place a copy of the insurance policy in the operating record and submit a copy of the insurance policy to ADEM for approval.

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

3. The insurance policy shall be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable, except as provided in 335-13-4-.28(5)(k). The term face amount means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

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

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

6. The insurance policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner and operator and to ADEM 120 days in advance of cancellation. If the insurer cancels the policy, the owner or operator shall obtain alternate financial assurance as specified in 335-13-4-.28(5).

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

8. The owner or operator may cancel the insurance policy only if alternate financial assurance is substituted as specified in 335-13-4-.28(5) or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with the requirements of 335-13-4-.28(2)(b), (3)(b), or (4)(b).

ED_002047_00000009-00095

(e) Corporate Financial Test. An owner or operator that satisfies the requirements of 335-13-4-.28(5)(e) may demonstrate financial assurance up to the amount specified in 335-13-4-.28(5)(e):

1. Financial Component.

(i) The owner or operator shall satisfy one of the following three conditions:

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

(II) A ratio of less than 1.5 comparing total liabilities to net worth, or

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

(ii) The tangible net worth of the owner or operator shall be greater than:

(I) The sum of the current closure, post-closure care, corrective action cost estimates and other environmental obligations, including guarantees, covered by a financial test plus $10 million except as provided in 335-13-4-.28(5)(e)1.(ii)(II).

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

(iii) The owner or operator shall have assets located in the United States amounting to at least the sum of current closure, post-closure care, corrective action cost estimates and other environmental obligations covered by a financial test as described in 335-13-4-.28(5)(e)3.

2. Recordkeeping and Reporting Requirements.

(i) The owner or operator shall place the following items into the MSWLF operating record, and submit a copy to ADEM:

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

I. Lists all the current cost estimates covered by a financial test, including, but not limited to, cost estimates required for municipal solid waste management facilities under 335-13-4-.28, cost estimates required for UIC facilities under 40 CFR part 144, if applicable, cost estimates required for petroleum underground storage tank facilities under 40 CFR part 280, if applicable, cost estimates required for PCB storage facilities under 40 CFR part 761, if applicable, and cost estimates required for hazardous waste treatment, storage, and disposal facilities under 335-14-5 and 335-14-6, if applicable, and

II. Provides evidence demonstrating that the firm meets the conditions of either 335-13-4-.28(5)(e)1.(i)(I) or (i)(II) or (i)(III); and 335-13-4-.28(5)(e)1.(ii) and 1.(iii).

(II) A copy of the independent certified public accountant's unqualified opinion of the owner's or operator's financial statements for the latest completed fiscal year. To be eligible to use the financial test, the owner's or operator's financial statements shall receive an unqualified opinion from the independent certified public accountant. An adverse opinion, disclaimer of opinion, or other qualified opinion will be cause for disallowance, with the potential exception for qualified opinions provided in the next sentence. ADEM may evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where ADEM deems that the matters that form the basis for the qualification are insufficient to warrant disallowance of the test. If ADEM does not allow use of the test, the owner or operator shall provide alternate financial assurance that meets the requirements of 335-13-4-.28(5).

(III) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that owner or operator satisfies 335-13-4-.28(5)(e)1.(i)(II) or (i)(III) that are different from data in the audited financial statements referred to in 335-13-4-.28(5)(e)2.(i)(II) or other audited financial statement or data filed with the SEC, then a special report from the owner's or operator's independent certified public accountant to the owner or operator is required. The special report shall be based upon an agreed upon procedures engagement in accordance with professional auditing standards and shall describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of that comparison, and the reasons for the differences.

(IV) If the chief financial officer's letter provides a demonstration that the firm has assured for environmental obligations as provided in 335-13-4-.28(5)(e)2.(ii)(II), then the letter shall include a report from the independent certified public accountant that verifies that all of the environmental obligations covered by a financial test have been recognized as liabilities on the audited financial statements, how these obligations have been measured and reported, and that the tangible net worth of the firm is at least $10 million plus the amount of the guarantees provided.

(ii) An owner or operator shall place the items specified in 335-13-4-.28(5)(e)2.(i) in the operating record before the initial receipt of waste or before the effective date of the requirements of 335-13-4-.28(2) and (3) in the case of closure, and post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5).

(iii) After the initial placement of items specified in 335-13-4-.28(5)(e)2.(i) in the operating record, the owner or operator shall annually update the information and place updated information in the operating record within 90 days following the close of the owner or operator's fiscal year. ADEM may provide up to an additional 45 days for an owner or operator who can demonstrate that 90 days is insufficient time to acquire audited financial statements. The updated information shall consist of all items specified in 335-13-4-.28(5)(e)2.(i).

(iv) The owner or operator is not required to submit the items specified in 335-13-4-.28(5)(e)2. or comply with the requirements 335-13-4-.28(5)(e) when:

(I) They substitute alternate financial assurance as specified in 335-13-4-.28(5) that is not subject to these recordkeeping and reporting requirements, or

(II) They are released from the financial assurance requirements in accordance with 335-13-4-.28(2)(b), (3)(b), and (4)(b).

(v) If the owner or operator no longer meets the requirements of 335-13-4-.28(5)(e)1., the owner or operator shall, within 120 days following the close of the owner or operator's fiscal year, obtain alternative financial assurance that meets the requirements of 335-13-4-.28, place the required submissions for that assurance in the operating record, and notify ADEM that the owner or operator no longer meets the criteria of the financial test and that alternate assurance has been obtained. Proof of alternate assurance shall be submitted to ADEM for review.

(vi) An owner or operator using the mechanism in 335-13-4-.28(5)(e)1. shall provide an annual report of its financial condition in addition to or including current financial test documentation as specified in 335-13-4-.28(5)(e)2., to ADEM. If ADEM finds that the owner or operator no longer meets the requirements of 335-13-4-.28(5)(e)1., the owner or operator must provide alternate financial assurance that meets the requirements of 335-13-4-.28.

3. Calculation of Costs to be Assured. When calculating the current cost estimates for closure, post-closure care, corrective action, or the sum of the combination of such costs to be covered, and other environmental obligations assured by a financial test referred to in 335-13-4-.28(5)(e), the owner or operator must include cost estimates required for municipal solid waste management facilities under this part, as well as cost estimates required for the following environmental obligations, if it assures them through a financial test: obligations associated with UIC facilities under 40 CFR part 144, petroleum underground storage tank facilities under 40 CFR part 280, PCB storage facilities under 40 CFR part 761, and hazardous waste treatment, storage, and disposal facilities under 335-14-5 and 335-14-6.

(f) Local Government Financial Test. An owner or operator that satisfies the requirements of 335-13-4-.28(5)(f)1. to 3. may demonstrate financial assurance up to the amount specified in 335-13-4-.28(5)(f)4.

1. Financial Component.

(i) The owner or operator must satisfy 335-13-4-.28(5)(f)1.(i)(I) or (II) as applicable:

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

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

I. A ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05, and

II. A ratio of annual debt service to total expenditures less than or equal to 0.20.

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

(iii) A local government is not eligible to assure its obligations under 335-13-4-.28(5)(f) if it:

(I) Is currently in default on outstanding general obligation bonds, or

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

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

(IV) Receives an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant (or appropriate State agency) auditing its financial statement as required under 335-13-4-.28(5)(f)1.(ii). However, ADEM may evaluate qualified opinions on a case-by-case basis and allow use of the financial test in cases where ADEM deems the qualification insufficient to warrant disallowance of use of the test.

(iv) The following terms used in 335-13-4-.28(5)(f) are defined as follows:

(I) Deficit equals total annual revenues minus total annual expenditures.

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

(III) Total expenditures include all expenditures excluding capital outlays and debt repayment.

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

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

2. Public Notice Component. The local government owner or operator must place a reference to the closure and post-closure care costs assured through the financial test into its next comprehensive annual financial report (CAFR) after the effective date of 335-13-4-.28 or before the initial receipt of waste at the MSWLF, whichever is later. Disclosure must include the nature and source of closure and post-closure care requirements, the reported liability at the balance sheet date, the estimated total closure and post-closure care cost remaining to be recognized, the percentage of landfill capacity used to date, and the estimated landfill life in years. A reference to corrective action costs must be placed in the CAFR not later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5). For the first year the financial test is used to assure costs at a

particular MSWLF, the reference may instead be placed in the operating record until issuance of the next available CAFR if timing does not permit the reference to be incorporated into the most recently issued CAFR or budget. For closure and post-closure costs, conformance with Government Accounting Standards Board Statement 18 assures compliance with this public notice component.

3. Recordkeeping and Reporting Requirements.

(i) The local government owner or operator must place the following items in the MSWLF operating record, and submit a copy to ADEM:

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

I. Lists all the current cost estimates covered by a financial test, as described in 335-13-4-.28(5)(f)4.

II. Provides evidence and certifies that the local government meets the conditions of 335-13-4-.28(5)(f)1.(i), (ii), and (iii).

III. Certifies that the local government meets the conditions of 335-13-4-.28(5)(f)2. and 4.

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

(III) A report to the local government from the local government's independent certified public accountant (CPA) or the appropriate State agency based on performing an agreed upon procedures engagement relative to the financial ratios required by 335-13-4-.28(5)(f)1.(i)(II), if applicable, and the requirements of 335-13-4-.28(5)(f)1.(ii) and 335-13-4-.28(5)(f)1.(iii)(III) and (IV). The CPA or State agency's report should state the procedures performed and the CPA or State agency's findings.

(IV) A copy of the comprehensive annual financial report (CAFR) used to comply with 335-13-4-.28(5)(f)2. or certification that the requirements of General Accounting Standards Board Statement 18 have been met.

(ii) The items required in 335-13-4-.28(5)(f)3.(i) must be placed in the MSWLF operating record as follows:

(I) In the case of closure and post-closure care, either before the effective date of 335-13-4-.28(2) and (3), or before the initial receipt of waste at the MSWLF, whichever is later.

(II) In the case of corrective action, no later than 120 days after the corrective action remedy is selected in accordance with the requirements of 335-13-4-.27(5).

(iii) After the initial placement of the items in the MSWLF operating record, the local government owner or operator must update the information and place the updated

ED_002047_00000009-00100

information in the operating record within 180 days following the close of the owner or operator's fiscal year. In addition, a copy of the updated information must be submitted to ADEM.

(iv) The local government owner or operator is not required to meet the requirements of 335-13-4-.28(5)(f)3. if:

(I) The owner or operator substitutes alternate financial assurance as specified in 335-13-4-.28(5); or

(II) The owner or operator is released from the financial assurance requirements in accordance with 335-13-4-.28(2)(b), (3)(b), or (4)(b).

(v) A local government must satisfy the requirements of the financial test at the close of a fiscal year. If the local government owner or operator no longer meets the requirements of the local government financial test it must, within 210 days following the close of the owner or operator's fiscal year, obtain alternative financial assurance that meets the requirements of 335-13-4-.28(5), place the required submissions for that assurance in the operating record, and notify ADEM that the owner or operator no longer meets the criteria of the financial test and that alternate assurance has been obtained.

(vi) ADEM, based on a reasonable belief that the local government owner or operator may no longer meet the requirements of the local government financial test, may require additional reports of financial condition from the local government at any time. If ADEM finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of the local government financial test, the local government must provide alternate financial assurance in accordance with 335-13-4-.28(5).

4. Calculation of Costs to be Assured. The portion of the closure, post-closure, and corrective action costs for which an owner or operator can assure under 335-13-4-.28 is determined as follows:

(i) If the local government owner or operator does not assure other environmental obligations through a financial test, it may assure closure, post-closure, and corrective action costs that equal up to 43 percent of the local government's total annual revenue.

(ii) If the local government assures other environmental obligations through a financial test, including those associated with UIC facilities under 40 CFR 144.62, petroleum underground storage tank facilities under 40 CFR Part 280, PCB storage facilities under 40 CFR Part 761, and hazardous waste treatment, storage, and disposal facilities under 335-14-5 and 6, it must add those costs to the closure, post-closure, and corrective action costs it seeks to assure under 335-13-4-.28. The total that may be assured must not exceed 43 percent of the local government's total annual revenue.

(iii) The owner or operator must obtain an alternate financial assurance instrument for those costs that exceed the limits set in 335-13-4-.28(5)(f)4.(i) and (ii).

(g) Corporate Guarantee.

1. An owner or operator may meet the requirements of 335-13-4-.28(5) by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in 335-13-4-.28(5)(e) and must comply with the terms of the guarantee.

2. A certified copy of the guarantee must be placed in the MSWLF operating record along with copies of the letter from the guarantor's chief financial officer and accountants' opinions. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter from the guarantor's chief financial officer must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee.

3. The guarantee must be effective and all required submissions placed in the operating record before the initial receipt of waste or before the effective date of the requirements of 335-13-4-.28(2) and (3) in the case of closure and post-closure care, or in the case of corrective action no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5).

4. The terms of the guarantee must provide that:

(i) If the owner or operator fails to perform closure, post-closure care, and/or corrective action of a MSWLF covered by the guarantee, the guarantor will:

(I) Perform, or pay a third party to perform, closure, post-closure care, and/ or corrective action as required (performance guarantee); or

(II) Establish a fully funded trust fund as specified in 335-13-4-.28(5)(a) in the name of the owner or operator (payment guarantee).

(ii) The guarantee will remain in force for as long as the owner or operator must comply with the applicable financial assurance requirements of 335-13-4-.28 unless the guarantor sends prior notice of cancellation by certified mail to the owner or operator and to ADEM. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and ADEM, as evidenced by the return receipts.

(iii) If notice of cancellation is given, the owner or operator must, within 90 days following receipt of the cancellation notice by the owner or operator and ADEM, obtain alternate financial assurance, place evidence of that alternate financial assurance in the MSWLF operating record, and notify ADEM. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within 120 days of the cancellation notice, obtain alternative assurance, place evidence of the alternate assurance in the MSWLF operating record, and notify ADEM.

5. If a corporate guarantor no longer meets the requirements of 335-13-4-.28(5)(e)1., the owner or operator must, within 90 days, obtain alternative assurance, place evidence of the alternate assurance in the MSWLF operating record, and notify

ADEM. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within the next thirty (30) days.

6. The owner or operator is not required to meet the requirements of 335-13-4-.28(5)(g) when:

(i) The owner or operator substitutes alternate financial assurance as specified in 335-13-4-.28(5); or

(ii) The owner or operator is released from the financial assurance requirements in accordance with 335-13-4-.28(2)(b), (3)(b), or (4)(b).

(h) Local Government Guarantee. An owner or operator may demonstrate financial assurance for closure, post-closure, and corrective action, as required by 335-13-4-.28(2), (3), and (4), by obtaining a written guarantee provided by a local government. The guarantor must meet the requirements of the local government financial test in 335-13-4-.28(5)(f), and must comply with the terms of a written guarantee.

1. Terms of the Written Guarantee. The guarantee must be effective before the initial receipt of waste in the case of closure, post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5). The guarantee must provide that:

(i) If the owner or operator fails to perform closure, post-closure care, and/or corrective action of a MSWLF covered by the guarantee, the guarantor will:

(I) Perform, or pay a third party to perform, closure, post-closure care, and/or corrective action as required; or

(II) Establish a fully funded trust fund as specified in 335-13-4-.28(5)(a) in the name of the owner or operator.

(ii) The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to ADEM. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by the owner or operator and ADEM, as evidenced by the return receipts.

(iii) If a guarantee is cancelled, the owner or operator must, within 90 days following receipt of the cancellation notice by the owner or operator and ADEM, obtain alternate financial assurance, place evidence of that alternate financial assurance in the MSWLF operating record, and notify ADEM. If the owner or operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide that alternate assurance within 120 days following the guarantor's notice of cancellation, place evidence of the alternate assurance in the MSWLF operating record, and notify ADEM.

2. Recordkeeping and Reporting.

(i) The owner or operator must place a certified copy of the guarantee along with the items required under 335-13-4-.28(5)(f)3. into the MSWLF operating record

before the initial receipt of waste in the case of closure, post-closure care, or no later than 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5). A copy of the guarantee along with other required items must be submitted to ADEM.

(ii) The owner or operator is not required to maintain the items specified in 335-13-4-.28(5)(h)2. when:

(I) The owner or operator substitutes alternate financial assurance as specified in 335-13-4-.28(5); or

(II) The owner or operator is released from the financial assurance requirements in accordance 335-13-4-.28(2)(b), (3)(b), or (4)(b).

(iii) If a local government guarantor no longer meets the requirements of 335-13-4-.28(5)(f), the owner or operator must, within ninety (90) days, obtain alternative assurance, place evidence of the alternate assurance in the MSWLF operating record, and notify ADEM. If the owner or operator fails to obtain alternate financial assurance within that 90-day period, the guarantor must provide that alternate assurance within the next thirty (30) days.

(i) State-Approved Mechanism. An owner or operator may satisfy the requirements of 335-13-4-.28 by obtaining other mechanisms that meets the criteria specified in 335-13-4-.28(5)(l), and that is approved by ADEM.

(j) State Assumption of Responsibility. If ADEM either assumes legal responsibility for an owner or operator's compliance with the closure, post-closure care and/or corrective action requirements of this part, or assures that the funds will be available from State sources to cover the requirements, the owner or operator will be in compliance with the requirements of 335-13-4-.28(5). A State assumption of responsibility must meet the criteria specified in 335-13-4-.28(5)(l).

(k) Use of Multiple Mechanisms. An owner or operator may demonstrate financial assurance for closure, post-closure, and corrective action, as required by 335-13-4-.28(2), (3), and (4), by establishing more than one financial mechanism per MSWLF, except that mechanisms guaranteeing performance, rather than payment, may not be combined with other instruments. The mechanisms must be as specified in 335-13-4-.28(5)(a) to (j), except that financial assurance for an amount at least equal to the current cost estimate for closure, post-closure care, and/or corrective action may be provided by a combination of mechanisms, rather than a single mechanism.

(l) The language of the mechanisms listed in 335-13-4-.28(5)(a) to (j), must ensure that the instruments satisfy the following criteria:

1. The financial assurance mechanisms must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed.

2. The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed.

3. The financial assurance mechanisms must be obtained by the owner or operator by the effective date of these requirements or before the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care, and no later that 120 days after the corrective action remedy has been selected in accordance with the requirements of 335-13-4-.27(5), until the owner or operator is released from the financial assurance requirements under 335-13-4-.28(2), (3), and (4).

4. The financial assurance mechanisms must be legally valid, binding, and enforceable under state and federal law.

(6) Discounting. ADEM may allow discounting of closure cost estimates in 335-13-4-.28(2)(a), post-closure cost estimates in 335-13-4-.28(3)(a), and/or corrective action costs in 335-13-4-.28(4)(a) up to the rate of return for essentially risk free investments, net of inflation, under the following conditions:

(a) ADEM determines that cost estimates are complete and accurate and the owner or operator has submitted a statement from an engineer so stating.

(b) ADEM finds the MSWLF in compliance with applicable and appropriate permit conditions.

(c) ADEM determines that the closure date is certain and the owner or operator certifies that there are no foreseeable factors that will change the estimate of site life; and

(d) Discounted cost estimates must be adjusted annually to reflect inflation and years of remaining life.

Author: James L. Bryant, Heather M. Jones.
Statutory Authority: Code of Alabama (1975), §§ 22-22A-5, 22-27-7, 22-27-8.
History: Effective: December 12, 2005. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-4-.29 Recordkeeping Requirements. Recordkeeping shall be maintained as follows:

(1) Operating Record. The owner or operator of a MSWLF, C/DLF or ILF unit must record and retain in an operating record at the facility, or in an alternative location approved by the Department, the following information as it becomes available:

(a) Solid Waste Disposal Facility Permit as issued by the Department.

(b) Permit application, operational narrative, and engineering drawings. This may include, but is not limited to:

1. Any location restriction demonstration required under 335-13-4-.01 of this Division;

2. Any MSWLF unit design documentation for placement of leachate or gas condensate in a MSWLF unit as required under 335-13-4-.22(1)(k) of this Division;

3. Closure and post closure care plans as required by 335-13-4-.20 of this Division;

4. Explosive gas monitoring plans as required by 335-13-4-.16 of this Division;

5. Corrective action plan, if necessary, which includes detection in assessment monitoring;

6. Any other documentation submitted to the Department during the permitting process.

(c) Reports or documentation generated during the normal operation of the facility may include, but are not limited to:

1. Gas monitoring results from monitoring and any remediation plans required by 335-13-4-.16;

2. Inspection records, training procedures, notification procedures, and other information required in 335-13-4-.21(1)(b);

3. Any monitoring, testing, or analytical data as required by 335-13-4-.20 of this Division concerning closure;

4. Any demonstration, certification, finding monitoring, testing, or analytical data required by 335-13-4-.27 concerning groundwater monitoring and corrective action;

5. Quarterly volume reports as required in 335-13-4-.22(2)(g) or 335-13-4-.23(2)(f) of this Division;

6. Waste certifications as required by 335-13-4-.21(1)(c) of this Division;

7. Any other report or document generated in the normal operation of the facility which is submitted to the Department.

(d) Any cost estimates and financial assurance documentation required by 335-13-4-.28.

(2) Department notification. The owner/operator must notify the Department when the documents from subparagraph (1)(b) of this rule have been placed or added to the operating record, and all information contained in the operating record must be furnished upon request to the Department or be made available at all reasonable times for inspection by the Department.

(3) Alternative schedules. The Department can set alternative schedules for recordkeeping and notification requirements as specified in paragraphs (1) and (2) of this rule, except for notification requirements in 335-13-4-.01(1)(c) and 335-13-4-.27(4)(g)3.(iii).

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-22A-8, 22-27-7.

ED_002047_00000009-00106

History: Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

ED_002047_00000009-00107

335-13-4-APPENDIX I CONSTITUENTS FOR DETECTION MONITORING[1]

	Common Name[2]	CAS Number[3]
	pH[4]	N/A
	Specific Conductance[4]	N/A
	Inorganic Constituents	
1.	Antimony	Total
2.	Arsenic	Total
3.	Barium	Total
4.	Beryllium	Total
5.	Cadmium	Total
6.	Chromium	Total
7.	Cobalt	Total
8.	Copper	Total
9.	Lead	Total
10.	Mercury	Total
11.	Nickel	Total
12.	Selenium	Total
13.	Silver	Total
14.	Thallium	Total
15.	Vanadium	Total
16.	Zinc	Total
	Organic Constituents	
17.	Acetone	67-64-1
18.	Acrylonitrile	107-13-1
19.	Benzene	71-43-2
20.	Bromochloromethane	74-97-5
21.	Bromodichloromethane	75-27-4
22.	Bromoform; Tribromomethane	75-25-2
23.	Carbon disulfide	75-15-0
24.	Carbon tetrachloride	56-23-5
25.	Chlorobenzene	108-90-7
26.	Chloroethane; Ethyl chloride	75-00-3
27.	Chloroform; Trichloromethane	67-66-3
28.	Dibromochloromethane; Chlorodibromomethane	124-48-1
29.	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8
30.	1,2-Dibromoethane; Ethylene dibromide; EDB	106-93-4
31.	o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1
32.	p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7
33.	trans-1,4-Dichloro-2-butene	110-57-6
34.	1,1-Dichloroethane; Ethylidene chloride	75-34-3
35.	1,2-Dichloroethane; Ethylene dichloride	107-06-2
36.	1,1-Dichloroethylene; 1,1-dichloroethene; Vinylidene chloride	75-35-4
37.	cis-1,2-Dichloroethylene; cis-1,2Dichloroethene	156-59-2
38.	trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	156-60-5

ED_002047_00000009-00108

	Common Name[2]	CAS Number[3]
39.	1,2-Dichloropropane; Propylene dichloride	78-87-5
40.	cis-1,3-Dichloropropene	10061-01-5
41.	trans-1,3-Dichloropropene	10061-02-6
42.	Ethylbenzene	100-41-4
43.	2-Hexanone; Methyl butyl ketone	591-78-6
44.	Methyl bromide; Bromomethane	74-83-9
45.	Methyl chloride; Chloromethane	74-87-3
46.	Methylene bromide; Dibromomethane	74-95-3
47.	Methylene chloride; Dichloromethane	75-09-2
48.	Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
49.	Methyl iodide; Iodomethane	74-88-4
50.	4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1
51.	Styrene	100-42-5
52.	1,1,1,2-Tetrachloroethane	630-20-6
53.	1,1,2,2-Tetrachloroethane	79-34-5
54.	Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127-18-4
55.	Toluene	108-88-3
56.	1,1,1-Trichloroethane; Methylchloroform	71-55-6
57.	1,1,2-Trichloroethane	79-00-5
58.	Trichloroethylene; Trichloroethene	79-01-6
59.	Trichlorofluoromethane; CFC-11	75-69-4
60.	1,2,3-Trichloropropane	96-18-4
61.	Vinyl acetate	108-05-4
62.	Vinyl chloride	75-01-4
63.	Xylenes	1330-20-7

Notes

1 This list contains 47 volatile organics for which possible analytical procedure provided in EPA Report SW-846, "Test Methods for Evaluating Solid Waste," Third Edition, November 1986, as revised December 1987, includes Method 8260; and 15 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.

2 Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

3 Chemical Abstracts Service registry number. Where "Total" is entered, all species in the groundwater that contain this element are included.

4 State specific requirements.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, §§ 22-27-4, 22-27-7.
History: Effective: November 2, 1993. **Amended**: Effective: July 26, 1996.
Amended: Filed: April 24, 2018; Effective: June 8, 2018.

ED_002047_00000009-00109

335-13-4-APPENDIX II LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS[1]

Common Name[2]	CAS Number[3]	Chemical Abstracts Service Index Name[4]	Suggested Methods[5]	PQL (µg/L)[6]
Acenaphthene	83-32-9	Acenaphthylene, 1,2-dihydro-	8100 8270	200 10
Acenaphthylene	208-96-8	Acenaphthylene	8100 8270	200 10
Acetone	67-64-1	2-Propanone	8260	100
Acetonitrile; Methyl cyanide	75-05-8	Acetonitrile	8015	100
Acetophenone	98-86-2	Ethanone, 1-phenyl-	8270	10
2-Acetylaminofluorene; 2-AAF	53-96-3	Acetamide, N-9H-fluoren-2-yl-	8270	20
Acrolein	107-02-8	2-Propenal	8030 8260	5 100
Acrylonitrile	107-13-1	2-Propenenitrile	8030 8260	5 200
Aldrin	309-00-2	1,4,5,8,-Dimethanonaphthalene 1,2, 3,4,10,10-hexachloro-1,4,4a,5,8,8a- hexahydro-(1a,4a, 4aß,5a,8a,8aß)-	8080 8270	0.05 10
Allyl chloride	107-05-1	1-Propene, 3-chloro-	8010 8260	5 10
4-Aminobiphenyl	92-67-1	[1,1¹-Biphenyl]-4-amine	8270	20
Anthracene	120-12-7	Anthracene	8100 8270	200 10
Antimony	(Total)	Antimony	6010 7040 7041	300 2000 30
Arsenic	(Total)	Arsenic	6010 7060 7061	500 10 20
Barium	(Total)	Barium	6010 7080	20 1000
Benzene	71-43-2	Benzene	8020 8021 8260	2 0.1 5
Benzo[a]anthracene; Benzanthracene	56-55-3	Benz[a]anthracene	8100 8270	200 10
Benzo[b]fluoranthene	205-99-2	Benz[e]acephenanthrylene	8100 8270	200 10
Benzo[k]fluoranthene	207-08-9	Benzo[k]fluoranthene	8100 8270	200 10
Benzo[ghi]perylene	191-24-2	Benzo[ghi]perylene	8100 8270	200 10
Benzo[a]pyrene	50-32-8	Benzo[a]pyrene	8100 8270	200 10
Benzyl alcohol	100-51-6	Benzenemethanol	8270	20
Beryllium	(Total)	Beryllium	6010 7090 7091	3 50 2
alpha-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro- (1a,2a,3ß,4a,5ß,6ß)-	8080 8270	0.05 10
beta-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro- (1a,2ß,3a,4ß,5a,6ß)-	8080 8270	0.05 20
delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-(1a,2a,3a,4ß,5a,6ß)-	8080 8270	0.1 20
gamma-BHC; Lindane	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro- (1a,2a,3ß,4a,5a,6ß)-	8080 8270	0.05 20
Bis(2-chloroethoxy)methane	111-91-1	Ethane, 1,1¹-[methylenebis(oxy)] bis[2-chloro-	8110 8270	5 10
Bis(2-chloroethyl) ether;	111-44-4	Ethane, 1,1¹-oxybis[2-chloro-	8110	3

Common Name[2]	CAS Number[3]	Chemical Abstracts Service Index Name[4]	Suggested Methods[5]	PQL (µg/L)[6]
Dichloroethyl ether			8270	10
Bis(2-chloro-1-methylethyl) ether 2,21-Dichlorodisophropyl ether; DCIP, See note 7	108-60-1	Propane, 2,2[1]-oxybis[1-chloro-	8110 8270	10 10
Bis(2-ethylhexyl) phthalate	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	8060	20
Bromochloromethane; Chlorobromomethane	74-97-5	Methane, bromochloro-	8021 8260	0.1 5
Bromodichloromethane; Dibromochloromethane	75-27-4	Methane, bromodichloro-	8010 8021 8260	1 0.2 5
Bromoform; Tribromomethane	75-25-2	Methane, tribromo-	8010 8021 8260	2 15 5
4-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy-	8110 8270	25 10
Butyl benzyl phthalate; Benzyl butyl phthalate	85-68-7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	8060 8270	5 10
Cadmium	(Total)	Cadmium	6010 7130 7131	40 50 1
Carbon disulfide	75-15-0	Carbon disulfide	8260	100
Carbon tetrachloride	56-23-5	Methane, tetrachloro-	8010 8021 8260	1 0.1 10
Chlordane	See note 8	4,7-Methano-1H-indene, 1,2,4,5, 6,7,8,8- octachloro- 2,3,3a,4,7,7a-hexahydro-	8080 8270	0.1 50
p-Chloroaniline	106-47-8	Benzenamine, 4-chloro-	8270	20
Chlorobenzene	108-90-7	Benzene, chloro-	8010 8020 8021 8260	2 2 0.1 5
Chlorobenzilate	510-15-6	Benzeneacetic acid, 4-chloro-a-(4-chlorophenyl)-a-hydroxy-ethyl ester	8270	10
p-Chloro-m-cresol; 4-Chloro-3-methylphenol	59-50-7	Phenol, 4-chloro-3-methyl-	8040 8270	5 20
Chloroethane; Ethyl chloride	75-00-3	Ethane, chloro-	8010 8021 8260	5 1 10
Chloroform; Trichloromethane	67-66-3	Methane, trichloro-	8010 8021 8260	0.5 0.2 5
2-Chloronaphthalene	91-58-7	Naphthalene, 2-chloro-	8120 8270	10 10
2-Chlorophenol	95-57-8	Phenol, 2-chloro-	8040 8270	5 10
4-Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy-	8110 8270	40 10
Chloroprene	126-99-8	1,3-Butadiene, 2-chloro-	8010 8260	50 20
Chromium	(Total)	Chromium	6010 7190 7191	70 500 10
Chrysene	218-01-9	Chrysene	8100 8270	200 10
Cobalt	(Total)	Cobalt	6010 7200 7201	70 500 10
Copper	(Total)	Copper	6010 7210 7211	60 200 10
m-Cresol; 3-methylphenol	108-39-4	Phenol, 3-methyl-	8270	10

ED_002047_00000009-00111

Common Name[2]	CAS Number[3]	Chemical Abstracts Service Index Name[4]	Suggested Methods[5]	PQL (µg/L)[6]
o-Cresol; 2-methylphenol	95-48-7	Phenol, 2-methyl-	8270	10
p-Cresol; 4-methylphenol	106-44-5	Phenol, 4-methyl-	8270	10
Cyanide	57-12-5	Cyanide	8270	10
2,4-D; 2,4-Dichlorophenoxyacetic acid	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	8150	10
4,4¹-DDD	72-54-8	Benzene, 1,1¹-(2,2-dichloro ethylidene) bis[4-chloro-	8080 8270	0.1 10
4,4¹-DDE	72-55-9	Benzene, 1,1¹-(dichloroethyen ylidene)bis[4-chloro-	8080 8270	0.05 10
4,4¹-DDT	50-29-3	Benzene, 1,1¹-(2,2,2-trichloro ethylidene)bis[4-chloro-	8080 8270	0.1 10
Diallate	2303-16-4	Carbamothioic acid, bis(1-methyl ethyl)-,S-(2,3-dichloro-2-propenyl) ester	8270	10
Dibenz[a,h]anthracene	53-70-3	Dibenz[a,h]anthracene	8100 8270	200 10
Dibenzofuran	132-64-9	Dibenzofuran	8270	10
Dibromochloromethane; Chlorodibromomethane	124-48-1	Methane, dibromochloro-	8010 8021 8260	1 0.3 5
1,2-Dibromo-3-chloropropane; DBCP	96-12-8	Propane, 1,2-dibrome-3-chloro-	8011 8021 8260	0.1 30 25
1,2-Dibromoethane; Ethylene dribromide; EDB	106-93-4	Ethane, 1,2-dibromo-	8011 8021 8260	0.1 10 5
Di-n-butyl phthalate	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	8060 8270	5 10
o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1	Benzene, 1,2-dichloro-	8010 8020 8021 8120 8260 8270	2 5 0.5 10 5 10
m-Dichlorobenzene; 1,3-Dichlorobenzene	541-73-1	Benzene, 1,3-Dichloro-	8010 8020 8021 8120 8260 8270	5 5 0.2 10 5 10
p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7	Benzene, 1,4-dichloro-	8010 8020 8021 8120 8260 8270	2 5 0.1 15 5 10
3,3¹-Dichlorobenzidine	91-94-1	[1,1¹-Biphenyl]-4,4¹-diamine, 3,3¹-dichloro-	8270	20
trans-1,4-Dichloro-2-butene	110-57-6	2-Butene, 1,4-dichloro-, (E)-	8260	100
Dichlorodifloromethane; CFC-12	75-71-8	Methane, dichlorodifluoro-	8021 8260	0.5 5
1,1-Dichloroethane; Ethyldidene chloride	75-34-3	Ethane, 1,1-dichloro-	8010 8021 8260	1 0.5 5
1,2-Dichloroethane; Ethylene dichloride	107-06-2	Ethane, 1,1-dichloro-	8010 8021 8260	0.5 0.3 5
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	75-35-4	Ethene, 1,1-dichloro-	8010 8021 8260	1 0.5 5
cis-1,2-Dichloroethylene; cis-	156-59-2	Ethene, 1,2-dichloro-,(Z)-	8021	0.2
1,2- Dichloroethene			8260	5
trans-1,2-Dichloroethylene	156-60-5	Ethene, 1,2-dichloro-,(E)-	8010	1

ED_002047_00000009-00112

Common Name[2]	CAS Number[3]	Chemical Abstracts Service Index Name[4]	Suggested Methods[5]	PQL (µg/L)[6]
trans-1,2- Dichloroethene			8021 8260	0.5 5
2,4-Dichlorophenol	120-83-2	Phenol, 2,4-dichloro-	8040 8270	5 10
2,6-Dichlorophenol	87-65-0	Phenol, 2,6-dichloro-	8270	10
1,2-Dichloropropane; Propylene dichloride	78-87-5	Propane, 1,2-dichloro-	8010 8021 8260	0.5 0.05 5
1,3-Dichloropropane; Trimethylene dichloride	142-28-9	Propane, 1,3-dichloro-	8021 8260	0.3 5
2,2-Dichloropropane; Isopropylidene chloride	594-20-7	Propane, 2,2-dichloro-	8021 8260	0.5 15
1,1-Dich1oropropene	563-58-6	1-Propene, 1,1-dichloro-	8021 8260	0.2 5
cis-1,3-Dichloropropene	10061-01-5	1-Propene, 1,3-dichloro-, (Z)-	8010 8260	20 10
trans-1,3-Dichloropropene	10061-02-6	1-Propene, 1,3-dichloro-, (E)-	8010 8260	5 10
Dieldrin	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b] oxirene,3,4,5,6,9,9-hexa, chloro-1a, 2,2a,3,6,6a,7,7a-octahydro-, (1aa, 2ß,2aa,3ß, 6ß,6aa,7ß,7aa)-	8080 8270	0.05 10
Diethyl phthalate	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester	8060 8270	5 10
0,0-Diethyl 0-2-pyrazinyl; phosphorothioate Thionazin	297-97-2	Phosphorothioic acid, 0,0-diethyl 0-pyrazinyl ester	8141 8270	5 20
Dimethoate	60-51-5	Phosphorodithioic acid, 0,0-dimethyl S-[2-(methylamino)-2-oxoethyl] ester.	8141 8270	3 20
p-(Dimethylamino)azobenzene	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	8270	10
7,12-Dimethylbenz[a]anthracene	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	8270	10
3,3[1]-Dimethylbenzidine	119-93-7	[1,1[1]-Biphenyl]-4,4[1]-diamine, 3,3[1]-dimethyl-	8270	10
2,4-Dimethylphenol; m-Xylenol	105-67-9	Phenol, 2,4-dimethyl-	8040 8270	5 10
Dimethyl phthalate	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester	8060 8270	5 10
m-Dinitrobenzene	99-65-0	Benzene, 1,3-dinitro-	8270	20
4,6-Dinitro-o-cresol 4,6-Dinitro- 2-methylphenol	534-52-1	Phenol, 2-methyl-4,6-dinitro-	8040 8270	150 50
2,4-Dinitrophenol	51-28-5	Phenol, 2,4-dinitro-	8040 8270	150 50
2,4-Dinitrotoluene	121-14-2	Benzene, 1-methyl-2,4-dinitro-	8090 8270	0.2 10
2,6-Dinitrotoluene	606-20-2	Benzene, 2-methyl-1,3-dinitro-	8090 8270	0.1 10
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	8150 8270	1 20
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester	8060 8270	30 10
Diphenylamine	122-39-4	Benzenamine, N-phenyl-	8270	10
Disulfoton	298-04-4	Phosphorodithioic acid, 0,0-diethyl S-[2-(ethylthio)ethyl] ester	8140 8141 8270	2 0.5 10
Endosulfan I	959-98-8	6,9-Methano-2,4,3-benzodioxathi epin,6,7,8,9,10,10- hexachloro-1, 5,5a, 6,9,9a-hexahydro-,3-oxide,	8080 8270	0.1 20
Endosulfan II	33213-65-9	6,9-Methano-2,4,3-benzodioxathi	8080	0.05

Common Name[2]	CAS Number[3]	Chemical Abstracts Service Index Name[4]	Suggested Methods[5]	PQL (µg/L)[6]
		epin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3-oxide,(3a, 5aa, 6ß,9ß,9aa)-	8270	20
Endosulfan sulfate	1031-07-8	6,9-Methano-2,4,3-benzodioxathi epin,6,7,8,9,10,10-hexachloro-1,5,5a, 6,9,9a-hexahydro-3-3-dioxide.	8080 8270	0.5 10
Endrin	72-20-8	2,7:3,6-Dimethanonaphth[2,3-b] oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-,(1aa,2ß,2aß,3a,6a,6aß,7ß,7aa)-	8080 8270	0.1 20
Endrin aldehyde	7421-93-4	1,2,4-Methenocyclopenta cd]penta [lene-5-carboxaldehyde, 2,2a,3,3,4, 7-hexachlorodeca hydro-, (1a,2ß, 2aß, 4ß,4aß,5ß, 6aß,6bß,7R*)-	8080 8270	0.2 10
Ethylbenzene	100-41-4	Benzene, ethyl-	8020 8221 8260	2 0.05 5
Ethyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	8015 8260 8270	5 10 10
Ethyl methanesulfonate	62-50-0	Methanesulfonic acid, ethyl ester	8270	20
Famphur	52-85-7	Phosphorothioic acid, 0-[4-[(dimethylamino)sulfonyl]phenyl] 0,0-dimethyl ester	8270	20
Fluoranthene	206-44-0	Fluoranthene	8100 8270	200 10
Fluorene	86-73-7	9H-Fluorene	8100 8270	200 10
Heptachlor	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8, 8-heptachloro-3a,4,7,7a-tetrahydro-	8080 8270	0.05 10
Heptachlor epoxide	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a, 1b,5,5a,6,6a-hexahydro-,(1aa,1bß, 2a,5a, 5aß,6ß,6aa)	8080 8270	1 10
Hexachlorobenzene	118-74-1	Benzene, hexachloro-	8120 8270	0.5 10
Hexachlorobutadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8021 8120 8260 8270	0.5 5 10 10
Hexachlorocyclopentadiene	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	8120 8270	5 10
Hexachloroethane	67-72-1	Ethane, hexachloro-	8120 8260 8270	0.5 10 10
Hexachloropropene	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	8270	10
2-Hexanone; Methyl butyl ketone	591-78-6	2-Hexanone	8260	50
Indeno(1,2,3-cd)pyrene	193-39-5	Indeno(1,2,3-cd)pyrene	8100 8270	200 10
Isobutyl alcohol	78-83-1	1-Propanol, 2-methyl-	8015 8240	50 100
Isodrin	465-73-6	1,4,5,8-Dimethanonaphthalene,1,2,	8270	20

Common Name[2]	CAS Number[3]	Chemical Abstracts Service Index Name[4]	Suggested Methods[5]	PQL (µg/L)[6]
		3,4,10,10- hexachloro-1,4,4a, 5,8,8a hexahydro- (1a,4a,4aß,5ß,8ß,8aß)-	8260	10
Isophorone	78-59-1	2-Cyclohexen-1-one, 3,5,5- trimethyl-	8090 8270	60 10
Isosafrole	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	8270	10
Kepone	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd] pentalen-2-one,1,1a,3,3a,4,5,5,5a, 5b,6-decachlorooctahydro-	8270	20
Lead	(Total)	Lead	6010 7420 7421	400 1000 10
Mercury	(Total)	Mercury	7470	2
Methacrylonitrile	126-98-7	2-Propenenitrile, 2-methyl-	8015 8260	5 100
Methapyrilene	91-80-5	1,2-ethanediamine,N.N.-dimethyl-N[1]-2-pyridinyl-N1/2-thienyl-methyl]-	8270	100
Methoxychlor	72-43-5	Benzene,1,1[1]-(1,2,2, trichloroethylidene) bis[4-methoxy-	8080 8270	2 10
Methyl bromide; Bromomethane	74-83-9	Methane, bromo-	8010 8021	20 10
Methyl chloride; Chloromethane	74-87-3	Methane, chloro-	8010 8021	1 0.3
3-Methylcholanthrene	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3- methyl-	8270	10
Methyl ethyl ketone; MEK; 2-Butanone	78-93-3	2-Butanone	8015 8260	10 100
Methyl iodide; iodomethane	74-88-4	Methane,iodo-	8010 8260	40 10
Methyl methacrylate	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	8015 8260	2 30
Methyl methanesulfonate	66-27-3	Methanesulfonic acid, methyl ester	8270	10
2-Methylnaphthalene	91-57-6	Naphthalene, 2-methyl-	8270	10
Methyl parathion;Parathion methyl	298-00-0	Phosphorothioic acid, 0,0-dimethyl 0-(4-nitrophenyl) ester	8140 8141 8270	0.5 1 10
4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1	2-Pentanone, 4-methyl-	8015 8260	5 100
Methylene bromide; Dibromomethane	74-95-3	Methane, dibromo-	8010 8021 8260	15 20 10
Methylene chloride; Dichloromethane	75-09-2	Methane, dichloro-	8010 8021 8260	5 0.2 10
Naphthalene	91-20-3	Naphthalene	8021 8100 8260 8270	0.5 200 5 10
1,4-Naphthoquinone	130-15-4	1,4-Naphthalenedione	8270	10
1-Naphthylamine	134-32-7	1-Naphthalenamine	8270	10
2-Naphthylamine	91-59-8	2-Naphthalenamine	8270	10
Nickel	(Total)	Nickel	6010 7520	150 400
o-Nitroaniline; 2-Nitroaniline	88-74-4	Benzenamine, 2-nitro-	8270	50
m-Nitroaniline; 3-Nitroaniline	99-09-2	Benzenamine, 3-nitro-	8270	50
p-Nitroaniline; 4-Nitroaniline	100-01-6	Benzenamine, 4-nitro	8270	20
Nitrobenzene	98-95-3	Benzene, nitro-	8090	40

Common Name[2]	CAS Number[3]	Chemical Abstracts Service Index Name[4]	Suggested Methods[5]	PQL (µg/L)[6]
			8270	10
o-Nitrophenol; 2-Nitrophenol	88-75-5	Phenol, 2-nitro-	8040 8270	5 10
p-Nitrophenol; 4-Nitrophenol	100-02-7	Phenol, 4-nitro-	8040 8270	10 50
N-Nitrosodi-n-butylamine	924-16-3	1-Butananmine, N-butyl-N-nitroso-	8270	10
N-Nitrosodiethylamine	55-18-5	Ethanamine, N-ethyl-N-nitroso-	8270	20
N-Nitrosodimethylamine	62-75-9	Methanamine, N-methyl-N-nitroso-	8070	2
N-Nitrosodiphenylamine	86-30-6	Benzenamine, N-nitroso-N-phenyl-	8070	5
N-Nitrosodipropylamine; N-Nitroso- N- dipropylamine; Di-n-propylnitrosamine	621-64-7	1-Propanamine, N-nitroso-N-propyl-	8070	10
N-Nitrosomethylethalamine	10595-95-6	Ethanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosopiperidine	100-75-4	Piperidine, 1-nitorso-	8270	20
N-Nitrosopyrrolidine	930-55-2	Pyrrolidine, 1-nitoso-	8270	40
5-Nitro-o-toluidine	99-55-8	Benezenamine, 2-methyl-5-nitro-	8270	10
Parathion	56-38-2	Phosphorothioic acid, 0,0-diethyl 0-(4-nitrophenyl) ester	8141 8270	0.5 10
Pentachlorobenzene	608-93-5	Benzene, pentachloro-	8270	10
Pentachloronitrobenzene	82-68-8	Benzene, pentachloronitro-	8270	20
Pentachlorophenol	87-86-5	Phenol, pentachloro-	8040 8270	5 50
Phenacetin	62-44-2	Acetamide, N-(4-ethoxyphenl)	8270	20
Phenanthrene	85-01-8	Phenanthrene	8100 8270	200 10
Phenol	108-95-2	Phenol	8040	1
p-Phenylenediamine	106-50-3	1,4-Benzenadiamine	8270	10
Phorate	298-02-2	Phosphorodithioic acid, 0,0-diethyl- S-[(ethylthio)methyl] ester	8140 8141 8270	2 0.5 10
Polychlorinated biphenyls; PCBs;Aroclors	See Note 9	1,1'-Biphenyl, chloro derivatives	8080 8270	50 200
Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	8270	10
Propionitrile; Ethyl cyanide	107-12-0	Propanenitrile	8015 8260	60 150
Pyrene	129-00-0	Pyrene	8100 8270	200 10
Safrole	94-59-1	1,3-Benzodioxole, 5-(2-propenyl)-	8270	10
Selenium	(Total)	Selenium	6010 7740 7741	750 20 20
Silver	(Total)	Silver	6010 7760 7761	70 100 10
Silvex; 2,4,5-TP	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	8150	2
Styrene	100-42-5	Benzene, ethenyl-	8020 8021 8260	1 0.1 10
Sulfide	18496-25-8	Sulfide	9030	4000
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-	8150	2
1,2,4,5-Tetrachlorobenzene	95-94-3	Benzene, 1,2,4,5-tetrachloro-	8270	10
1,1,1,2-Tetrachloroethane	630-20-6	Ethane, 1,1,1,2-tetrachloro-	8010 8021 8260	5 0.05 5

Common Name[2]	CAS Number[3]	Chemical Abstracts Service Index Name[4]	Suggested Methods[5]	PQL (µg/L)[6]
1,1,2,2-Tetrachloroethane	79-34-5	Ethane, 1,1,2,2-tetrachloro-	8010 8021 8260	0.5 0.1 5
Tetrachloroethylene; Tetrachloroethene;	127-18-4	Ethene, tetrachloro-	8010	0.5
Perchloroethylene			8021 8260	0.5 5
2,3,4,6-Tetrachlorophenol	58-90-2	Phenol, 2,3,4,6-tetrachloro-	8270	10
Thallium	(Total)	Thallium	6010 7840 7841	400 1000 10
Tin	(Total)	Tin	6010	40
Toluene	108-88-3	Benzene, methyl-	8020 8021 8260	2 0.1 5
o-Toluidine	95-53-4	Benzenamine, 2-methyl-	8270	10
Toxaphene	See Note 10	Toxaphene	8080	2
1,2,4-Trichlorobenzene	120-82-1	Benzene, 1,2,4-trichloro-	8021 8120 8260 8270	0.3 0.5 10 10
1,1,1-Trichloroethane; Methylchloroform	71-55-6	Ethane, 1,1,1-trichloro-	8010 8021 8260	0.3 0.3 5
1,1,2-Trichloroethane	79-00-5	Ethane, 1,1,2-trichloro-	8010 8260	0.2 5
Trichloroethylene; Trichloroethene	79-01-6	Ethane, trichloro-	8010 8021 8260	1 0.2 5
Trichlorofluoromethane; CFC-11	75-69-4	Methane, trichlorofluoro-	8010 8021 8260	10 0.3 5
2,4,5-Trichlorophenol	95-95-4	Phenol, 2,4,5-trichloro-	8270	10
2,4,6-Trichlorophenol	88-06-2	Phenol, 2,4,6-trichloro-	8040 8270	5 10
1,2,3-Trichloropropane	96-18-4	Propane, 1,2,3-trichloro-	8010 8021 8260	10 5 15
O,O,0-Triethyl phosphorothioate	126-68-1	Phosphorothioic acid, 0,0,0-triethylester	8270	10
sym-Trinitrobenzene	99-35-4	Benzene, 1,3,5-trinitro-	8270	10
Vanadium	(Total)	Vanadium	6010 7910 7911	80 2000 40
Vinyl acetate	108-05-4	Acetic acid, ethenyl ester	8260	50
Vinyl chloride; Chloroethene	75-01-4	Ethene, chloro-	8010 8021 8260	2 0.4 10
Xylene (total)	See Note 11	Benzene, dimethyl-	8020 8021 8260	5 0.2 5
Zinc	(Total)	Zinc	6010 7950 7951	20 50 0.5

Notes

1 The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

ED_002047_00000009-00117

[2] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3] Chemical Abstracts Service registry number. Where "Total" is entered, all species in the groundwater that contain this element are included.

[4] CAS index are those used in the 9th Collective Index.

[5] Suggested Methods refer to analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste", third edition, November 1986, as revised, December 1987. Analytical details can be found in SW-846 and in documentation on file at the agency. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable method(s) for monitoring an analyte under the regulations.

[6] Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. PQLs are based on 5 mL samples for volatile organics and 1 L samples for semivolatile organics. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[7] This substance is often called Bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2"-oxybis[2-chloro- (CAS RN 39638-32-9).

[8] Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6). PQL shown is for technical chlordane. PQLs of specific isomers are about 20 μg/L by method 8270.

[9] Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor 1221 (CAS RN 11104-28-2), Aroclor 1232 (CAS RN 11141-16-5), Aroclor 1242 (CAS RN 53469-21-9), Aroclor 1248 (CAS RN 12672-29-6), Aroclor 1254 (CAS RN 11097-69-1), and Aroclor 1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

[10] Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

[11] Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7). PQLs for method 8021 are 0.2 for o-xylene and 0.1 for m- or p-xylene. The PQL for m-xylene is 2.0 μg/L by method 8020 or 8260.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7.
History: Effective: November 2, 1993. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

ED_002047_00000009-00118

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
LAND DIVISION - SOLID WASTE PROGRAM

CHAPTER 335-13-5
PROCEDURES FOR OBTAINING PERMITS

TABLE OF CONTENTS

335-13-5-.01 Disposal Permits
335-13-5-.02 Permit Application
335-13-5-.03 Public Notice
335-13-5-.04 Public Hearing
335-13-5-.05 Permit Denial, Suspension or Revocation
335-13-5-.06 Permit Modification
335-13-5-.07 Transfer of Permit
335-13-5-.08 Vertical Expansion

335-13-5-.01 Disposal Permits. All solid waste shall be disposed of in a landfill unit permitted by the Department. Rules 335-13-5-.02 through 335-13-5-.07 establish the minimum requirements and procedures for obtaining a solid waste disposal facility permit for existing and proposed facilities.

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-5, 22-27-7.
History: November 18, 1981.
Amended: July 21, 1988; November 2, 1993.

335-13-5-.02 Permit Application. Existing and proposed landfill units shall obtain permits to construct and/or operate in accordance with the following:

(1) Application Requirements. Landfill units proposed after the effective date of this Division shall submit the following in order to request a permit:

(a) A completed form designated by the Department;

(b) Documentation of host government approval, as provided in the Code of Alabama 1975, § 22-27-48 and 48.1;

(c) Facility design plans and operational procedures in accordance with Permit Application Procedures for Solid Waste Disposal Facilities as prepared by the Department; and

(d) Technical data and reports to comply with 335-13-4-.01, 335-13-4-.11 through 335-13-4-.24 and this Division,

ED_002047_00000009-00119

(e) All technical reports, plans and specifications, plats, geological and hydrological reports required by this Division, prepared under the following:

1. Plans, specifications, operational procedures, letters of final construction certification and other technical data, except as provided in 335-13-5-.02(1)(e)2. and 3. for the construction and operation of a facility shall be prepared by an engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans, specifications and reports.

2. Reports, letters of certification and other documents and technical data concerning the siting standards of 335-13-4-.01 shall be prepared by a person with technical expertise in the field of concern.

3. Legal property descriptions and survey plats shall be by a land surveyor with the seal or signature and registration number of the land surveyor affixed.

(f) The name and mailing address of all property owners whose property is adjacent to the proposed site shall be submitted as part of a landfill unit's permit application.

(g) In addition to the requirements listed in (a) through (f) above the Department may waive certain requirements of (c) and (d) for those landfill units that will receive for disposal only construction and demolition type waste. A permit application for a C/DLF will be submitted on a form developed by the Department which shall specify the minimum requirements for a complete application. The C/DLF permit application shall also include statements signed by an engineer and a representative of the facility owner/operator certifying that the information being submitted is accurate and correct. The submittal of false or inaccurate information shall result in the C/DLF permit application being suspended or denied.

(h) CCR Landfills. In addition to the requirements listed in (a) through (f) above, a permit application for an existing CCR landfill shall also include the following:

1. Technical data and reports documenting compliance with the unstable area requirements in 335-13-15-.03(5).

2. A run-on and run-off control system plan developed in accordance with 335-13-15-.05(2)(c), which should include existing and proposed surface drainage patterns and control structures designed to handle run-on and run-off.

3. A detailed description of the groundwater monitoring and analysis program developed in accordance with 335-13-15-.06.

4. Procedures for complying with recordkeeping and notification as required under 335-13-15-.08.

ED_002047_00000009-00120

5. Procedures for updating all plans and assessments periodically as required by ADEM Admin. Code 335-13-15.

6. Any additional information that may be required by the Department.

(i) New CCR Landfills and any lateral expansion of a CCR Landfill. In addition to the requirements listed in (a) through (f) and (h) above, applications for new CCR landfills and any lateral expansion of a CCR landfill shall include the following in order to request a permit:

1. Technical data and reports documenting compliance with the following location requirements:

(i) Five foot separation of the base of the CCR unit from the highest measured groundwater level requirement under 335-13-15-.03(1).

(ii) Wetland and endangered species requirements under 335-13-15-.03(2).

(iii) Fault area requirements under 335-13-15-.03(3).

(iv) Seismic impact zones under 335-13-15-.03(4).

2. Design of the liner and leachate collection and removal system as required by 335-13-15-.04(1).

(2) Permit Duration. Solid waste disposal permits obtained in compliance with this Division shall be valid for the design life of the facility or as otherwise determined by the Department, but no longer than a period of five years. Permits, however, are subject to revocation under 335-13-5-.05 of this Division.

(3) Filing Deadline. Request for extension, renewal, or a new permit for any landfill unit shall be filed with the Department by the operating agency at least 180 days prior to the expiration date for existing permits or the proposed construction date for new facilities.

(4) Modifications. Prior to any change in the permitted service area, increasing the volume of waste received or changing the design or operating procedure as described in 335-13-5-.06(1) and (2) and the current permit, the permittee shall request a modification of the permit as described in 335-13-5-.06(3). A request for modification described in 335-13-5-.06(1) and (2) must be filed with the Department at least 90 days prior to the anticipated change and shall receive approval from the Department prior to the implementation of the proposed change.

(5) Effect of non-compliance.

(a) As determined by the Director, substantial non-compliance with Department regulations or permits at any facility owned or operated by the applicant, including any facility for which the pending permit application is requested, will be grounds for denial of the application, or alternatively, for suspension of further consideration of the application until such non-compliance is corrected.

(b) In addition to the foregoing, the Director may deny a permit application if:

1. The Director determines that a permit could not be issued that would result in compliance with applicable solid waste standards; or

2. The applicant could not comply with the permit as issued.

Author: Russell A. Kelly, Eric L. Sanderson, S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-5, 22-27-7, and 22-27-48 and 48.1.
History: Effective: November 18, 1981. **Amended:** Effective: March 31, 1988 (Emergency Regulations). **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-5-.03 Public Notice.

(1) Notice Requirements.

(a) The Department shall provide notice and an opportunity for a public hearing on any landfill unit permit if determined necessary to meet the requirements of this Division.

(b) The following procedures shall be observed.

1. The Department shall notify interested and potentially interested persons of the proposed landfill unit by publishing a notice in a newspaper of general circulation in the area.

(i) The notice shall be given not less than 35 days prior to the proposed issuance of a permit.

(ii) The notice shall contain the specific type and nature of the landfill unit, the type of waste to be disposed, the person or agency requesting the permit, and the descriptive location of the landfill unit, address and telephone number of the Department, and that interested persons may request a public hearing on the proposed landfill unit.

ED_002047_00000009-00122

2. Landowners adjacent to a proposed landfill unit shall receive a copy of the public notice.

(2) Departmental Action. The Department shall take one of the following actions after the hearing:

(a) Deny the permit, stating in writing the reasons for denial and informing the person requesting the permit of appeal procedures in chapter 335-2-1;

(b) Issue the permit if the application complies with this Division; or

(c) Require additional information, elements of design for the facility, and specify procedures for inclusion into the permit prior to issuance of the permit.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, and 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-5-.04 Public Hearing.

(1) Authorization. The Department shall authorize a public hearing upon receipt of significant number of technical requests as provided in 335-13-5-.04(2).

(2) Procedures.

(a) Requests for public hearings shall be submitted in writing to the Department by interested persons.

1. Frivolous or nontechnical requests shall be denied by the Department.

2. Requests for public hearings must be submitted within 35 days after the publication of the public notice and must contain the following:

(i) The name, address and telephone number of the person requesting the hearing.

(ii) A brief statement of the person's interest and the information the person wishes to submit.

(iii) The person's signature, if an individual, or the signature of a responsible officer of an organization or legal entity.

(b) When a hearing has been authorized, the Department shall appoint a hearing officer to conduct the hearing and shall establish a time, date, and location for the hearing. The location for the hearing shall comply with the requirements of the Americans with Disabilities Act.

(c) The Department shall give notice of the public hearing in the manner set forth in 335-13-5-.03(1), and also to the persons requesting the hearing in 335-13-5-.04(2). The notice given not less than 35 days prior to the time of the public hearing shall include:

1. A summary of the proposed permit.

2. The place, time, and date of the hearing.

3. The name, address, and telephone number of an office at which interested persons may receive further information.

(3) Departmental Action. The Department shall take one of the following actions after the hearing:

(a) Deny the permit, stating in writing the reasons for denial and inform the person requesting the permit of appeal procedures in 335-13-1-.07;

(b) Issue the permit if the application complies with this Division; or

(c) Require additional information, elements of design for the facility, and specify procedures for inclusion into the permit prior to issuance of the permit.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5 and 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: July 21, 1988. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-5-.05 Permit Denial, Suspension or Revocation.

(1) Conditions. The Department may deny, suspend or revoke any permit if:

(a) The permittee is found to be in violation of any of the permit conditions,

(b) The permittee fails to perform the permitted activity in accordance with the approved operational narrative or engineering drawings,

(c) The permittee fails to seek a modification of the permit as required by the rules,

ED_002047_00000009-00124

(d) An active site stops receiving waste for more than one year, or

(e) The design operations creates a nuisance or is inconsistent with the Act or this Division.

(2) Written Notice. In the event of denial, suspension or revocation of a permit, the Department shall serve written notice of such action on the permittee and shall set forth in such notice the reason for such action.

(3) Closure. Upon revocation or suspension of the permit, or denial of the renewal of the permit, the permittee shall meet the closure requirements found in 335-13-4-.20.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-5, and 22-27-7.
History: Effective: November 18, 1981. **Amended:** Effective: March 31, 1988 (Emergency Regulations). **Amended:** Effective: July 21, 1988. **Amended:** Effective: October 2, 1990. **Amended:** Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018. Effective: June 8, 2018.

335-13-5-.06 Permit Modification. The Department may modify any permit after receiving a satisfactory application that is found in compliance with ADEM rules and regulations.

(1) Major Modifications.

(a) Permit modification shall be requested utilizing forms designated by the Department when the permittee proposes to modify its operation in any of the following ways:

1. There is any change in the permitted service area. The Director may temporarily or on a one-time basis waive permit modification requirements on a case-by-case basis for special waste or other solid waste if it is demonstrated that a disposal alternative is needed immediately to protect health or the environment.

2. Convert an industrial landfill (ILF) or construction/demolition landfill (C/DLF) to a municipal solid waste landfill (MSWLF) or convert a construction/demolition landfill (C/DLF) to an industrial landfill (ILF).

3. Addition of a liner and leachate collection system or any design change in existing permitted liner and leachate collection system.

4. Addition of disposal acreage inside the permitted perimeter where design plans have not been previously submitted.

(b) Modifications required under this paragraph are subject to the provisions of rules 335-13-5-.03 and 335-13-5-.04, which require a public notice and may require a public hearing.

(2) Minor Modifications.

(a) A permit modification shall be required, utilizing forms designated by the Department, when the permittee proposes to modify its operations or design in any of the following ways:

1. Addition of a waste stream to a ILF or C/DLF.

2. Addition or relocation of a monitoring well.

3. Addition of sedimentation basins.

4. Any change in the permitted final fill elevations.

5. The average daily volume of waste specified by the permit for a landfill unit is proposed to be exceeded, or is exceeded for two or more consecutive reporting quarters, by 20 percent, or 100 tons/day, whichever is less.

(i) The average daily volume of waste received at a landfill unit shall be calculated by dividing the total month's receipts by the total number of days in the reporting month.

(ii) Volumes received shall be reported to the Department in a format specified by the Department.

(b) Modifications required by this paragraph are not subject to the provision of rules 335-13-5-.03 and 335-13-5-.04, and do not require public notice or public hearing.

(3) Procedures. Permittee shall request a permit modification in accordance with the following procedures:

(a) Submit a request for modification to the Department at least 90 days prior to the anticipated change.

(b) Identify each and every part of the permit or plans to be modified.

(c) Submit revised plans and narratives as required by the Department.

(d) Receive approval from the Department prior to implementing the modification.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-5, and 22-27-7.
History: Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

335-13-5-.07 Transfer of Permit. Permits are not transferable except as follows:

(1) A notification must be submitted to and approved by the Department prior to any proposed transfer from one person or company to another or name change of any permitted facility.

(a) The notification must be submitted to the Department at least 30 days prior to the proposed transfer.

(b) Information regarding the transfer must be submitted on form(s) designated by the Department.

(2) [Reserved]

Author: Russell A. Kelly.
Statutory Authority: Code of Alabama 1975, §§ 22-22-A-5, 22-27-7.
History: November 18, 1981.
Amended: March 31, 1988 (Emergency Regulations); July 21, 1988; November 2, 1993.

335-13-5-.08 Vertical Expansion.

(1) Applicability. Existing MSWLF units may continue to operate past October 8, 1993, or the effective date of § 258.1 of 40 CFR 258, Solid Waste Disposal Criteria, whichever is later, provided that an adequate application request is submitted and approval is granted by the Department.

(2) Application Requests. A vertical expansion application request must be submitted to the Department. The application, at a minimum, shall include the following:

(a) An assessment of the existing groundwater data and groundwater monitoring system. The assessment shall include:

1. Submittals of past groundwater data and conclusions as to whether or not the groundwater has been impacted by the landfill.

2. Monitoring well data such as: well logs, total well depth, screen depth, depth to water level , indication/documentation of upgradient or downgradient well location, numbering sequence, etc. and conclusions as to whether or not the groundwater monitoring system is adequate.

(b) A plat or engineering drawing, designating the active footprint; i.e., area where waste has previously been disposed and has not reached final closure elevations. Areas that have the final closure cap in place will not be considered active areas.

ED_002047_00000009-00128

(3) Approval Criteria. In determining whether to approve or deny the vertical expansion request, the Department shall consider the following criteria:

(a) If the groundwater analysis indicates no significant impact to the groundwater, the MSWLF will be allowed to fill vertically over the active footprint, according to the approved plans, until final closure elevations are reached, provided the active footprint is over a lined area with a leachate collection system. If the approved active footprint is over an unlined area, the MSWLF may not expand vertically past October 8, 1997.

(b) If the groundwater analysis indicates an increase over the background data (initial sampling data), and no sampling data has exceeded primary drinking water standards, unlined MSWLFs will be allowed to expand vertically until October 8, 1995 and MSWLFs operating over liners and leachate collection systems may operate according to the approved plans until final closure elevations are reached.

(c) If the groundwater analysis indicates an increase over the background data and exceeds the primary drinking water standards, the MSWLF must perform a groundwater assessment. After Departmental review of the groundwater assessment, a remediation plan (if required) must be submitted to and approved by the Department prior to October 9, 1993, or the effective date of § 258.1 of 40 CFR 258, Solid Waste Disposal Criteria, whichever is later. If a remediation plan is approved by ADEM and implemented by the MSWLF unit, the facility may expand vertically until October 8, 1995.

(d) The active footprint shall be determined by the Department.

Author: Russell A. Kelly; S. Scott Story.
Statutory Authority: Code of Alabama 1975, §§ 22-22-A-5, 22-27-4, and 22-27-7.
History: Effective: November 2, 1993. **Amended:** Effective: July 26, 1996. **Amended:** Filed: April 24, 2018; Effective: June 8, 2018.

ED_002047_00000009-00129

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
LAND DIVISION – SOLID WASTE PROGRAM

CHAPTER 335-13-15
Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments

TABLE OF CONTENTS

335-13-15-.01	**General Provisions**
335-13-15-.02	**Definitions**
335-13-15-.03	**Location Restrictions**
335-13-15-.04	**Design Criteria**
335-13-15-.05	**Operating Criteria**
335-13-15-.06	**Groundwater Monitoring and Corrective Action**
335-13-15-.07	**Closure and Post-Closure Care**
335-13-15-.08	**Recordkeeping, Notification, and Posting of Information to the Internet**
335-13-15-.09	**Permit Application**
335-13-15-.10	**Public Notice**
335-13-15-.11	**Public Hearing**
335-13-15-.12	**Permit Denial, Suspension or Revocation**
335-13-15-.13	**Permit Modification**
335-13-15-.14	**Transfer of Permit**
335-13-15-.15	**Variances**
335-13-15-App III	**CCR Constituents for Detection Monitoring**
335-13-15-App IV	**CCR Constituents for Assessment Monitoring**

335-13-15-.01 General Provisions.

(1) Scope and purpose.

(a) This chapter 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 chapter, these requirements also apply to disposal units located off-site of the electric utility or independent power producer. This chapter also applies to any practice that does not meet the definition of a beneficial use of CCR.

(b) This chapter 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.

ED_002047_00000009-00130

(c) This chapter does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015.

(d) This chapter does not apply to electric utilities or independent power producers that have ceased producing electricity prior to October 19, 2015.

(e) This chapter 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 chapter 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.

(f) This chapter does not apply to practices that meet the definition of a beneficial use of CCR.

(g) This chapter does not apply to CCR placement at active or abandoned underground or surface coal mines.

(h) This chapter does not apply to municipal solid waste landfills that receive CCR.

(2) Applicability of other regulations.

(a) Compliance with the requirements of this chapter 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, 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 335-13-4-.01(1)(a), 335-13-4-.01(1)(b), 335-13-4-.01(1)(e) and 335-13-4-.01(2).

Author: Eric L. Sanderson, S. Scott Story, Heather M. Jones
Statutory Authority: Code of Alabama 1975, §§ 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.02 Definitions. When used in this chapter, the following terms have the meaning given below:

(1) Acre foot - the volume of one acre of surface area to a depth of one

foot.

(2) Active facility or active electric utilities or independent power producers - any facility subject to the requirements of this chapter 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.

(3) Active life or in operation - 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 335-13-15-.07(3).

(4) Active portion - 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 335-13-15-.07(3).

(5) Aquifer - a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells, springs or waters of the state.

(6) Area-capacity curves - 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.

(7) Areas susceptible to mass movement - 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.

(8) Beneficial use of CCR - the CCR meet all of the following conditions:

(a) The CCR must provide a functional benefit;

(b) 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;

(c) 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

(d) When unencapsulated use of CCR involves 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.

(9) Closed - placement of CCR in a CCR unit has ceased, and the owner or operator has completed closure of the CCR unit in accordance with 335-13-15-.07(3) and has initiated post-closure care in accordance with 335-13-15-.07(5).

(10) Coal combustion residuals (CCR) - 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.

(11) CCR fugitive dust - solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than a stack or chimney.

(12) CCR landfill or landfill - 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 chapter, 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.

(13) CCR pile or pile - any non-containerized accumulation of solid, non-flowing CCR that is placed on the land. CCR that is beneficially used off-site is not a CCR pile.

(14) CCR surface impoundment or impoundment - 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.

(15) CCR unit - 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.

(16) Dike - an embankment, berm, or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other

materials.

(17) Disposal – the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste as defined in 335-13-1-.03 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. Disposal does not include the storage or the beneficial use of CCR.

(18) Downstream toe - the junction of the downstream slope or face of the CCR surface impoundment with the ground surface.

(19) Encapsulated beneficial use - a beneficial use of CCR that binds the CCR into a solid matrix that minimizes its mobilization into the surrounding environment.

(20) Existing CCR landfill - 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.

(21) Existing CCR surface impoundment - 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.

(22) Facility - 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).

(23) Factor of safety (Safety factor) - 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.

(24) Flood hydrograph - a graph showing, for a given point on a stream, the discharge, height, or other characteristic of a flood as a function of time.

(25) Freeboard - the vertical distance between the lowest point on the crest of the impoundment dike and the surface of the waste contained therein.

(26) Hazard potential classification - 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:

(a) High hazard potential CCR surface impoundment - a diked surface impoundment where failure or mis-operation will probably cause loss of human life.

(b) Low hazard potential CCR surface impoundment - 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.

(c) Significant hazard potential CCR surface impoundment - 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.

(27) Height - 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.

(28) Hydraulic conductivity - the rate at which water can move through a permeable medium (i.e., the coefficient of permeability).

(29) Inactive CCR surface impoundment - 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.

(30) Incised CCR surface impoundment - 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.

(31) Indian country or Indian lands:

(a) 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;

(b) 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 Alabama; and

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

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

(33) Inflow design flood - the flood hydrograph that is used in the design or modification of the CCR surface impoundments and its appurtenant works.

(34) In operation - the same as active life.

(35) Karst terrain - 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 terrains include, but are not limited to, dolines, collapse shafts (sinkholes), sinking streams, caves, seeps, large springs, and blind valleys.

(36) Lateral expansion - a horizontal expansion of the waste boundaries of an existing CCR landfill or existing CCR surface impoundment made after October 19, 2015.

(37) Liquefaction factor of safety - the factor of safety (safety factor) determined using analysis under liquefaction conditions.

(38) Maximum horizontal acceleration in lithified earth material - 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.

(39) New CCR landfill - 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.

(40) New CCR surface impoundment - 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.

(41) Operator - the person(s) responsible for the overall operation of a CCR unit.

(42) Overfill - a new CCR landfill constructed over a closed CCR surface impoundment.

(43) Owner - the person(s) who owns a CCR unit or part of a CCR unit.

(44) Poor foundation conditions - 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 335-13-15-.04(4)(e) and 335-13-15-.04(5)(e) would cause a poor foundation condition.

(45) Probable maximum flood - 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.

(46) Qualified person - 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.

(47) Qualified professional engineer - an individual who is licensed by the State of Alabama 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 chapter. Professional engineers making these certifications must be currently licensed in the state where the CCR unit(s) is located.

(48) Recognized and generally accepted good engineering practices - 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.

(49) Retrofit - to remove all CCR and contaminated soils and sediments from the CCR surface impoundment, and to ensure the unit complies with the requirements in 335-13-15-.04(3).

(50) Run-off - any rainwater, leachate, or other liquid that drains over land from any part of a CCR landfill or lateral expansion of a CCR landfill.

(51) Run-on - any rainwater, leachate, or other liquid that drains over land onto any part of a CCR landfill or lateral expansion of a CCR landfill.

(52) Sand and gravel pit or quarry - 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.

(53) Seismic factor of safety - 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.

(54) Seismic impact zone - 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.

(55) Slope protection - 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.

(56) Solid waste management or management - the systematic administration of the activities which provide for the collection, source separation, storage, transportation, processing, treatment, or disposal of solid waste.

(57) Static factor of safety - 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.

(58) Structural components - 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.

(59) Unstable area - 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.

(60) Uppermost aquifer - 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.

(61) Waste boundary - a vertical surface located at the hydraulically downgradient limit of the CCR unit. The vertical surface extends down into the uppermost aquifer.

Author: Heather M. Jones
Statutory Authority: Code of Alabama 1975, §§ 22-27-2, 22-27-3, 22-27-7, 22-27-9 and 22-27-12
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.03 Location Restrictions.

(1) 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 highest measured groundwater level as determined by the following procedures:

1. The site hydrogeology shall be established to the upper most aquifer and subsequent interconnecting aquifers. The hydrogeological evaluation for a specific site must be performed by a firm or individual having expertise in hydrogeology. The hydrogeological evaluation shall require a minimum of three exploration borings to include sampling and geologic logging and completion of these borings as piezometers.

2. Two groundwater measurements shall be taken during each of the three consecutive months of February, March, and April with no two measurements taken within any twelve day period.

3. From the hydrogeological evaluation and groundwater measurements, the subsequent establishment of the first saturation zone, the uppermost aquifer and subsequent underlying and interconnected aquifers, piezometer measuring point elevations, water table elevations and an estimate of groundwater flow direction and rate will be required.

4. Based on the groundwater measurements, the owner or operator shall design the CCR unit so that the bottom base is five feet above the highest measured groundwater level.

5. When the geological and hydrological data so indicate, the

Department may specify greater separation distances to protect groundwater.

6. When the geological and hydrological data so indicate, the Department may allow engineering controls to remove, divert, drain, or otherwise modify zones of saturation above the uppermost aquifer.

(b) The owner or operator must demonstrate by the dates specified in 335-13-15-.03(1)(d) that the CCR unit meets the minimum requirements for placement above the uppermost aquifer.

(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 335-13-15-.03(1)(a).

(d) The owner or operator of the CCR unit must complete the demonstration required by 335-13-15-.03(1)(a) by the date specified in either 335-13-15-.03(1)(d)1. or 2.

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 335-13-15-.03(1)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(e).

4. An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.03(1)(a) by the date specified in 335-13-15-.03(1)(d)1. is subject to the requirements of 335-13-15-.07(2)(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 335-13-15-.03(1)(a) 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 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the internet requirements specified in 335-13-15-.08(3)(e).

(2) 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 335-13-1-.03, unless the owner or operator demonstrates by the dates specified in 335-13-15-.03(2)(c) that the CCR unit meets the requirements of 335-13-15-.03(2)(a)1. through 5.

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 335-13-15-.03(2)(a)1. through 3., 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 335-13-15-.03(2)(a)1. through 4.

(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 335-13-15-.03(2)(a).

(c) The owner or operator of the CCR unit must complete the demonstrations required by 335-13-15-.03(2)(a) by the date specified in either 335-13-15-.03(2)(c)1. or 2.

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 335-13-15-.03(2)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(e).

4. An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.03(2)(a) by the date specified in 335-13-15-.03(2)(c)1. is subject to the requirements of 335-13-15-.07(2)(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 335-13-15-.03(2)(a) is prohibited from placing CCR in the CCR unit.

(d) The owner or operator must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the internet requirements specified in 335-13-15-.08(3)(e).

(3) 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 335-13-15-.03(3)(c) 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 335-13-15-.03(3)(a).

(c) The owner or operator of the CCR unit must complete the demonstration required by 335-13-15-.03(3)(a) by the date specified in either 335-13-15-.03(3)(c)1. or 2.

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 335-13-15-.03(3)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(e).

4. An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.03(3)(a) by the date specified in 335-13-15-.03(3)(c)1. is subject to the requirements of 335-13-15-.07(2)(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 335-13-15-.03(3)(a) 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 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the internet requirements specified in 335-13-15-.08(3)(e).

(4) 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 335-13-15-.03(4)(c) 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 335-13-15-.03(4)(a).

(c) The owner or operator of the CCR unit must complete the demonstration required by 335-13-15-.03(4)(a) by the date specified in either 335-13-15-.03(4)(c)1. or 2.

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 335-13-15-.03(4)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(e).

4. An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.03(4)(a) by the date specified in 335-13-15-.03(4)(c)1. is subject to the requirements of 335-13-15-.07(2)(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 335-13-15-.03(4)(a) 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 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the internet requirements specified in 335-13-15-.08(3)(e).

(5) 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 335-13-15-.03(5)(d) 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.

ED_002047_00000009-00144

(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 335-13-15-.03(5)(a).

(d) The owner or operator of the CCR unit must complete the demonstration required by 335-13-15-.03(5)(a) by the date specified in either 335-13-15-.03(5)(d)1. or 2.

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 335-13-15-.03(5)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.03(5)(a) by the date specified in 335-13-15-.03(5)(d)1. is subject to the requirements of 335-13-15-.07(2)(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 335-13-15-.03(5)(a) 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 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the internet requirements specified in 335-13-15-.08(3)(e).

(6) Buffer Requirement. A buffer requirement of 100 feet measured in a horizontal plane shall be required from the perimeter of the facility boundary. In addition, a 100 foot buffer shall be required around wetlands, beaches, or dunes. No disposal or storage practices for waste shall take place in the buffer zone. Roads, access control measures, earth storage, and buildings may be placed in the buffer zone.

Author: Heather M. Jones
Statutory Authority: Code of Alabama 1975, §§ 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.04 Design Criteria.

(1) 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 335-13-15-.04(1)(b) or an alternative composite liner that meets the requirements in 335-13-15-.04(1)(c), and a leachate collection and removal system that meets the requirements of 335-13-15-.04(1)(d).

2. Prior to construction of an overfill the underlying surface impoundment must meet the requirements of 335-13-15-.07(3)(d).

(b) A composite liner must consist of two components; the upper component consisting of, at a minimum, a 40-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 $1x10^{-7}$ 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

ED_002047_00000009-00146

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 40-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 $1x10^{-7}$ 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 $1x10^{-7}$ cm/sec. The hydraulic conductivity for the two feet of compacted soil used in the comparison shall be no greater than $1x10^{-7}$ cm/sec. The hydraulic conductivity of any alternative to the two feet of compacted soil must be determined using recognized and generally accepted methods. The liquid flow rate comparison must be made using Equation 1 of this section, which is derived from Darcy's Law for gravity flow through porous media.

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

Where,
Q = flow rate (cubic centimeters/second);
A = surface area of the liner (squared centimeters);
q = flow rate per unit area (cubic centimeters/ second/squared centimeter);
k = hydraulic conductivity of the liner (centimeters/second);
h = hydraulic head above the liner (centimeters); and
t = thickness of the liner (centimeters).

3. The alternative composite liner must meet the requirements specified in 335-13-15-.04(1)(b)1. through 4.

(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 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

(2) 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 $1x10^{-7}$ cm/sec;

(ii) A composite liner that meets the requirements of 335-13-15-.04(1)(b); or

(iii) An alternative composite liner that meets the requirements of 335-13-15-.04(1)(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 335-13-15-.04(2)(a)1.(i), (ii), or (iii); 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 335-13-15-.04(2)(a)1.(i), (ii), or (iii).

4. All existing unlined CCR surface impoundments are subject to the requirements of 335-13-15-.07(2)(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 335-13-15-.04(2)(a) is accurate. This certification must be submitted to the Department.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

(3) 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 335-13-15-.04(1)(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. This certification must be submitted to the Department.

(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 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

(4) Structural integrity criteria for existing CCR surface impoundments.

(a) The requirements of 335-13-15-.04(4)(a)1. through 4. 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 335-13-15-.04(4)(a)1. through 4.

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 335-13-15-.04(4)(f). 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 335-13-15-.04(4)(a)2.(i) was conducted in accordance with the requirements of this section. This certification must be submitted to the Department.

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 335-13-15-.04(4)(a)2. must prepare and maintain a written EAP. At a minimum, the EAP must:

(I) 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;

(II) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;

(III) Provide contact information of emergency responders;

(IV) 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

(V) 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.

(I) The owner or operator of a CCR unit subject to the requirements of 335-13-15-.04(4)(a)3.(i) may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by 335-13-15-.08(1)(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.

(II) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in 335-13-15-.04(4)(a)3.(i) is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by 335-13-15-.08(1)(f)6.

(iii) Changes in hazard potential classification.

(I) 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 335-13-15-.08(1)(f)5.

(II) 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 335-13-15-.04(4)(a)3.(i) 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 335-13-15-.04(4)(a)3. The EAP, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(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. Deep rooted vegetation (roots that may grow below the six inch erosion layer) shall be prohibited as vegetative cover.

(b) The requirements of 335-13-15-.04(4)(c) through (e) 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 335-13-15-.04(4)(c)1.(i) through (xi).

(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 feature 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 335-13-15-.04(4)(c)1., 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 335-13-15-.08(1)(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 include deep rooted vegetation (roots that may grow below the six inch erosion layer);

(v) A single spillway or a combination of spillways configured as specified in 335-13-15-.04(4)(d)1.(v)(I). 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 335-13-15-.04(4)(d)1.(v)(II).

(I) All spillways must be either:

I. Of non-erodible construction and designed to carry sustained flows; or

II. Earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

(II) The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a:

I. Probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or

II. 1000-year flood for a significant hazard potential CCR surface impoundment; or

III. 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 335-13-15-.04(4)(d)1. 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 of a CCR unit must remedy the deficiency or release as soon as feasible and prepare a report detailing the corrective measures taken. This report must be submitted to the Department for review and approval.

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. This certification must be submitted to the Department.

(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 335-13-15-.04(4)(e)1.(i) through (iv) 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 335-13-15-.04(4)(e)1. meets the requirements of this section. This certification must be submitted to the Department.

(f) Timeframes for periodic assessments.

1. Initial assessments. Except as provided by 335-13-15-.04(4)(f)2., the owner or operator of the CCR unit must complete the initial assessments required by 335-13-15-.04(4)(a)2., (d), and (e) 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 335-13-15-.04(4)(a)2., (d) and (e) in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(4)(a)2., (d), and (e) 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 335-13-15-.04(4)(a)2., (d), and (e).

3. Frequency for conducting periodic assessments. The owner or operator of the CCR unit must conduct and complete the assessments required by 335-13-15-.04(4)(a)2., (d), and (e) 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 335-13-15-.04(4)(f)2., 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. The owner or operator has completed an assessment when the relevant assessment(s) required by 335-13-15-.04(4)(a)2., (d), and (e) has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(4)(e) is subject to the requirements of 335-13-15-.07(2)(b)2.

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

(5) <u>Structural integrity criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment</u>.

(a) The requirements of 335-13-15-.04(5)(a)1. through 4. 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 335-13-15-.04(5)(a)1. through 4.

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 335-13-15-.04(5)(f). 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 335-13-15-.04(5)(a)2.(i) was conducted in accordance with the requirements of this section. This certification must be submitted to the Department.

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 335-13-15-.04(5)(a)2. must prepare and maintain a written EAP. At a minimum, the EAP must:

(I) 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;

(II) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;

(III) Provide contact information of emergency responders;

(IV) 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

(V) 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.

(I) The owner or operator of a CCR unit subject to the requirements of 335-13-15-.04(5)(a)3.(i) may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by 335-13-15-.08(1)(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.

(II) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in 335-13-15-.04(5)(a)3.(i) is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by 335-13-15-.08(1)(f)6.

(iii) Changes in hazard potential classification.

(I) 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 335-13-15-.08(1)(f)5.

(II) 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 335-13-15-.04(5)(a)3.(i) 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 335-13-15-.04(5)(a)3. The EAP, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(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. Deep rooted vegetation (roots that may grow below the six inch erosion layer) shall be prohibited as vegetative cover.

(b) The requirements of 335-13-15-.04(5)(c) through (e) 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 of a CCR unit must compile the design and construction plans for the CCR unit, which must include, to the extent feasible, the information specified in 335-13-15-.04(5)(c)1.(i) through (xi).

(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 feature 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 335-13-15-.04(5)(c)1., 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 335-13-15-.08(1)(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 include deep rooted vegetation (roots that may grow below the six inch erosion layer);

(v) A single spillway or a combination of spillways configured as specified in 335-13-15-.04(5)(d)1.(v)(I). 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 335-13-15-.04(5)(d)1.(v)(II).

(I) All spillways must be either:

I. Of non-erodible construction and designed to carry sustained flows; or

II. Earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

(II) The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a:

I. Probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or

II. 1000-year flood for a significant hazard potential CCR surface impoundment; or

III. 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 335-13-15-.04(5)(d)1. 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 of a CCR unit must remedy the deficiency or release as soon as feasible and prepare a report detailing the corrective measures taken. This report must be submitted to the Department for review and approval.

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. This certification must be submitted to the Department.

(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 335-13-15-.04(5)(e)1.(i) through (v) 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 335-13-15-.04(5)(e)1. meets the requirements of this section. This certification must be submitted to the Department.

(f) Timeframes for periodic assessments.

1. Initial assessments. Except as provided by 335-13-15-.04(5)(f)2., the owner or operator of the CCR unit must complete the initial assessments required by 335-13-15-.04(5)(a)2., (d), and (e) 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 335-13-15-.04(5)(a)2., (d), and (e) in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(5)(a)2., (d), and (e) 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, the owner or operator has completed an assessment when the relevant assessment(s) required by 335-13-15-.04(5)(a)2., (d), and (e) has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(5)(e)1.(i) through (v), 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 335-13-15-.04(5)(e) is subject to the requirements of 335-13-15-.07(2)(c).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

Author: S. Scott Story
Statutory Authority: Code of Alabama 1975, §§ 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.05 Operating Criteria.

(1) 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 335-13-15-.05(1)(b)1. through 7. 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 chapter 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 335-13-15-.08(1)(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 335-13-15-.08(1)(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. The CCR fugitive dust control plan, as well as the certification from a qualified professional engineer must be submitted to the Department for approval.

(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. The owner or operator has completed the annual CCR fugitive dust control report when the plan has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(g)2.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(2) 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 and/or closed 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 and/or closed 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 and/or closed portion of the CCR unit must be handled in accordance with the surface water requirements under 335-13-4-.01(2)(a) and (b).

(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 335-13-15-.05(2)(c)3. and 4. 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 335-13-15-.08(1)(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 335-13-15-.08(1)(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 335-13-15-.05(2)(c)1. 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. 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 335-13-15-.08(1)(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. The run-on and run-off control system plans, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(3) <u>Hydrologic and hydraulic capacity requirements for CCR surface</u>

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 335-13-15-.05(3)(a)1. and 2.

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 335-13-15-.05(3)(a)3.

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 335-13-15-.05(3)(a)3.

3. The inflow design flood is:

(i) For a high hazard potential CCR surface impoundment, as determined under 335-13-15-.04(4)(a)2. or 335-13-15-.04(5)(a)2., the probable maximum flood;

(ii) For a significant hazard potential CCR surface impoundment, as determined under 335-13-15-.04(4)(a)2. or 335-13-15-.04(5)(a)2., the 1,000-year flood;

(iii) For a low hazard potential CCR surface impoundment, as determined under 335-13-15-.04(4)(a)2. or 335-13-15-.04(5)(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 335-13-4-.01(2)(a) and (b).

(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 335-13-15-.05(3)(c)3.and 4. 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 335-13-15-.08(1)(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 335-13-15-.08(1)(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 335-13-15-.05(3)(c)1. 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. 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 335-13-15-.08(1)(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 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(4) <u>Inspection requirements for CCR surface impoundments</u>.

(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 335-13-15-.08(1)(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 335-13-15-.05(4)(a) 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 335-13-15-.05(4)(a) 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 335-13-15-.04(4)(d) or 335-13-15-.04(5)(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 335-13-15-.04(4)(c)1. and 335-13-15-.04(5)(c)1., previous periodic structural stability assessments required under 335-13-15-.04(4)(d) and 335-13-15-.04(5)(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 335-13-15-.05(4)(b)1. and 2. 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 335-13-15-.05(4)(b)1. and 2. 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 335-13-15-.05(4)(b)4.(ii), the owner or operator of the CCR unit must conduct the inspection required by 335-13-15-.05(4)(b)1. and 2. 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. The owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.04(4)(d) and 335-13-15-.04(5)(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, 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 a report detailing the corrective measures taken. This report must be submitted to the Department for review and approval.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(5) 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 335-13-15-.08(1)(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 335-13-15-.05(5)(a) 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 335-13-15-.05(5)(a) 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 335-13-15-.05(5)(b)1. and 2. 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 335-13-15-.05(5)(b)1. and 2. 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 335-13-15-.05(5)(b)1. and 2. 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. The owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 a report detailing the corrective measures taken. This report must be submitted to the Department for review and approval.

(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).

(6) General operational standards for CCR units.

(a) The operation and use of the CCR unit shall be as stipulated in the approved plans and the permit.

(b) The disposal area shall be identified with a sufficient number of permanent markers which are at least visible from one marker to the next.

(c) Open Burning.

1. Open burning at any CCR unit is prohibited unless approved by the Department as follows:

(i) Clearing debris at the CCR unit such as trees and stumps may be burned if prior approval is received from the Department and the Alabama Forestry Commission.

(ii) If approved, burning shall not occur within 200 feet of existing disposal operations unless otherwise specified by the Department and such burning shall not cause a public nuisance or pose a threat to public health.

2. The person or agency requesting permission to burn shall apply in

writing to the Department, outlining why a burn request should be granted. This request should include, but not be limited to, specifically what areas will be utilized, types of waste to be burned, the projected starting and completion dates for the project, and the projected days and hours of operation.

(d) The owner or operator of a CCR landfill unit must prevent the disposal of free liquids in the CCR landfill.

(e) Adequate equipment shall be provided to insure continued operation in accordance with the permit and regulations.

(f) The site shall be adequately secured using artifical barriers, natural barriers, or both to prevent entry of unauthorized vehicular traffic.

(g) Adequate personnel shall be provided to insure continued and smooth operation of the facility.

(h) Provisions shall be made for disposal activities in adverse weather conditions.

(i) Environmental monitoring and treatment structures shall be clearly marked and identified, protected and maintained in good repair and shall be easily accessible.

Author: Eric L. Sanderson
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.06 Groundwater Monitoring and Corrective Action.

(1) Applicability.

(a) All CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under 335-13-15-.06(1) through 335-13-15-.06(9).

(b) Groundwater monitoring requirements under paragraphs (1) through (6) of this rule may be suspended by the Department for a CCR unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from the CCR unit to the uppermost aquifer, as defined in 335-13-15-.02, during the active life of the CCR unit and the post-closure care period. This demonstration must be certified by a qualified professional engineer, as defined by 335-13-15-.02, and approved by the Department. The information used to make the demonstration must be re-evaluated every ten years and submitted to the Department for approval. The initial, and any subsequent demonstration must be based upon:

ED_002047_00000009-00174

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

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

The provisions of 335-13-15-.06(1)(b) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].

(c) 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 335-13-15-.06(2);

(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 335-13-15-.06(4);

(iii) Initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient well as required by 335-13-15-.06(5)(b); and

(iv) Begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in Appendix III as required by 335-13-15-.06(5).

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 335-13-15-.06(1)(c)1.(i)and (ii). 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 335-13-15-.06(5)(b).

(d) Once a groundwater monitoring system and groundwater monitoring program has been established at the CCR unit as required by this chapter, 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.

(e) 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 335-13-15-.06(7), 335-13-15-.06(8), and 335-13-15-.06(9).

(f) 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 chapter, 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. The owner or operator has prepared the annual report when the report is submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.06(1) through 335-13-15-.06(9), 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 as a statistically significant increase over background levels); and

5. Other information required to be included in the annual report as specified in 335-13-15-.06(1) through 335-13-15-.06(9).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(2) 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.

3. The number, spacing, and depth of the monitoring system developed under 335-13-15-.06(2) shall be certified by a qualified professional engineer and

submitted to the Department for approval. Within 14 days of the Department's approval, the owner or operator must notify the Department that the certification has been placed in the facility operating record.

(c) The groundwater monitoring system must include the number of monitoring wells necessary to meet the performance standards specified in 335-13-15-.06(2)(a), based on the site-specific information specified in 335-13-15-.06(2)(b). 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 335-13-15-.06(2)(a) through (c) 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 335-13-15-.04(2)(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 are detected at statistically significant levels above the groundwater protection standard established under 335-13-15-.06(6)(h) or (i) for the multiunit system, then all unlined CCR surface impoundments comprising the multiunit groundwater monitoring system are subject to the requirements under 335-13-15-.07(2)(a) to retrofit or close.

(e) Well design and construction.

1. Groundwater monitoring wells shall be designed and constructed in accordance with the following reference: "Design and Installation of Groundwater Monitoring Wells in Aquifers", ASTM Subcommittee D18.21 on Groundwater Monitoring or otherwise as specifically approved by the Department.

2. Plans for groundwater monitoring well location, design, construction and/or abandonment shall be submitted to the Department for review and approval prior to installation or abandonment.

3. 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.

4. 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 335-13-15-.06(2)(f).

5. 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 335-13-15-.06(2)(c)1., the certification must document the basis supporting this determination. Once completed, the certification must be submitted to the Department and placed in the operating record in accordance with 335-13-15-.08(1)(h)3.

(g) Abandoned wells and bore holes shall be abandoned in accordance with the following procedures in order to prevent contamination of groundwater resources. A plan of abandonment must be submitted and approved by the Department prior to implementing abandonment of any well.

1. A well shall be measured for depth prior to sealing to ensure that it is free from any obstructions that may interfere with sealing operations.

2. Where feasible, wells shall be completely filled with neat cement. If the well cannot be completely filled, the sealing materials for the top 20 feet must be neat

cement and no material that could impart taste, odor, or toxic components to water may be used in the sealing process.

3. Liner pipe shall be removed from each well in order to ensure placement of an effective seal. If the liner pipe cannot be readily removed, it shall be perforated to ensure that proper sealing is obtained.

4. Concrete, cement grout, or neat cement shall be used as primary sealing materials and shall be placed from the bottom upwards using methods that will avoid segregation or dilution of material.

5. Complete, accurate records of the abandonment procedure shall be kept for each well abandoned. The record of abandonment shall include, at a minimum, the depth of each layer of all sealing and backfilling materials, the quantity of sealing materials used, measurements of static water levels and depth, and any changes made in the well during the sealing. A copy of these records shall be submitted to the Department and a copy placed in the operating record.

(h) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(3) [Reserved]

(4) 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 335-13-15-.06(2). The owner or operator of the CCR unit must develop, and submit to the Department for approval, 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 335-13-15-.06(1) through 335-13-15-.06(9), the term constituent refers to both hazardous constituents and other monitoring parameters listed in either Appendix III or IV.

(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 335-13-15-.06(5)(a) or 335-13-15-.06(6)(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 335-13-15-.06(2)(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 335-13-15-.06(4)(f) and the performance standards under 335-13-15-.06(4)(g). The sampling procedures shall be those specified under 335-13-15-.06(5)(b) through (d) for detection monitoring, 335-13-15-.06(6)(b) through (d) for assessment monitoring, and 335-13-15-.06(7)(b) for corrective action.

(f) The owner or operator of the CCR unit must specify in writing to the Department and place in the operating record one of the statistical methods specified in 335-13-15-.06(4)(f)1. through 5. 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 335-13-15-.06(4)(g). The owner or operator must place a justification for this alternative in the operating record and submit it to the Department for approval to use this alternative method. The justification must demonstrate that the alternative method meets the performance standards of 335-13-15-.06(4)(g).

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 335-13-15-.06(4)(f) 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 be 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 and certify in writing to the Department if there is a statistically significant increase over background values or the groundwater protection standard for each constituent required in the particular groundwater monitoring program that applies to the CCR unit, as determined under 335-13-15-.06(5)(a) or 335-13-15-.06(6)(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 335-13-15-.06(2)(a)2. or (d)1. to the background value of that constituent when in detection monitoring or to the groundwater protection standard when in assessment monitoring, according to the statistical procedures and performance standards specified under 335-13-15-.06(4)(f) and (g).

2. Within 30 days after completing sampling and receiving analytical results, the owner or operator must determine whether there has been a statistically significant increase over background when in detection monitoring or to the groundwater protection standard when in assessment monitoring for any constituent at each monitoring well.

3. If a statistically significant increase is detected over background

groundwater quality when in detection monitoring or over the groundwater protection standard when in assessment monitoring, the owner or operator must notify the Department in writing within 14 days of this event.

(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 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(5) 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.

1. At a minimum, a detection monitoring program must include groundwater monitoring for the constituents listed in Appendix III of this chapter.

2. The Department may establish an alternative list of parameters, in addition to the Appendix III constituents, if the additional parameters provide a reliable indication of releases from the CCR unit to the groundwater. In determining additional parameters, the Department shall consider the following factors:

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

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

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

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

(b) Except as provided in 335-13-15-.06(5)(d), the monitoring frequency for the constituents listed in 335-13-15-.06(5)(a) 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, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV, for the purpose of establishing background concentrations 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 335-13-15-.06(5)(a) for the purpose of establishing background concentrations 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 335-13-15-.06(4)(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, or the alternative list as provided by in 335-13-15-.06(5)(a)2., 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 335-13-15-.06(5)(d)1. and 2.

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 submit the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer to the Department for approval. If Departmental approval is granted, the owner or operator must place the demonstration in the annual

groundwater monitoring and corrective action report required by 335-13-15-.06(1)(f).

(e) If the owner or operator of the CCR unit determines, pursuant to 335-13-15-.06(4)(h) that there is a statistically significant increase over background levels for one or more of the constituents listed in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., at any monitoring well at the waste boundary specified under 335-13-15-.06(2)(a)2., the owner or operator must:

1. Except as provided for in 335-13-15-.06(5)(e)2., within 90 days of detecting a statistically significant increase over background levels for any constituent, establish an assessment monitoring program meeting the requirements of 335-13-15-.06(6).

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. A report documenting this demonstration must be certified by a qualified professional engineer verifying the accuracy of the information in the report, and placed in the operating record. 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, subject to subsequent review and approval from the Department. 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 335-13-15-.06(6). The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(f), 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 a statistically significant increase over background has been detected and 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 335-13-15-.08(1)(h)5; and

4. Must, within 14 days of this finding, place a notice in the operating record, and submit a copy of this notice to the Department, indicating which constituents have shown statistically significant changes from background levels.

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the Internet requirements specified in 335-13-15-.08(3)(h).

(g) The owner or operator of a CCR unit must submit a semi-annual report to the Department to coincide with the semi-annual sampling event. The report shall be certified by a qualified professional engineer.

(6) 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, or the alternative list as provided by in 335-13-15-.06(5)(a)2.

(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 III, or the alternative list as provided by in 335-13-15-.06(5)(a)2,. and Appendix IV. The number of samples collected and analyzed for each well during each sampling event must be consistent with 335-13-15-.06(4)(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 III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV 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 335-13-15-.06(6)(c)1. and 2.

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;

(iii) Groundwater flow rates; and

(iv) Nature (fate and transport) of any constituents detected in response to this rule.

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 submit the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer to the Department for approval. If Departmental approval is granted, the owner or operator must place the demonstration in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(f).

(d) After obtaining the results from the initial and subsequent sampling events required in 335-13-15-.06(6)(b), the owner or operator must:

1. Within 14 days, place a notice in the operating record and submit a copy of this notice to the Department identifying the Appendix IV constituents that have been detected;

2. 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 335-13-15-.06(2), conduct analyses for all parameters in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and for those constituents in Appendix IV that are detected in response to 335-13-15-.06(6)(b), 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 335-13-15-.06(4)(e), and must account for any unique characteristics of the site, but must be at least one sample from each background and downgradient well;

3. Establish groundwater protection standards for all Appendix IV constituents detected pursuant to 335-13-15-.06(6)(b) or (d). The groundwater protection standards must be established in accordance with 335-13-15-.06(6)(h) or (i); and

4. Include the recorded concentrations required by 335-13-15-.06(6)(d)2., identify the background concentrations established under 335-13-15-.06(5)(b), and identify the groundwater protection standards established under 335-13-15-.06(6)(d)3. in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(f).

5. The Department may specify an alternative monitoring frequency during the active life (including closure) and the post-closure period for the constituents referred to 335-13-15-.06(6)(d)2. The alternative frequency shall be no less than annual and shall be based on consideration of the factors specified in 335-13-15-.06(6)(c)

ED_002047_00000009-00188

The provisions of 335-13-15-.06(6)(d)5. will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].

(e) If the concentrations of all constituents listed in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV are shown to be at or below background values, using the statistical procedures in 335-13-15-.06(4)(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 335-13-15-.08(1)(h)7 and submitted to the Department.

(f) If the concentrations of any constituent in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV are above background values, but all concentrations are below the groundwater protection standard established under 335-13-15-.06(6)(h) or (i), using the statistical procedures in 335-13-15-.06(4)(g), the owner or operator must continue assessment monitoring in accordance with this section.

(g) If one or more constituents in Appendix IV are detected at statistically significant levels above the groundwater protection standard established under 335-13-15-.06(6)(h) or (i) in any sampling event, the owner or operator must prepare a notification identifying the constituents in Appendix IV 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 335-13-15-.08(1)(h)8. The owner or operator of the CCR unit also must:

1. Submit a copy of the notification to the Department and all appropriate local government officials, if the facility is subject to the local host government approval requirements as specified in 335-13-5-.02(a); and

2. 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 335-13-15-.06(7). 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 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 335-13-15-.06(6)(d)2. or 5.; and

(iv) Sample all wells in accordance with 335-13-15-.06(6)(d)2. or 5. to characterize the nature and extent of the release.

3. 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 335-13-15-.06(6)(g)2. The owner or operator has completed the notifications when they are placed in the facility's operating record as required by 335-13-15-.08(1)(h)8.

4. Within 90 days of finding that any of the constituents listed in Appendix IV 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 335-13-15-.06(7); 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 and approved by the Department. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV are at or below background as specified in 335-13-15-.06(6)(e). The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(f), in addition to the certification by a qualified professional engineer.

5. If a successful determination has not been made at the end of the 90 day period provided by 335-13-15-.06(6)(g)4., the owner or operator of the CCR unit must initiate the assessment of corrective measures requirements under 335-13-15-.06(7).

6. If an assessment of corrective measures is required under 335-13-15-.06(7) by either 335-13-15-.06(6)(g)4.(i) or (g)5., and if the CCR unit is an existing unlined CCR surface impoundment as determined by 335-13-15-.04(2)(a), then the CCR unit is subject to the requirements under 335-13-15-.07(2)(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 detected in the groundwater. The groundwater protection standard shall be:

1. For constituents for which a maximum contaminant level (MCL) has been established under 335-7-2-.03(1) and 335-7-2-.08(1) and (2), 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 335-13-15-.06(5)(b); or

3. For constituents for which the background level is higher than the MCL identified under 335-13-15-.06(6)(h)1., the background concentration.

(i) The Department may establish an alternative groundwater protection standard for constituents for which MCLs have not been established. These groundwater protection standards shall be appropriate health based levels that satisfy the following criteria:

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

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

3. For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) with the $1x10^{-4}$ to $1x10^{-6}$ range; and

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

The provisions of 335-13-15-.06(6)(i) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].

(j) In establishing groundwater protection standards under subparagraph (i) of this paragraph, the Department may consider the following:

1. Multiple contaminants in the groundwater;

2. Exposure threats to sensitive environmental receptors; and

3. Other site-specific exposure or potential exposure to groundwater.

(k) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(7) Assessment of corrective measures.

(a) Within 90 days of finding that any constituent listed in Appendix IV has been detected at a statistically significant level exceeding the groundwater protection standard defined under 335-13-15-.06(6)(h) or (i), 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 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 must obtain a certification from a qualified professional engineer attesting that the demonstration is accurate and submit the demonstration to the Department for approval. 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 335-13-15-.06(1)(f), 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 335-13-15-.06(6).

(c) The assessment under 335-13-15-.06(7)(a) 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 335-13-15-.06(8) 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 335-13-15-.08(1)(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 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(8) Selection of remedy.

(a) Based on the results of the corrective measures assessment conducted under 335-13-15-.06(7), the owner or operator must, as soon as feasible, select a remedy that, at a minimum, meets the standards listed in 335-13-15-.06(8)(b). 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 335-13-15-.06(8)(b). The owner or operator must obtain a certification from a qualified professional engineer that the remedy selected meets the requirements of this section. Within 14 days of selecting a remedy, the owner or operator must submit the report to the Department for approval of the selected remedy. The report has been completed when it is placed in the operating record as required by 335-13-15-.08(1)(h)12.

(b) Remedies must:

1. Be protective of human health and the environment;

2. Attain the groundwater protection standard as specified pursuant to 335-13-15-.06(6)(h) or (i);

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 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 335-13-15-.06(9)(e).

(c) In selecting a remedy that meets the standards of 335-13-15-.06(8)(b), 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. Feasibility of the owner or operator, including a consideration of the technical feasibility.

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

The provisions of 335-13-15-.06(8)(c)4. will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].

(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 335-13-15-.06(8)(d)1. through 6. 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 335-13-15-.06(6)(g);

2. Reasonable probabilities of remedial technologies in achieving compliance with the groundwater protection standards established under 335-13-15-.06(6)(h) or (i) 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 Department may determine that remediation of a release of an Appendix IV constituent from a CCR unit is not necessary if the owner or operator demonstrates to the Department that:

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

2. The constituent(s) is present in groundwater that:

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

(ii) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the groundwater protection standards established under subparagraphs (6)(h) or (i) of this rule; or

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

4. Remediation results in unacceptable cross-media impacts.

The provisions of 335-13-15-.06(8)(e) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].

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

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).

(9) Implementation of the corrective action program.

(a) Within 90 days of selecting a remedy under 335-13-15-.06(8), the owner or operator must initiate remedial activities. Based on the schedule established under 335-13-15-.06(8)(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 335-13-15-.06(6);

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

(iii) Demonstrates compliance with the groundwater protection standard pursuant to 335-13-15-.06(9)(d).

2. Implement the corrective action remedy selected under 335-13-15-.06(8); 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 335-13-15-.06(8). 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;

(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 migrate or be released;

(vi) Potential for exposure to any of the constituents listed in Appendix IV 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 335-13-15-.06(8)(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, unless the owner or operator successfully makes the demonstration under subparagraph (c) of this paragraph.

(c) If the owner or operator demonstrates to the satisfaction of the Department that compliance with requirements under subparagraph (8)(b) of this section cannot be feasibly achieved with any currently available methods, the owner or operator must:

1. Obtain certification of a qualified professional engineer stating that compliance with the requirements under subparagraph (8)(b) of this section cannot be feasibly achieved with any currently available methods;

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

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

(i) Technically feasible; and

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

4. Submit the demonstration and the proposed alternative measures to the Department for review and approval within 14 days of completing the demonstration and prior to implementing the alternative measures. Concern over the costs associated with the remedial action is not sufficient to support the demonstration under this section.

The provisions of 335-13-15-.06(9)(c) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].

(d) Remedies selected pursuant to 335-13-15-.06(8) shall be considered complete when:

1. The owner or operator of the CCR unit demonstrates compliance with the groundwater protection standards established under 335-13-15-.06(6)(h) or (i) has been achieved at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under 335-13-15-.06(2).

2. Compliance with the groundwater protection standards established under 335-13-15-.06(6)(h) or (i) has been achieved by demonstrating that concentrations of constituents listed in Appendix IV have not exceeded the groundwater protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in 335-13-15-.06(4)(f) and (g).

(i) The Department may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of Appendix IV constituents have not exceeded the groundwater protection standard(s) taking into consideration:

I. Extent and concentration of the release(s);

II. Behavior characteristics of the hazardous constituents in the groundwater;

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

IV. Characteristics of the groundwater.

(ii) The provisions of 335-13-15-.06(9)(d)2.(i) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].

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

(e) All CCR that are managed pursuant to a remedy required under 335-13-15-.06(8), or an interim measure required under 335-13-15-.06(9)(a)3., shall be managed in a manner that complies with all applicable RCRA requirements.

(f) Upon completion of the remedy, the owner or operator must notify the Department within 14 days that a certification from a qualified professional engineer attesting that the remedy has been completed in compliance with the requirements of 335-13-15-.06(9)(d) has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified professional engineer and approved by the Department. The report has been completed when it is placed in the operating record as required by 335-13-15-.08(1)(h)13.

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements

specified in 335-13-15-.08(3)(h).

Author: Heather M. Jones
Statutory Authority: Code of Alabama 1975, §§ 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.07 Closure and Post-Closure Care.

(1) Inactive CCR surface impoundments.

(a) Inactive CCR surface impoundments are subject to all of the requirements of this chapter applicable to existing CCR surface impoundments.

(b) [Reserved]

(c) [Reserved]

(d) [Reserved]

(e) Timeframes for certain inactive CCR surface impoundments.

1. An inactive CCR surface impoundment for which the owner or operator has completed the actions by the deadlines specified in 335-13-15-.07(1)(e)1.(i) through (ii) is eligible for the alternative timeframes specified in 335-13-15-.07(1)(e)2. through 6. The owner or operator of the CCR unit must comply with the applicable recordkeeping and notification requirements associated with these provisions. For the inactive CCR surface impoundment:

(i) The owner or operator must have prepared and placed in the facility's operating record by December 17, 2015, a notification of intent to initiate closure of the inactive CCR surface impoundment pursuant to 335-13-15-.08(1)(i)1.; and

(ii) The owner or operator must have provided notification to the Director by January 19, 2016, of the intent to initiate closure of the inactive CCR surface impoundment pursuant to 335-13-15-.08(2)(i)1.

2. Location restrictions.

(i) No later than April 16, 2020, the owner or operator of the inactive CCR surface impoundment must:

(I) Complete the demonstration for placement above the uppermost aquifer as set forth by 335-13-15-.03(1)(a), (b), (c) and (d)3.;

(II) Complete the demonstration for wetlands as set forth by 335-13-15-.03(2)(a), (b), and (c)3.;

ED_002047_00000009-00200

(III) Complete the demonstration for fault areas as set forth by 335-13-15-.03(3)(a), (b), and (c)3.;

(IV) Complete the demonstration for seismic impact zones as set forth by 335-13-15-.03(4)(a), (b), and (c)3.; and

(V) Complete the demonstration for unstable areas as set forth by 335-13-15-.03(5)(a), (b), (c), and (d)3.

(ii) An owner or operator of an inactive CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.07(1)(e)2.(i) is subject to the closure requirements of 335-13-.15-.07(2)(b)1.

3. Design criteria. The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 17, 2018, complete the documentation of liner type as set forth by 335-13-15-.04(2)(a) and (b).

(ii) No later than June 16, 2017, place on or immediately adjacent to the CCR unit the permanent identification marker as set forth by 335-13-15-.04(4)(a)1.

(iii) [Reserved]

(iv) No later than April 17, 2018, compile a history of construction as set forth by 335-13-15-.04(4)(b) and (c).

4. Operating criteria. The owner or operator of the inactive CCR surface impoundment must:

(i) [Reserved]

(ii) No later than April 17, 2018, prepare the initial inflow design flood control system plan as set forth in 335-13-15-.05(3)(c).

(iii) No later than April 18, 2017, initiate the inspections by a qualified person as set forth by 335-13-15-.05(4)(a).

(iv) No later than July 19, 2017, complete the initial annual inspection by a qualified professional engineer as set forth by 335-13-15-.05(4)(b).

5. Groundwater monitoring and corrective action. The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 17, 2019, comply with groundwater monitoring requirements set forth in 335-13-15-.06(1) and 335-13-15-.06(5)(b); and

(ii) No later than August 1, 2019, prepare the initial groundwater monitoring and corrective action report as set forth in 335-13-15-.06(1)(f).

6. Closure and post-closure care. The owner or operator of the inactive CCR surface impoundment must:

(i) No later than April 17, 2018, prepare an initial written closure plan as set forth in 335-13-15-.07(3)(b); and

(ii) No later than April 17, 2018, prepare an initial written post-closure care plan as set forth in 335-13-15-.07(5)(d).

(2) Closure or retrofit of CCR units.

(a) The owner or operator of an existing unlined CCR surface impoundment, as determined under 335-13-15-.04(2)(a), is subject to the requirements of 335-13-15-.07(2)(a)1.

1. Except as provided by 335-13-15-.07(2)(a)3., 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 are detected at statistically significant levels above the groundwater protection standard established under 335-13-15-.06(6)(h) or (i) 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 waste streams into such CCR surface impoundment and either retrofit or close the CCR unit in accordance with the requirements of 335-13-15-.07(3).

2. An owner or operator of an existing unlined CCR surface impoundment that closes in accordance with 335-13-15-.07(2)(a)1. must include a statement in the notification required under 335-13-15-.07(3)(g) or (l)5. that the CCR surface impoundment is closing or retrofitting under the requirements of 335-13-15-.07(2)(a)1.

3. The timeframe specified in 335-13-15-.07(2)(a)1. does not apply if the owner or operator complies with the alternative closure procedures specified in 335-13-15-.07(4).

4. At any time after the initiation of closure under 335-13-15-.07(2)(a)1., the owner or operator may cease closure activities and initiate a retrofit of the CCR unit in accordance with the requirements of 335-13-15-.07(3)(l).

(b) The owner or operator of an existing CCR surface impoundment is subject to the requirements of 335-13-15-.07(2)(b)1.

1. Except as provided by 335-13-15-.07(2)(b)4., within six months of determining that an existing CCR surface impoundment has not demonstrated compliance with any location standard specified in 335-13-15-.03(1)(a), 335-13-15-.03(2)(a), 335-13-15-.03(3)(a), 335-13-15-.03(4)(a), and 335-13-15-.03(5)(a), the owner or operator of the CCR surface impoundment must cease placing CCR and non CCR waste streams into such CCR unit and close the CCR unit in accordance with the requirements of 335-13-15-.07(3).

2. Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by 335-13-15-.04(4)(e) by the deadlines specified in 335-13-15-.04(4)(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 335-13-15-.04(4)(e)1.(i) through (iv), the owner or operator of the CCR surface impoundment must cease placing CCR and non CCR waste streams into such CCR unit and close the CCR unit in accordance with the requirements of 335-13-15-.07(3).

3. An owner or operator of an existing CCR surface impoundment that closes in accordance with 335-13-15-.07(2)(b)1. or 2. must include a statement in the notification required under 335-13-15-.07(3)(g) that the CCR surface impoundment is closing under the requirements of 335-13-15-.07(2)(b)1. or 2.

4. The timeframe specified in 335-13-15-.07(2)(b)1. does not apply if the owner or operator complies with the alternative closure procedures specified in 335-13-15-.07(4).

(c) The owner or operator of a new CCR surface impoundment is subject to the requirements of 335-13-15-.07(2)(c)1.

1. Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by 335-13-15-.04(5)(e) by the deadlines specified in 335-13-15-.04(5)(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 335-13-15-.04(5)(e)1.(i) through (v), the owner or operator of the CCR surface impoundment must cease placing CCR and non CCR waste streams into such CCR unit and close the CCR unit in accordance with the requirements of 335-13-15-.07(3).

2. An owner or operator of an new CCR surface impoundment that closes in accordance with 335-13-15-.07(2)(c)1. must include a statement in the notification required under 335-13-15-.07(3)(g) that the CCR surface impoundment is closing under the requirements of 335-13-15-.07(2)(c)1.

(d) The owner or operator of an existing CCR landfill is subject to the requirements of 335-13-15-.07(2)(d)1.

1. Except as provided by 335-13-15-.07(2)(d)3., within six months of determining that an existing CCR landfill has not demonstrated compliance with the location restriction for unstable areas specified in 335-13-15-.03(5)(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 335-13-15-.07(3).

2. An owner or operator of an existing CCR landfill that closes in accordance with 335-13-15-.07(2)(d)1. must include a statement in the notification required under 335-13-15-.07(3)(g) that the CCR landfill is closing under the requirements of 335-13-15-.07(2)(d)1.

3. The timeframe specified in 335-13-15-.07(2)(d)1. does not apply if the owner or operator complies with the alternative closure procedures specified in 335-13-15-.07(4).

(3) 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 335-13-15-.07(3)(b) through (j). Retrofit of a CCR surface impoundment must be completed in accordance with the requirements in 335-13-15-.07(3)(l).

(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 owner or operator must submit the closure plan as part of the permit application to the Department. The written closure plan must include, at a minimum, the information specified in 335-13-15-.07(3)(b)1.(i) through (vi).

(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 335-13-15-.07(3)(c).

(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 335-13-15-.07(3)(d), 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 335-13-15-.07(3)(d).

(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 335-13-15-.07(3)(d) 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 335-13-15-.07(3)(f)1., the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under 335-13-15-.07(3)(f)2.

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 335-13-15-.07(3)(b)1.

(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 335-13-15-.07(3)(b)1.

(iii) The owner or operator has completed the written closure plan when the plan, including the certification required by 335-13-15-.07(3)(b)4., has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.07(3)(b)1. at any time.

(ii) The owner or operator must amend the written closure plan whenever:

(I) There is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; or

(II) 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. The closure plan, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(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 335-13-15-.06(6)(h) or (i) for constituents listed in Appendix IV.

(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 335-13-15-.07(3)(d)2.(i) and (ii) prior to installing the final cover system required under 335-13-15-.07(3)(d)3.

(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 335-13-15-.07(3)(d)3.(i), or the requirements of the alternative final cover system specified in 335-13-15-.07(3)(d)3.(ii).

(i) The final cover system must be designed and constructed to meet the criteria in 335-13-15-.07(3)(d)3.(i)(I) through (VII). The design of the final cover system must be included in the written closure plan required by 335-13-15-.07(3)(b).

(I) 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 $1x10^{-5}$ cm/sec, whichever is less.

(II) 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.

(III) The minimum final grade of the final cover system shall not be less than 5 percent.

(IV) The maximum final grade of the final cover system shall not exceed 25 percent, or as specified by the Department, to minimize erosion.

(V) Slopes longer than 25 feet shall require horizontal terraces, of sufficient width for equipment operation, for every 20 feet rise in elevation or utilize other erosion control measures approved by the Department.

(VI) 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.

(VII) 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 335-13-15-.07(3)(d)3.(i)(I) through (IV). The design of the final cover system must be included in the written closure plan required by 335-13-15-.07(3)(b).

(I) 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 335-13-15-.07(3)(d)3.(i)(I) and (II).

(II) 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 335-13-15-.07(3)(d)3.(i)(VI).

(III) 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 and submit to the Department 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 335-13-15-.07(3)(e)4. and 335-13-15-.07(4), the owner or operator of a CCR unit must commence closure of the CCR unit no later than the applicable timeframes specified in either 335-13-15-.07(3)(e)1. or 2.

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 335-13-15-.07(3)(e)2.(ii), 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 335-13-15-.07(3)(e)2.(i), the owner or operator of the CCR unit may request an additional two years to initiate closure of the idle unit provided the owner or operator provides written documentation to the

Department 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 335-13-15-.07(3)(e)2.(ii)(I) and (II). The Department may approve 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 submit each completed demonstration, if more than one time extension is sought, to the Department for approval and place in the facility's operating record as required by 335-13-15-.08(1)(i)5. prior to the end of any two-year period.

(I) 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

(II) 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 335-13-15-.07(3)(e)2.(ii)(II)I. through IV. 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.

I. 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.

II. 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.

III. 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.

IV. 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 335-13-15-.07(3)(e)2.(i), the owner

or operator of the CCR unit must include with the demonstration required by 335-13-15-.07(3)(e)2.(ii) 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 chapter, 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 335-13-15-.07(3)(b);

(ii) 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 335-13-15-.07(3)(e)1. and 2. do not apply to any of the following owners or operators:

(i) [Reserved]

(ii) An owner or operator of an existing unlined CCR surface impoundment closing the CCR unit as required by 335-13-15-.07(2)(a);

(iii) An owner or operator of an existing CCR surface impoundment closing the CCR unit as required by 335-13-15-.07(2)(b); or

(iv) An owner or operator of a new CCR surface impoundment closing the CCR unit as required by 335-13-15-.07(2)(c); or

(v) An owner or operator of an existing CCR landfill closing the CCR unit as required by 335-13-15-.07(2)(d).

(f) Completion of closure activities.

1. Except as provided for in 335-13-15-.07(3)(f)2., 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 335-13-15-.07(3)(f)1. may be extended if the owner or operator can demonstrate to the Department 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 335-13-15-.07(3)(b)1., 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 submit each completed demonstration, if more than one time extension is sought, to the Department for approval and place in the facility's operating record as required by 335-13-15-.08(1)(i)6. prior to the end of any two-year period. Factors that may support such a demonstration include:

(I) Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;

(II) 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; or

(III) The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit.

(ii) Maximum time extensions.

(I) CCR surface impoundments of 40 acres or smaller may extend the time to complete closure by no longer than two years.

(II) 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.

(III) 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.

ED_002047_00000009-00211

(iii) In order to obtain additional time extension(s) to complete closure of a CCR unit beyond the times provided by 335-13-15-.07(3)(f)1., the owner or operator of the CCR unit must include with the demonstration required by 335-13-15-.07(3)(f)2.(i) 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 335-13-15-.07(3)(b) 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 335-13-15-.07(3)(d)3.(iii), if applicable. The owner or operator has completed the notification when it has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.07(3)(f)3. The owner or operator has completed the notification when it has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(i)8.

(i) Deed notations.

1. Except as provided by 335-13-15-.07(3)(i)4., 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 335-13-15-.07(5)(d)1.(iii).

(iii) The locations and dimensions of the CCR unit with respect to permanently surveyed benchmarks and section corners shall be on a plat prepared and sealed by a land surveyor.

(iv) Contain a note, prominently displayed, which states the name of the permittee or operating agency, the type of CCR unit and the beginning and closure dates of the disposal activity.

(v) Certification by an engineer that all closure requirements have been completed as determined necessary by the Department.

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 335-13-15-.08(1)(i)9. and documentation of the recording of the notation on the deed has been submitted to the Department.

4. An owner or operator that closes a CCR unit in accordance with 335-13-15-.07(3)(c) is not subject to the requirements of 335-13-15-.07(3)(i)1. through 3.

(j) Following closure, the owner or operator of a CCR unit must provide an environmental covenant to the Department in compliance with 335-5. The owner or operator must place the executed environmental covenant in the facility's operating record as required by 335-13-15-.08(1)(i)10.

(k) The owner or operator of the CCR unit must comply with the closure recordkeeping requirements specified in 335-13-15-.08(1)(i), the closure notification requirements specified in 335-13-15-.08(2)(i), and the closure internet requirements specified in 335-13-15-.08(3)(i).

(l) 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 335-13-15-.04(3).

(iii) A CCR surface impoundment undergoing a retrofit remains subject to all other requirements of this chapter, 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:

(I) A narrative description of the specific measures that will be taken to retrofit the CCR unit in accordance with this section.

(II) A description of the procedures to remove all CCR and contaminated soils and sediments from the CCR unit.

(III) An estimate of the maximum amount of CCR that will be removed as part of the retrofit operation.

(IV) An estimate of the largest area of the CCR unit that will be affected by the retrofit operation.

(V) 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.

(I) No later than 60 days prior to the date of initiating retrofit activities, the owner or operator must prepare an initial written retrofit plan consistent with the requirements specified in 335-13-15-.07(3)(l)2. For purposes of this chapter, 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:

I. Taken any steps necessary to implement the written retrofit plan; or
II. 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.

(II) The owner or operator has completed the written retrofit plan when the plan, including the certification required by 335-13-15-.07(3)(l)2.(iv), has been placed in the facility's operating record as required by 335-13-15-.08(1)(j)1.

(iii) Amendment of a written retrofit plan.

(I) The owner or operator may amend the initial or any subsequent written retrofit plan at any time.

(II) The owner or operator must amend the written retrofit plan whenever:

I. There is a change in the operation of the CCR unit that would substantially affect the written retrofit plan in effect; or

II. Before or after retrofit activities have commenced, unanticipated events necessitate a revision of the written retrofit plan.

(III) 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. The retrofit plan, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

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 335-13-15-.07(3)(f) or, where applicable, 335-13-15-.07(4).

4. Upon completion, the owner or operator must obtain and submit to the Department a certification from a qualified professional engineer verifying that the retrofit activities have been completed in accordance with the retrofit plan specified in 335-13-15-.07(3)(l)2. 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 335-13-15-.08(1)(j)5.

6. Within 30 days of completing the retrofit activities specified in 335-13-15-.07(3)(l)1., 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 335-13-15-.07(3)(l)4. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by 335-13-15-.08(1)(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 335-13-15-.07(3).

8. The owner or operator of the CCR unit must comply with the retrofit recordkeeping requirements specified in 335-13-15-.08(1)(j), the retrofit notification requirements specified in 335-13-15-.08(2)(j), and the retrofit internet requirements specified in 335-13-15-.08(3)(j).

(4) 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 335-13-15-.07(2)(a), (b)1., or (d) may continue to receive CCR in the unit provided the owner or operator meets the requirements of 335-13-15-.07(4)(a) (b), or (c), as applicable.

(a) 1. No alternative CCR disposal capacity. Notwithstanding the provisions of 335-13-15-.07(2)(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, the owner or operator of the CCR unit must submit a plan to the Department for approval which demonstrates 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 chapter, including the requirement to conduct any necessary corrective action; and

(iv) The owner or operator must prepare and submit to the Department 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 335-13-15-.07(3)(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 335-13-15-.07(3)(e) and (f).

(b) 1. Permanent cessation of a coal-fired boiler(s) by a certain date. Notwithstanding the provisions of 335-13-15-.07(2)(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 335-13-15-.07(4)(b)2. through 4., 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, the owner or operator of the CCR unit must submit a plan to the Department for approval which demonstrates 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 chapter, including the requirement to conduct any necessary corrective action; and

(iii) The owner or operator must prepare and submit to the Department 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) 1. No alternative non CCR wastewater management capacity. Notwithstanding the provisions of 335-13-15-.07(2)(a), or (b)1., an existing CCR surface impoundment may continue to receive non CCR wastewater if the owner or operator of the CCR surface impoundment certifies that the non CCR wastewater must continue to be managed in that CCR surface impoundment due to the absence of alternative non CCR wastewater management capacity both on-site and off-site of the facility. To qualify under this paragraph, the owner or operator of the CCR surface impoundment must submit a plan to the Department for approval which demonstrates 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 chapter, including the requirement to conduct any necessary corrective action; and

(iv) The owner or operator must prepare and submit to the Department an annual progress report documenting the continued lack of alternative capacity and the progress towards the development of alternative non CCR wastewater management capacity.

2. Once alternative capacity is available, the CCR surface impoundment must cease receiving non CCR wastewater and initiate closure following the timeframes in 335-13-15-.07(3)(e) and (f).

3. If no alternative capacity is identified within five years after the initial certification, the CCR surface impoundment must cease receiving non CCR wastewater and close in accordance with the timeframes in 335-13-15-.07(3)(e) and (f).

The provisions of 335-13-15-.07(4)(c) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].

(d) Required notices and progress reports. An owner or operator of a CCR unit that closes in accordance with 335-13-15-.07(4)(a), (b) or (c) must complete the notices and progress reports specified in 335-13-15-.07(4)(d)1. through 3.

1. Within six months of becoming subject to closure pursuant to 335-13-15-.07(2)(a), (b)1., or (d), the owner or operator must prepare and submit to the Department for approval and place in the facility's operating record a request to comply with the alternative closure requirements of this section. The request must describe why the CCR unit qualifies for the alternative closure provisions under either 335-13-15-.07(4)(a), (b) or (c), in addition to providing the documentation and certifications required by 335-13-15-.07(4)(a), (b) or (c).

2. The owner or operator must prepare the periodic progress reports required by 335-13-15-.07(4)(a)1.(iv), (b)1.(iii) or (c)1.(iv), 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 335-13-15-.07(4)(d)1.

(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 335-13-15-.07(4)(d)2. when the reports are submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(i)12.

3. An owner or operator of a CCR unit must also prepare the notification of intent to close a CCR unit as required by 335-13-15-.07(3)(g).

(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(i), the notification requirements specified in 335-13-15-.08(2)(i), and the internet requirements specified in 335-13-15-.08(3)(i).

(5) Post-closure care requirements.

(a) Applicability.

1. Except as provided by either 335-13-15-.07(5)(a)2., this section applies to owners or operators of CCR landfills, CCR surface impoundments, and all lateral expansions of CCR units that are subject to the closure criteria under 335-13-15-.07(3).

2. An owner or operator of a CCR unit that elects to close a CCR unit by removing CCR as provided by 335-13-15-.07(3)(c) is not subject to the post-closure care criteria under this section.

(b) Post-closure care maintenance requirements. Following closure of the CCR unit, the owner or operator must conduct post-closure care for the CCR unit, which must consist of at least the following:

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

2. If the CCR unit is subject to the design criteria under 335-13-15-.04(1), 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 335-13-15-.04(1); and

3. Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of 335-13-15-.06(1) through 335-13-15-.06(9).

(c) Post-closure care period.

1. Except as provided by 335-13-15-.07(5)(c)2., 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 335-13-15-.06(6), the owner or operator must continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with 335-13-15-.06(6)(e).

3. The length of the post-closure care period may be:

(i) Decreased by the Department if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the Department; or

(ii) Increased by the Department if the Department determines that lengthening the post-closure care period is necessary to protect human health and the environment.

The provisions of 335-13-15-.07(5)(c)3. will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].

(d) Written post-closure plan.

1. Content of the plan. The owner or operator of a CCR unit must prepare and submit to the Department as part of the permit application a written post-closure plan that includes, at a minimum, the information specified in 335-13-15-.07(5)(d)1.(i) through (iii).

(i) A description of the monitoring and maintenance activities required in 335-13-15-.07(5)(b) 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 chapter. Any other disturbance may be approved by the Department 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, submitted to the Department for approval and 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 335-13-15-.07(5)(d)1.

(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 335-13-15-.07(5)(d)1.

(iii) The owner or operator has completed the written post-closure plan when the plan, including the certification required by 335-13-15-.07(5)(d)4., has been placed in the facility's operating record as required by 335-13-15-.08(1)(i)13.

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 335-13-15-.07(5)(d)1. at any time.

(ii) The owner or operator must amend the written closure plan whenever:

(I) There is a change in the operation of the CCR unit that would substantially affect the written post-closure plan in effect; or

(II) 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. The post-closure plan, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.

(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 335-13-15-.07(5)(d) and the requirements of this section. The owner or operator has completed the notification when it has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(i)14.

(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(i), the notification requirements specified in 335-13-15-.08(2)(i), and the internet requirements specified in 335-13-15-.08(3)(i).

Author: Heather M. Jones
Statutory Authority: Code of Alabama 1975, §§ 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.08 Recordkeeping, Notification, and Posting of Information to the Internet.

(1) Recordkeeping requirements.

(a) Each owner or operator of a CCR unit subject to the requirements of this chapter 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 chapter 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 Department any demonstration or documentation that is required by this chapter, or any other demonstration or documentation, if requested.

(e) Location restrictions. The owner or operator of a CCR unit subject to this chapter must place the demonstrations documenting whether or not the CCR unit is in compliance with the requirements under 335-13-15-.03(1)(a), 335-13-15-.03(2)(a), 335-13-15-.03(3)(a), 335-13-15-.03(4)(a), and 335-13-15-.03(5)(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 chapter must place the following information, as it becomes available, in the facility's operating record:

1. The design and construction certifications as required by 335-13-15-.04(1)(e) and (f).

2. The documentation of liner type as required by 335-13-15-.04(2)(a).

3. The design and construction certifications as required by 335-13-15-.04(3)(c) and (d).

4. Documentation prepared by the owner or operator stating that the permanent identification marker was installed as required by 335-13-15-.04(4)(a)1. and 335-13-15-.04(5)(a)1.

5. The initial and periodic hazard potential classification assessments as required by 335-13-15-.04(4)(a)2. and 335-13-15-.04(5)(a)2.

6. The emergency action plan (EAP), and any amendment of the EAP, as required by 335-13-15-.04(4)(a)3. and 335-13-15-.04(5)(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 335-13-15-.08(1)(b).

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 335-13-15-.04(4)(a)3.(i)(V) and 335-13-15-.04(5)(a)3.(i)(V).

8. Documentation prepared by the owner or operator recording all activations of the Emergency Action Plan (EAP) as required by 335-13-15-.04(4)(a)3.(v) and 335-13-15-.04(5)(a)3.(v).

9. The history of construction, and any revisions of it, as required by 335-13-15-.04(4)(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with 335-13-15-.07(3).

10. The initial and periodic structural stability assessments as required by 335-13-15-.04(4)(d) and 335-13-15-.04(5)(d).

11. Documentation detailing the corrective measures taken to remedy the deficiency or release as required by 335-13-15-.04(4)(d)2. and 335-13-15-.04(5)(d)2.

12. The initial and periodic safety factor assessments as required by 335-13-15-.04(4)(e) and 335-13-15-.04(5)(e).

13. The design and construction plans, and any revisions of it, as required by 335-13-15-.04(5)(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with 335-13-15-.07(3).

(g) Operating criteria. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.05(1)(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 335-13-15-.08(1)(b).

2. The annual CCR fugitive dust control report required by 335-13-15-.05(1)(c).

3. The initial and periodic run-on and run-off control system plans as required by 335-13-15-.05(2)(c).

4. The initial and periodic inflow design flood control system plan as required by 335-13-15-.05(3)(c).

5. Documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by 335-13-15-.05(4)(a).

6. The periodic inspection report as required by 335-13-15-.05(4)(b)2.

7. Documentation detailing the corrective measures taken to remedy the deficiency or release as required by 335-13-15-.05(4)(b)5. and 335-13-15-.05(5)(b)5.

8. Documentation recording the results of the weekly inspection by a

ED_002047_00000009-00224

qualified person as required by 335-13-15-.05(5)(a)1.(ii).

9. The periodic inspection report as required by 335-13-15-.05(5)(b)2.

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.06(1)(f).

2. Documentation of the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices as required by 335-13-15-.06(2)(e)4.

3. The groundwater monitoring system certification as required by 335-13-15-.06(2)(f).

4. The selection of a statistical method certification as required by 335-13-15-.06(4)(f)6.

5. Within 30 days of establishing an assessment monitoring program, the notification as required by 335-13-15-.06(5)(e)3.

6. The results of Appendices III and IV constituent concentrations as required by 335-13-15-.06(6)(d)2.

7. Within 30 days of returning to a detection monitoring program, the notification as required by 335-13-15-.06(6)(e).

8. Within 30 days of detecting one or more constituents in Appendix IV at statistically significant levels above the groundwater protection standard, the notifications as required by 335-13-15-.06(6)(g).

9. Within 30 days of initiating the assessment of corrective measures requirements, the notification as required by 335-13-15-.06(6)(g)6.

10. The completed assessment of corrective measures as required by 335-13-15-.06(7)(d).

11. Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by 335-13-15-.06(7)(e).

12. The semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report as required by 335-13-15-.06(8)(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 335-13-15-.06(9)(f).

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.07(1)(e)1(i).

2. [Reserved]

3. [Reserved]

4. The written closure plan, and any amendment of the plan, as required by 335-13-15-.07(3)(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 335-13-15-.08(1)(b).

5. The written demonstration(s), including the certification required by 335-13-15-.07(3)(e)2.(iii), for a time extension for initiating closure as required by 335-13-15-.07(3)(e)2.(ii).

6. The written demonstration(s), including the certification required by 335-13-15-.07(3)(f)2.(iii), for a time extension for completing closure as required by 335-13-15-.07(3)(f)2.(i).

7. The notification of intent to close a CCR unit as required by 335-13-15-.07(3)(g).

8. The notification of completion of closure of a CCR unit as required by 335-13-15-.07(3)(h).

9. The notification recording a notation on the deed as required by 335-13-15-.07(3)(i).

10. The notification recording an environmental covenant as required by 335-13-15-.07(3)(j).

11. The notification of intent to comply with the alternative closure requirements as required by 335-13-15-.07(4)(d)1.

12. The annual progress reports under the alternative closure requirements as required by 335-13-15-.07(4)(d)2.

ED_002047_00000009-00226

13. The written post-closure plan, and any amendment of the plan, as required by 335-13-15-.07(5)(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 335-13-15-.08(1)(b).

14. The notification of completion of post-closure care period as required by 335-13-15-.07(5)(e).

(j) Retrofit criteria. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.07(3)(l)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 335-13-15-.08(1)(b).

2. The notification of intent that the retrofit activities will proceed in accordance with the alternative procedures in 335-13-15-.07(4).

3. The annual progress reports required under the alternative requirements as required by 335-13-15-.07(4).

4. The written demonstration(s), including the certification in 335-13-15-.07(3)(f)2.(iii), for a time extension for completing retrofit activities as required by 335-13-15-.07(3)(l)3.

5. The notification of intent to initiate retrofit of a CCR unit as required by 335-13-15-.07(3)(l)5.

6. The notification of completion of retrofit activities as required by 335-13-15-.07(3)(l)6.

(2) Notification requirements.

(a) The notifications required under 335-13-15-.08(2)(e) through (i) must be sent to the Director 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 state 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 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 Director within 30 days of placing in the operating record the information required by 335-13-15-.08(1).

(e) Location restrictions. The owner or operator of a CCR unit subject to the requirements of this chapter must notify the Director that each demonstration specified under 335-13-15-.08(1)(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 chapter must notify the Director 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 335-13-15-.08(1)(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 Director 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 335-13-15-.08(1)(f)1. or 3.

3. Provide notification of the availability of the documentation of liner type specified under 335-13-15-.08(1)(f)2.

4. Provide notification of the availability of the initial and periodic hazard potential classification assessments specified under 335-13-15-.08(1)(f)5.

5. Provide notification of the availability of Emergency Action Plan (EAP), and any revisions of the EAP, specified under 335-13-15-.08(1)(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 335-13-15-.08(1)(f)7.

7. Provide notification of documentation prepared by the owner or operator recording all activations of the Emergency Action Plan (EAP) specified under 335-13-15-.08(1)(f)8.

8. Provide notification of the availability of the history of construction,

and any revision of it, specified under 335-13-15-.08(1)(f)9.

9. Provide notification of the availability of the initial and periodic structural stability assessments specified under 335-13-15-.08(1)(f)10.

10. Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(f)11.

11. Provide notification of the availability of the initial and periodic safety factor assessments specified under 335-13-15-.08(1)(f)12.

12. Provide notification of the availability of the design and construction plans, and any revision of them, specified under 335-13-15-.08(1)(f)13.

(g) Operating criteria. The owner or operator of a CCR unit subject to this chapter must notify the Director when information has been placed in the operating record. 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 335-13-15-.08(1)(g)1.

2. Provide notification of the availability of the annual CCR fugitive dust control report specified under 335-13-15-.08(1)(g)2.

3. Provide notification of the availability of the initial and periodic run-on and run-off control system plans specified under 335-13-15-.08(1)(g)3.

4. Provide notification of the availability of the initial and periodic inflow design flood control system plans specified under 335-13-15-.08(1)(g)4.

5. Provide notification of the availability of the periodic inspection reports specified under 335-13-15-.08(1)(g)6.

6. Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(g)7.

7. Provide notification of the availability of the periodic inspection reports specified under 335-13-15-.08(1)(g)9.

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter must notify the Director when information has been placed in the operating record. The owner or operator must:

1. Provide notification of the availability of the annual groundwater

monitoring and corrective action report specified under 335-13-15-.08(1)(h)1.

2. Provide notification of the availability of the groundwater monitoring system certification specified under 335-13-15-.08(1)(h)3.

3. Provide notification of the availability of the selection of a statistical method certification specified under 335-13-15-.08(1)(h)4.

4. Provide notification that an assessment monitoring program has been established as specified under 335-13-15-.08(1)(h)5.

5. Provide notification that the CCR unit is returning to a detection monitoring program as specified under 335-13-15-.08(1)(h)7.

6. Provide notification that one or more constituents in Appendix IV have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners as specified under 335-13-15-.08(1)(h)8.

7. Provide notification that an assessment of corrective measures has been initiated as specified under 335-13-15-.08(1)(h)9.

8. Provide notification of the availability of assessment of corrective measures as specified under 335-13-15-.08(1)(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 335-13-15-.08(1)(h)12.

10. Provide notification of the completion of the remedy specified under 335-13-15-.08(1)(h)13.

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this chapter must notify the Director 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 335-13-15-.08(1)(i)1.

2. [Reserved]

3. [Reserved]

4. Provide notification of the availability of the written closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)4.

5. Provide notification of the availability of the demonstration(s) for a time extension for initiating closure specified under 335-13-15-.08(1)(i)5.

6. Provide notification of the availability of the demonstration(s) for a time extension for completing closure specified under 335-13-15-.08(1)(i)6.

7. Provide notification of intent to close a CCR unit specified under 335-13-15-.08(1)(i)7.

8. Provide notification of completion of closure of a CCR unit specified under 335-13-15-.08(1)(i)8.

9. Provide notification of the deed notation as required by 335-13-15-.08(1)(i)9.

10. Provide notification of the environmental covenant as required by 335-13-15-.08(1)(i)10.

11. Provide notification of intent to comply with the alternative closure requirements specified under 335-13-15-.08(1)(i)11.

12. The annual progress reports under the alternative closure requirements as required by 335-13-15-.08(1)(i)12.

13. Provide notification of the availability of the written post-closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)13.

14. Provide notification of completion of post-closure care as specified under 335-13-15-.08(1)(i)14.

(j) Retrofit criteria. The owner or operator of a CCR unit subject to this chapter must notify the Director 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 335-13-15-.08(1)(j)1.

2. Provide notification of intent to comply with the alternative retrofit requirements specified under 335-13-15-.08(1)(j)2.

3. The annual progress reports under the alternative retrofit requirements as required by 335-13-15-.08(1)(j)3.

4. Provide notification of the availability of the demonstration(s) for a time extension for completing retrofit activities specified under 335-13-15-.08(1)(j)4.

ED_002047_00000009-00231

5. Provide notification of intent to initiate retrofit of a CCR unit specified under 335-13-15-.08(1)(j)5.

6. Provide notification of completion of retrofit activities specified under 335-13-15-.08(1)(j)6.

(3) Publicly accessible internet site requirements.

(a) Each owner or operator of a CCR unit subject to the requirements of this chapter 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 chapter 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 335-13-15-.08(1) in the operating record.

(e) Location restrictions. The owner or operator of a CCR unit subject to this chapter must place each demonstration specified under 335-13-15-.08(1)(e) on the owner or operator's CCR web site.

(f) Design criteria. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.08(1)(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 335-13-15-.08(1)(f)1. or 3.

3. The documentation of liner type specified under 335-13-15-.08(1)(f)2.

4. The initial and periodic hazard potential classification assessments specified under 335-13-15-.08(1)(f)5.

5. The Emergency Action Plan (EAP) specified under 335-13-15-.08(1)(f)6., except that only the most recent EAP must be maintained on the CCR web site irrespective of the time requirement specified in 335-13-15-.08(3)(c).

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 335-13-15-.08(1)(f)7.

7. Documentation prepared by the owner or operator recording any activation of the Emergency Action Plan (EAP) specified under 335-13-15-.08(1)(f)8.

8. The history of construction, and any revisions of it, specified under 335-13-15-.08(1)(f)9.

9. The initial and periodic structural stability assessments specified under 335-13-15-.08(1)(f)10.

10. The documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(f)11.

11. The initial and periodic safety factor assessments specified under 335-13-15-.08(1)(f)12.

12. The design and construction plans, and any revisions of them, specified under 335-13-15-.08(1)(f)13.

(g) Operating criteria. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.08(1)(g)1. except that only the most recent plan must be maintained on the CCR web site irrespective of the time requirement specified in 335-13-15-.08(3)(c).

2. The annual CCR fugitive dust control report specified under 335-13-15-.08(1)(g)2.

3. The initial and periodic run-on and run-off control system plans specified under 335-13-15-.08(1)(g)3.

4. The initial and periodic inflow design flood control system plans specified under 335-13-15-.08(1)(g)4.

5. The periodic inspection reports specified under 335-13-15-.08(1)(g)6.

6. The documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(g)7.

7. The periodic inspection reports specified under 335-13-15-.08(1)(g)9.

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.08(1)(h)1.

2. The groundwater monitoring system certification specified under 335-13-15-.08(1)(h)3.

3. The selection of a statistical method certification specified under 335-13-15-.08(1)(h)4.

4. The notification that an assessment monitoring program has been established as specified under 335-13-15-.08(1)(h)5.

5. The notification that the CCR unit is returning to a detection monitoring program as specified under 335-13-15-.08(1)(h)7.

6. The notification that one or more constituents in Appendix IV have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under 335-13-15-.08(1)(h)8.

7. The notification that an assessment of corrective measures has been initiated specified under 335-13-15-.08(1)(h)9.

8. The assessment of corrective measures specified under 335-13-15-.08(1)(h)10.

9. The semiannual reports describing the progress in selecting and designing the remedy and the selection of remedy report specified under 335-13-15-.08(1)(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 335-13-15-.08(1)(h)13.

ED_002047_00000009-00234

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.08(1)(i)1.

2. [Reserved]

3. [Reserved]

4. The written closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)4.

5. The demonstration(s) for a time extension for initiating closure specified under 335-13-15-.08(1)(i)5.

6. The demonstration(s) for a time extension for completing closure specified under 335-13-15-.08(1)(i)6.

7. The notification of intent to close a CCR unit specified under 335-13-15-.08(1)(i)7.

8. The notification of completion of closure of a CCR unit specified under 335-13-15-.08(1)(i)8.

9. The notification recording a notation on the deed as required by 335-13-15-.08(1)(i)9.

10. The notification recording an environmental covenant as required by 335-13-15-.08(1)(i)10.

11. The notification of intent to comply with the alternative closure requirements as required by 335-13-15-.08(1)(i)11.

12. The annual progress reports under the alternative closure requirements as required by 335-13-15-.08(1)(i)12.

13. The written post-closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)13.

14. The notification of completion of post-closure care specified under 335-13-15-.08(1)(i)14.

(j) Retrofit criteria. The owner or operator of a CCR unit subject to this chapter 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 335-13-15-.08(1)(j)1.

2. The notification of intent to comply with the alternative retrofit requirements as required by 335-13-15-.08(1)(j)2.

3. The annual progress reports under the alternative retrofit requirements as required by 335-13-15-.08(1)(j)3.

4. The demonstration(s) for a time extension for completing retrofit activities specified under 335-13-15-.08(1)(j)4.

5. The notification of intent to retrofit a CCR unit specified under 335-13-15-.08(1)(j)5.

6. The notification of completion of retrofit activities specified under 335-13-15-.08(1)(j)6.

Author: S. Scott Story
Statutory Authority: Code of Alabama 1975, §§ 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.09 Permit Application. All solid waste management of CCR generated from the combustion of coal at electrical utilities and independent power producers shall take place in a CCR unit permitted by the Department. ADEM Admin. Code 335-13- 5 outlines the procedures for obtaining a Solid Waste Disposal Permit for new and existing CCR Landfills, including lateral expansions of such units. The following section establishes the minimum requirements and procedures for obtaining a permit for new and existing surface impoundments, including any lateral expansions of such units. New and existing CCR surface impoundments shall obtain permits for construction, operation, closure and/or post-closure in accordance with the following:

(1) Application Requirements.

(a) Existing CCR Surface Impoundments. Except as provided in 335-13-15-.09(1)(c), for existing CCR surface impoundments, the owner or operator shall submit the following in order to request a permit:

1. A completed form designated by the Department.

2. Boundary plat and legal property description prepared, signed, and sealed by a land surveyor of the proposed boundary of the facility and disposal area of the CCR unit.

3. Technical data and reports documenting compliance with the following

location requirements:

(i) Five foot separation of the base of the CCR unit and highest measured groundwater level in compliance with 335-13-15-.03(1).

(ii) Wetland and endangered species requirements under 335-13-15-.03(2).

(iii) Fault area requirements under 335-13-15-.03(3).

(iv) Seismic impact zones under 335-13-15-.03(4).

(v) Unstable area requirements under 335-13-15-.03(5)

4. Detailed presentation of geological and hydrogeological units within the disposal site, with typical sections of disposal method and plan and profile sheets on all areas or trenches.

5. Technical report of the determination of the liner design and type as required by 335-13-15-.04(2).

6. Technical report for the hazardous potential classification as outlined in 335-13-15-.04(4)(a)2. and the Emergency Action Plan (EAP), if necessary, developed under 335-13-15-.04(4)(a)3.

7. For existing CCR surface impoundments that have a height of five feet or more and a storage volume of 20 acre-feet or more, or an existing surface impoundment with a height of 20 feet or more, the application shall include the following:

(i) All the information required by 335-13-15-.04(4)(c)1.(i) through (xii).

(ii) Results of the structural stability assessment as required by 335-13-15-.04(4)(d).

(iii) Results of the safety factor assessment as required by 335-13-15-.04(4)(e).

8. Sufficient control points on-site to provide for accurate horizontal and vertical control for facility construction, operation and closure and post-closure.

9. Topographical maps at contour intervals of not more than five feet for the existing ground surface elevation, initial disposal area elevation, and final disposal area elevation. The maps shall also show buffer zones.

10. Quality assurance/quality control (QA/QC) plan for all components of the final cover system.

ED_002047_00000009-00237

11. An operation plan that includes at a minimum:

(i) A CCR fugitive dust control plan developed in accordance with 335-13-15-.05(1).

(ii) An inflow design flood control system developed in accordance with 335-13-15-.05(3).

(ii) A detailed description of the groundwater monitoring and analysis program developed in accordance with 335-13-15-.06.

(iii) Procedures for compliance with recordkeeping and notification as required under 335-13-15-.08.

(iv) Procedures for updating all plans and assessments periodically as required by this chapter.

12. The written closure and post-closure plan developed in accordance with 335-13-15-.07.

13. Any additional information that may be required by the Department.

14. The name and mailing address of all property owners whose property is adjacent to the CCR surface impoundment.

15. Plans, specifications, operational procedures, letters of final construction certification and other technical data required as part of the application, except as provided in 335-13-15-.09(1)(a)2. and 14., shall be certified by a professional engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans, specifications and reports.

(b) New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. For new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, the owner or operator shall submit the following in order to request a permit:

1. Except for the requirements of 335-13-15-.09(1)(a)5., 6., and 7., the requirements for an existing CCR surface impoundment in 335-13-15-.09(1)(a).

2. Technical report for the hazardous potential classification as outlined in 335-13-15-.04(5)(a)2. and the Emergency Action Plan (EAP), if necessary, under 335-13-15-.04(5)(a)3.

3. For new CCR surface impoundments that has a height of five feet or more and a storage volume of 20 acre-feet or more, or a surface impoundment with a height of 20 feet or more, the application shall include the following:

ED_002047_00000009-00238

(i) All the information contained in 335-13-15-.04(5)(c)1.(i) through (xii).

(ii) Structural stability assessment as required by 335-13-15-.04(5)(d).

(iii) Safety factor assessment as required by 335-13-15-.04(5)(e).

4. Design for the liner and leachate collection and removal system as required by 335-13-15-.04(3).

5. Quality assurance/quality control (QA/QC) plan for all components of the liner and leachate collection system.

6. Plans, specifications, operational procedures, letters of final construction certification and other technical data required as part of the application, except as provided in 335-13-15-.09(1)(a)2. and 14., shall be certified by a professional engineer. The seal or signature and registration number of the design engineer shall be affixed to the plans, specifications and reports.

(c) For existing CCR surface impoundments that have initiated closure or are otherwise subject to the closure requirements of 335-13-15-.07(2), the owner or operator shall submit all the information as required for an existing CCR surface impoundment in 335-13-15-.09(1)(a), except for the requirements of 335-13-15-.09(1)(a)3., 4. and 5., to request a closure or post-closure permit or a permit for such operations as may be authorized by 335-13-15-.07(4).

(2) In addition to the requirements listed in 335-13-15-.09(1), the permit application shall also include statements signed by a professional engineer and a representative of the facility owner/operator certifying that the information being submitted is accurate and correct The submittal of false or inaccurate information shall result in the permit application being suspended or denied.

(3) Permit Duration. CCR surface impoundment permits obtained in compliance with this chapter shall be valid for the design life of the facility or as otherwise determined by the Department, but no longer than a period of five years. Permits, however, are subject to revocation under 335-13-15-.12.

(4) Filing Deadline. Requests for an initial permit for an existing surface impoundment shall be filed with the Department within 180 days after the effective date of these rules. Requests for extension, renewal or a new permit for any CCR surface impoundment shall be filed with the Department by the operating agency at least 180 days prior to the expiration date for existing permits or proposed construction date for new facilities.

(5) Modifications. Prior to any change listed in 335-13-15-.13(1) and (2), the permittee shall request a modification of the permit as described in 335-13-15-.13(3). A modification request described in 335-13-15-.13(1) and (2) must be filed with the Department at least 90 days prior to the anticipated change and shall receive

approval from the Department prior to the implementation of the proposed change.

(6) Effect of non-compliance.

(a) As determined by the Director, substantial non-compliance with Department regulations or permits at any facility owned or operated by the applicant, including any facility for which the pending permit application is requested, will be grounds for denial of the application, or alternatively, for suspension of further consideration of the application until such non- compliance is corrected.

(b) In addition to the foregoing, the Director may deny a permit application if:

1. The Director determines that a permit could not be issued that would result in compliance with applicable solid waste standards; or

2. The applicant could not comply with the permit as issued.

Author: Eric L. Sanderson
Statutory Authority: Code of Alabama 1975, §§ 22-27-3, 22-27-7, and 22-27-12
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.10 Public Notice.

(1) Notice Requirements.

(a) The Department shall provide notice and an opportunity for a public hearing prior to issuing an initial CCR surface impoundment permit, renewing a CCR surface impoundment permit, or making any change listed in 335-13-15-13(1) to the facility permit.

(b) The following procedures shall be observed:

1. The Department shall notify interested and potentially interested persons of the proposed CCR surface impoundment permit by publishing a notice in a newspaper of general circulation in the area.

(i) The notice shall be given not less than 35 days prior to the proposed issuance of a permit.

(ii) The notice shall contain the specific type and nature of the CCR surface impoundment, the type of waste to be disposed, the person or agency requesting the permit, and the descriptive location of the CCR surface impoundment, address and telephone number of the Department, and that interested persons may request a public hearing on the proposed CCR surface impoundment.

ED_002047_00000009-00240

2. Landowners adjacent to a proposed CCR surface impoundment shall receive a copy of the public notice.

(2) Departmental Action. The Department shall take one of the following actions after the public notice:

(a) Deny the permit, stating in writing the reasons for denial and inform the person requesting the permit of appeal procedures in 335-13-1-.07;

(b) Issue the permit if the application complies with this Division; or

(c) Require additional information, elements of design for the facility, and specify procedures for inclusion into the permit prior to issuance of the permit.

Author: S. Scott Story
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.11 Public Hearing.

(1) Authorization. The Department shall authorize a public hearing upon receipt of a significant number of technical requests as provided in 335-13- 15-.11(2).

(2) Procedures.

(a) Requests for public hearings shall be submitted in writing to the Department by interested persons.

1. Frivolous or nontechnical requests shall be denied by the Department.

2. Requests for public hearings must be submitted within 35 days after the publication of the public notice and must contain the following:

(i) The name, address and telephone number of the person requesting the hearing.

(ii) A brief statement of the person's interest and the information the person wishes to submit.

(iii) The person's signature, if an individual, or the signature of a responsible officer of an organization or legal entity.

(b) When a hearing has been authorized, the Department shall appoint a hearing officer to conduct the hearing and shall establish a time, date, and

ED_002047_00000009-00241

location for the hearing. The location for the hearing shall comply with the requirements of the Americans with Disabilities Act.

(c) The Department shall give notice of the public hearing in the manner set forth in 335-13-15-.10(1), and also to the persons requesting the hearing in 335-13-15-.11(2). The notice given not less than 35 days prior to the time of the public hearing shall include:

1. A summary of the proposed permit.

2. The place, time, and date of the hearing.

3. The name, address and telephone number of an office at which interested persons may receive further information.

(3) Departmental Action. The Department shall take one of the following actions after the hearing:

(a) Deny the permit, stating in writing the reasons for denial and inform the person requesting the permit of appeal procedures in 335-13-1-.07;

(b) Issue the permit if the application complies with this Division; or

(c) Require additional information, elements of design for the facility, and specify procedures for inclusion into the permit prior to issuance of the permit.

Author: S. Scott Story
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.12 Permit Denial, Suspension or Revocation.

(1) Conditions. The Department may deny, suspend or revoke any permit if:

(a) The permittee is found to be in violation of any of the permit conditions,

(b) The permittee fails to perform the permitted activity in accordance with the approved operational narrative or engineering drawings,

(c) The permittee fails to seek a modification of the permit as required by the rules,

(d) An active site stops receiving waste for more than two years, or

ED_002047_00000009-00242

(e) The design operations creates a nuisance or is inconsistent with the Act or this Division.

(2) Written Notice. In the event of denial, suspension or revocation of a permit, the Department shall serve written notice of such action on the permittee and shall set forth in such notice the reason for such action.

(3) Closure. Upon revocation or suspension of the permit, or denial of the renewal of the permit, the permittee shall meet the closure requirements found in 335-13-15-.07.

Author: Eric L. Sanderson
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-7, and 22-27-12
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.13 Permit Modification. The Department may modify any permit after receiving a satisfactory application that is found in compliance with ADEM rules and regulations.

(1) Major Modifications.

(a) Permit modification shall be requested utilizing forms designated by the Department when the permittee proposes to modify its operation in any of the following ways:

1. There is any change in the permitted service area.

2. Addition of acreage to the facility boundary.

3. Addition of disposal acreage inside the permitted perimeter where design plans have not been previously submitted.

4. Any design change in the liner and/or leachate collection system.

(b) Modifications required under this paragraph are subject to the provisions of rules 335-13-15-.10 and 335-13-15-.11, which require a public notice and may require a public hearing.

(2) Minor Modifications.

(a) A permit modification shall be required, utilizing forms designated by the Department, when the permittee proposes to modify its operations or design in any of the following ways:

1. Addition of a waste stream.

2. Any change to the CCR surface impoundment design, groundwater monitoring system, or operating procedure in which the change is not listed in 335-13-15-.13(1).

3. An increase in the average daily volume of waste specified by the permit for a CCR surface impoundment is proposed to be exceeded, or is exceeded for two or more consecutive reporting quarters, by 20 percent, or 100 tons/day, whichever is less.

(i) The average daily volume of waste received at a CCR surface impoundment shall be calculated by dividing the total month's receipts by the total number of days in the reporting month.

(ii) Volumes received shall be reported to the Department in a format specified by the Department.

(b) Modifications required under this paragraph are not subject to the provisions of rules 335-13-15-.10 and 335-13-15-.11, and do not require public notice or public hearing.

(3) Procedures. The Permittee shall request a permit modification in accordance with the following procedures:

(a) Submit a request for modification to the Department.

(b) Identify each and every part of the permit or plans to be modified.

(c) Submit revised plans and narratives as required by the Department.

(d) Receive approval from the Department prior to implementing the modification.

Author: S. Scott Story
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3, 22-27-7, and 22-27-12
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.14 **Transfer of Permit.** Permits are not transferable except as follows:

(1) A notification must be submitted to and approved by the Department prior to any proposed transfer from one person or company to another or name change of any permitted facility.

(a) The notification must be submitted to the Department at least 30 days

ED_002047_00000009-00244

prior to the proposed transfer.

(b) Information regarding the transfer must be submitted on form(s) designated by the Department.

(2) [Reserved]

Author: Eric L. Sanderson
Statutory Authority: Code of Alabama 1975, §§ 22-22A-5, 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

335-13-15-.15 **Variances.** The Department may grant individual variances only from specific provisions of this chapter that are in addition to or more stringent than the federal regulations. The individual variances must be granted based upon the procedures of 335-13-8-.02 through 335-13-8-.05 whenever it is found by the Department, upon presentation of adequate proof, that non-compliance with one or more of these provisions will not threaten the public health or unreasonably create environmental pollution.

Author: S. Scott Story
Statutory Authority: Code of Alabama 1975, §§ 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

ED_002047_00000009-00245

335-13-15-Appendix III CCR Constituents for Detection Monitoring

Common name [1]
Boron
Calcium
Chloride
Fluoride
pH
Sulfate
Total Dissolved Solids (TDS)

[1] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

Author: Heather M. Jones
Statutory Authority: Code of Alabama 1975, §§ 22-27-3 and 22-27-7
History: XXX xx, 2018

335-13-15-Appendix IV CCR Constituents for Assessment Monitoring

Common name [1]
Antimony
Arsenic
Barium
Beryllium
Boron
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228 combined

[1] Common names are those widely used in government regulations, scientific

publications, and commerce; synonyms exist for many chemicals.

Author: Heather M. Jones
Statutory Authority: Code of Alabama 1975, §§ 22-27-3 and 22-27-7
History: Filed: April 24, 2018; Effective: June 8, 2018.

ED_002047_00000009-00247

CODE OF ALABAMA 1975

Chapter 22A Environmental Management

Section 22-22A-1

Short title.

This chapter shall be known and may be cited as "the Alabama Environmental Management Act."

(Acts 1982, No. 82-612, p. 1111, §1.)

Section 22-22A-2

Legislative intent and purposes of chapter.

The Legislature finds the resources of the state must be managed in a manner compatible with the environment, and the health and welfare of the citizens of the state. To respond to the needs of its environment and citizens, the state must have a comprehensive and coordinated program of environmental management. It is therefore the intent of the Legislature to improve the ability of the state to respond in an efficient, comprehensive and coordinated manner to environmental problems, and thereby assure for all citizens of the state a safe, healthful and productive environment.

(1) To this end an Alabama Department of Environmental Management is created by this chapter within the Executive Branch of State Government in order to effect the grouping of state agencies which have primary responsibility for administering environmental legislation into one department, to promote economy and efficiency in the operation and management of environmental programs, to eliminate overlapping or duplication of effort within the environmental programs of the state, to provide for timely resolution of permitting actions, to improve services to the citizens of the state, to protect human health and safety, to develop and provide for a unified environmental regulatory and permit system, to provide that the responsibility within the Executive Branch for the implementation of environmental programs and policies is clearly fixed and ascertainable, and to insure that government is responsive to the needs of the people and sufficiently flexible to meet changing conditions.

(2) It is also declared to be the intent of the Legislature to retain for the state, within the constraints of appropriate federal law, the control over its air, land and water resources and to secure cooperation between agencies of the state, agencies of other states, interstate agencies and the federal government in carrying out these objectives.

(3) It is the intent of the Legislature to recognize the unique characteristics of the Alabama coastal region and to provide for its protection and enhancement through a continued coastal area program.

(4) It is not the intent of the Legislature to abrogate any of the powers or duties of the State Board of Health which are found in Sections 22-2-1 through 22-2-14.

(Acts 1982, No. 82-612, p. 1111, §2.)

Section 22-22A-3

Definitions.

For the purposes of this chapter, the following words and phrases, unless a different meaning is plainly required by the context or by legislation governing functions transferred by this chapter, shall have the following meanings:

(1) DEPARTMENT. The Alabama Department of Environmental Management, established by this chapter.

(2) DIRECTOR. The director of the Alabama Department of Environmental Management.

(3) DIVISION. A subdivision of the Alabama Department of Environmental Management, which may be headed by a division chief. Such divisions may be divided into sections where appropriate.

(4) ENVIRONMENTAL MANAGEMENT COMMISSION. The Environmental Management Commission of the Alabama Department of Environmental Management.

(5) FUNCTION(S). A duty, power or program exercised by or assigned to a commission, board or the State Health Department, including all positions and personnel relating to the performance of such function, unless otherwise provided by this chapter.

(6) HEARING OFFICER. An attorney licensed to practice law in the State of Alabama, designated by the Environmental Management Commission to hear appeals for the Environmental Management Commission and to make findings of fact, conclusions of law and recommendations to the Environmental Management Commission for its final decision.

(7) PERSON. Any and all persons, natural or artificial, including, but not limited to, any individual, partnership, association, society, joint stock company, firm, company, corporation, institution, trust, estate, or other legal entity or other business organization or any governmental entity, and any successor, representative, agent or agency of the foregoing.

(8) ADMINISTRATIVE ACTION(S). The issuance, modification, repeal or denial of any permit, license, certification, or variance, or the issuance, modification or repeal of any order, notice of violation, citation, rule or regulation by the department.

(9) All definitions of the Alabama Water Pollution Control Act, Section 22-22-1, shall be the definitions of the department for its Water Pollution Control Program.

(10) All definitions found in Section 22-23-31, relating to safe drinking water, shall be the definitions of the department for its Safe Drinking Water Program.

(11) All definitions of the Alabama Air Pollution Control Act, Section 22-28-2, shall be the definitions of the department for its Air Pollution Control Program.

(12) All definitions found in Section 22-24-1, relating to water well standards, shall be the definitions of the department for its Water Well Standards Program.

(13) All definitions found in Section 22-25-1, relating to water and wastewater systems and treatment plants, shall be the definitions of the department for its Water and Wastewater Systems and Treatment Plant Operator Program.

(14) All definitions found in Section 22-27-2, relating to solid wastes, shall be the definitions of the department for its Solid Waste Program.

(15) All definitions found in Section 9-7-10, relating to the coastal area Management Program, shall be the definitions of the Department and the Office of State Planning and Federal Programs for their Coastal Area Program.

(16) All definitions found in Section 22-30-3, relating to hazardous wastes, shall be the definitions of the department for its Hazardous Waste Program.

(Acts 1982, No. 82-612, p. 1111, §3.)

Section 22-22A-4

Department of Environmental Management created; principal office; director; deputy director; divisions and division chiefs; transfer of functions; designation as State Environmental Control Agency, etc.; contract with Health Department for routine bacteriological analyses.

(a) There is hereby created and established the Alabama Department of Environmental Management to carry out the purposes of this chapter and to administer and enforce the provisions of this chapter and all functions transferred to the department by this chapter. The department shall maintain its principal office in the City of Montgomery, Montgomery County, Alabama.

(b) The department shall be under the supervision and control of an officer who shall be designated as the director of the Alabama Department of Environmental Management. The director shall be an individual knowledgeable and experienced in environmental matters. The director shall employ such officers, agents and employees as he deems necessary to properly administer and enforce the programs and activities of the department and to fully implement the requirements of this chapter and the intent of the Legislature. All powers, duties and functions transferred to the department by this chapter, except those specifically granted to the Environmental Management Commission, shall be performed by the director; provided that the director may delegate the performance of such of his powers, duties and functions, to employees of the department, wherever it appears desirable and practicable in fulfilling the policies and purposes of this chapter. The director shall be appointed by and serve at the pleasure of the Environmental Management Commission. The director shall be exempt from Chapter 26 of Title 36. The pay of the director shall be set by the Environmental Management Commission and shall be consistent with that of cabinet level appointees.

(c) There shall be a deputy director of the department who shall be a Merit System employee. The deputy director shall assist the director and shall have charge and general supervision of the department in the absence or disability of the director. In the case of a vacancy in the office of director, the deputy director shall become the acting director of the department and shall have the full powers of the office of director until the Environmental Management Commission appoints a successor to the director.

(d) The department shall be divided into such divisions as the director deems appropriate. Each division shall be supervised by a division chief who shall be selected by the director and shall be a Merit System employee.

(e) The functions of the Air Pollution Control Commission and of the Division of Air Pollution Control in the State Health Department as set forth in Sections 22-28-1 through 22-28-23 are transferred to the department on October 1, 1982.

(f) The functions of the Water Improvement Commission, as set forth in Sections 22-22-1 through 22-22-14 are transferred to the department on October 1, 1982.

(g) The functions of the State Health Department with respect to public water systems, as set forth in Sections 22-23-30 through 22-23-53 are transferred to the department on October 1, 1982.

(h) The functions of the Alabama Water Well Standards Board, as set forth in Sections 22-24-1 through 22-24-12 are transferred to the department on October 1, 1982.

(i) The functions of the State Health Department with respect to solid waste collection and disposal, as set forth in Sections 22-27-1 through 22-27-7, which are specified below, are transferred to the department on October 1, 1982. Specifically, those functions of Section 22-27-3 relating to the location and control of solid waste disposal by sanitary landfill, incineration, or composting; and the burning of solid wastes are transferred to the department. Those provisions of Section 22-27-4 relating to the control of unauthorized dumping are transferred to the department. Those provisions of Section 22-27-5 relating to the issuance of permits to individuals or corporations engaging in the disposal of solid wastes are transferred to the department. Those provisions of Section 22-27-7 relating to the supervision and regulation of solid waste management are transferred to the department. Nothing in this chapter shall be construed to limit or curtail the authority of the State Health Department in the realm of sanitation or disease control and prevention, or in any matters relating to the public health which are not specifically transferred to the department by this chapter on October 1, 1982. Nothing in the chapter should be construed to transfer any function relating to collection of solid waste to the department. Such functions shall remain with the State Health Department or county health department as appropriate.

(j) Any permitting, regulatory and enforcement functions of the Coastal Area Board, as set forth in Sections 9-7-10 through 9-7-22, are transferred to the department on October 1, 1982.

(k) The functions of the State Health Department, with respect to hazardous waste management, as set forth in Sections 22-30-1 through 22-30-24, are transferred to the department on October 1, 1982.

(l) The functions of the Environmental Health Administration Laboratory of the State Health Department are transferred to the department on October 1, 1982.

(m) The functions of the Board of Certification of Water and Wastewater Systems Personnel and the functions of the State Health Officer as set forth in Sections 22-25-1 through 22-25-15 are transferred to the department on October 1, 1982.

(n) Beginning October 1, 1982, the department is hereby designated as the State Environmental Control Agency for the purposes of federal environmental law. Specifically, the department is designated as the State Air Pollution Control Agency for the purposes of the Federal Clean Air Act, 42 U.S.C. §7401 et seq., as amended; as the State Water Pollution Control Agency for the purposes of the Federal Clean Water Act, 33 U.S.C. §1251 et seq., as amended; the state agency responsible for the promulgation and enforcement of drinking water regulations in accordance with the Federal Safe Drinking Water Act; 42 U.S.C. §201 et seq., as amended; the state agency responsible for the promulgation and enforcement of solid and hazardous waste regulations in accordance with the Solid Waste Disposal Act, 42 U.S.C. §3251 et seq., as amended,

including 42 U.S.C. §6901 et seq., as amended; and is hereby authorized to take all actions necessary and appropriate to secure to this state the benefits of federal environmental laws.

(o) Beginning October 1, 1982, the State Health Department shall provide certain routine bacteriological analyses to the Alabama Department of Environmental Management and the department shall reimburse the State Health Department for the reasonable costs and expenses incurred in providing such analyses. For an appropriate period of time, the department shall contract with the State Health Department to provide the routine bacteriological analyses necessary to the department in its Public Water Systems Program.

(Acts 1982, No. 82-612, p. 1111, §4.)

Section 22-22A-5

Powers and functions of department; representation of department by Attorney General in legal actions.

In addition to any other powers and functions which may be conferred upon it by law, the department is authorized beginning October 1, 1982 to:

(1) Administer appropriate portions of Sections 9-7-10 through 9-7-20, which relate to permitting, regulatory and enforcement functions; administer and enforce the provisions and execute the functions of Chapter 28 of this title; Chapter 22 of this title; Article 2 of Chapter 23 of this title; Chapter 30 of this title; appropriate portions of Article 1 of Chapter 27 of this title; Sections 22-24-1 through 22-24-11; Sections 22-25-1 through 22-25-15; and Sections 22-36-1 through 22-36-10.

(2) Acting through the Environmental Management Commission, promulgate rules, regulations, and standards in order to carry out the provisions and intent of this chapter; provided, however, that prior to the promulgation of any state primary or secondary drinking water standard governed by Sections 22-23-30 through 22-23-53 or any regulations dealing with hazardous wastes governed by Sections 22-30-1 through 22-30-24, the department shall receive the approval of the State Board of Health. The State Board of Health shall provide the department a response to its request for approval within 60 days of receipt of such request unless such other time is mutually agreed upon by the department and the State Board of Health.

(3) Acting through the Environmental Management Commission, adopt and promulgate rules, regulations, and standards for the department, and to develop environmental policy for the state.

(4) Consistent with the provisions in subsection 22-22A-4(n), serve as the State Agency responsible for administering federally approved or federally delegated environmental programs.

(5) Serve as the state's clearinghouse for environmental data. The clearinghouse shall be developed in coordination and cooperation with other governmental data collection and record keeping systems to provide for an inventory, and for the cataloguing and dissemination of environmental information.

(6) Report, as appropriate, to the Governor and to the Legislature on the programs and activities of the department and to recommend needed changes in legislation or administrative practice.

(7) Develop, conduct, and disseminate education and training programs. Pursuant to this authority, the department shall establish a citizens' advisory committee to provide input into such education and training programs.

(8) Enter into agreements and contracts, where appropriate, with other state agencies, the federal government or private individuals, in order to accomplish the purposes of this chapter.

(9) Establish and maintain regional or field offices in order to provide more effective and efficient services to the citizens of the state.

(10) Issue, modify, suspend, or revoke orders, citations, notices of violation, licenses, certifications, or permits.

(11) Hold hearings relating to any provision of this chapter or relating to the administration thereof.

(12) Enforce all provisions of this chapter and all provisions of law identified in subdivision (1) of this section and to file legal actions in the name of the department and to prosecute, defend or settle actions brought by or against the department or its agents. The Attorney General shall represent the department in any and all legal actions brought by the department to enforce any provisions of this chapter; provided however, that if, within a reasonable time after the department refers the matter to the Attorney General, the Attorney General fails to file any such action, then the department may commence appropriate legal action. Nothing in this subdivision shall be construed so as to impair the authority of the Attorney General to independently enforce the provisions of this chapter.

(13) When necessary to achieve conformance with Sections 9-7-10 through 9-7-20, acquire fee simple or less than fee simple, interest in land, water, and other property under the procedures of Title 18 or other means; provided, however, that such power shall not apply to property and interest therein which is devoted to public use.

(14) Apply for, where appropriate, accept, receive, and administer grants or other funds or gifts from public and private agencies, including the federal government, for the purpose of carrying out any of the functions, purposes, or provisions of this chapter or any of the functions or provisions transferred to the department by this chapter.

(15) Employ such professional, technical, clerical, and other workers including attorneys and special counsel, and such consultants as are necessary and within available funds to carry out the purposes of this chapter.

(16) Adopt rules and regulations relating to charging and collecting fees sufficient to cover the reasonable anticipated costs to be incurred by the department and directly related to the issuance, reissuance, modification, or denial of any permit, license, certification, or variance, such fees to include, but not be limited to, the reasonable anticipated cost of the examination and processing of applications, plans, specifications, or any other data and any necessary public hearings and investigations; provided, however, that nothing in this subdivision shall be construed as modifying or affecting the provisions of Section 22-24-5. A schedule of estimated reasonable anticipated costs shall be appended to rules and regulations with the understanding that fees may be higher or lower on a case-by-case basis.

(17) In addition to any other remedies provided by law, recover in a civil action from any person who has violated, or threatens to violate, any provision of this chapter, or any provision of law identified in subdivision (1) of this section, or any rule or regulation promulgated thereunder, or any order, or condition of any permit, license, certification, or variance issued by the department pursuant thereto, the actual costs reasonably incurred by the department to prevent, minimize or abate any adverse effect on air, land, or water resources which results or may result from such violation. Such civil actions may be filed in the

circuit court of the county in which the defendant resides or does business, or in which the violation or threatened violation occurs or in which the adverse effect occurs.

(18)a. Issue an order assessing a civil penalty to any person who violates any provision of law identified in subdivision (1) of this section, any rule, regulation, or standard promulgated by the department, any provision of any order, or any condition of any permit, license, certification, or variance issued by the department, provided however, that no such order shall be issued to a person:

1. If a civil action to recover a penalty for such violation has been commenced against such person as provided in paragraph b. of this subdivision.

2. For any violation at a coal mining operation regulated under Sections 9-16-70 through 9-16-107 or Title V of Public Law 95-87, 30 U.S.C. § 1251-1279.

3. If an order assessing a civil penalty for such violation has been issued to such person pursuant to subdivision (2) of subsection 22-28-23(b).

4. Who is a responsible corporate officer subject to a civil action for the recovery of a penalty under paragraph b. of this subdivision.

The department shall commence enforcement action under this paragraph by notifying the person subject thereto in writing of the alleged violation and affording the person an opportunity for an informal conference with the director or his or her designated representative concerning the alleged violation and any proposed order. The informal conference shall not be subject to the procedures for hearings under Section 22-22A-7. Before issuing any consent or unilateral order under this section, the department shall cause public notice to be published for one day in a newspaper of general circulation in the area where the alleged violation occurred and on the website of the department for the duration of the comment period; provided, however, that unavailability of the website during the comment period shall not affect the validity of an order issued under this paragraph. The notice shall reasonably describe the nature and location of the alleged violation and the amount of civil penalty proposed, contain a summary of any proposed corrective measures, provide instructions for obtaining a copy of the proposed order, and indicate that persons may submit written comments to the department and request a hearing on the proposed order within 30 days of the first date of publication. The department may hold a hearing if the information submitted in support of the request is material and if a hearing may clarify one or more issues raised in the written comments. If the department grants a request for a hearing, the department shall provide written notice of the time, date, and location of the hearing by regular mail at least 20 days prior to the hearing to all persons subject to the proposed order and all persons who submitted written comments on the proposed order that contain a current return address. At any such hearing, the department shall provide a reasonable opportunity for persons subject to the proposed order and persons who submitted written comments on the proposed order to be heard and to submit information to the director or his or her designated representative, provided, however, that the hearing shall not be subject to the procedures for hearings under Section 22-22A-7, or practices or procedures governing public hearings. The department shall also accept additional written comments from any interested party that are received on or before the date of the hearing. After consideration of written comments, any information submitted at the hearing, if one was held, and any other publicly available information, the department may issue the order as proposed, issue a modified order, or withdraw the proposed order. Any order issued under this paragraph shall include findings of fact relied upon by the department in determining the alleged violation and the amount of the civil penalty and shall be served on persons subject to the order in the manner provided for service of process in the Alabama Rules of Civil Procedure. Upon issuance of an order, the department shall also provide written notice of the order by regular mail to each person who submitted written comments on the proposed order that contain a current

return address. The notice shall reasonably describe the nature and location of the alleged violation and the amount of civil penalty, contain a summary of any required corrective measures, provide instructions for obtaining a copy of the order, and indicate that persons who submitted written comments on the proposed order may, within 30 days of the issuance of the order, request a hearing on the order before the Environmental Management Commission in accordance with Section 22-22A-7. Where the department has issued an order finding that a violation has occurred and assessing a civil penalty, the person subject thereto shall, unless the department and that person agree on a different schedule, pay the penalty in full within 45 days after issuance of such order unless any person has filed a timely request for a hearing to contest the issuance of such order in accordance with Section 22-22A-7, in which case the penalty assessed in the order as approved or modified by the Environmental Management Commission shall, unless the department and that person agree on a different schedule, be paid in full within 30 days after the order is approved or modified by the Environmental Management Commission or, if an appeal thereof is taken to circuit court, within 42 days after the court affirms the order as approved or modified by the Environmental Management Commission. Civil penalties assessed in an order under this paragraph and not paid as provided herein may be recovered in a civil action brought by the department in the Circuit Court of Montgomery County or the county in which the defendant does business.

b. Commence a civil action in the circuit court of the county in which the defendant or any material defendant resides or does business or in which the violation occurred to recover a civil penalty from such person for any violation of any provision of law identified in subdivision (1) of this section, any rule, regulation, or standard promulgated by the department, any provision of any order or any condition of any permit, license, certification, or variance issued by the department, provided however, that no such civil action may be commenced against a person if an order assessing a civil penalty for such violation has been issued to such person under paragraph a. of this subdivision. Whenever such person is a corporation and the violation is of a provision of law in Chapter 22 of this title, or any rule, regulation, or standard promulgated by the department thereunder, or any provision of any order or any condition of any permit, license, certification, or variance issued by the department thereunder, the same civil penalties that may be imposed upon a person under this subdivision may be imposed upon the responsible corporate officers in a civil action. Any person having an interest which is or may be adversely affected may intervene as a matter of right in any civil action commenced under this paragraph. The Attorney General may also commence a civil action under this paragraph.

c. Any civil penalty assessed or recovered under paragraph a. or b. of this subdivision shall not exceed $25,000.00 for each violation, provided however, that the total penalty assessed in an order issued by the department under paragraph a. of this subdivision shall not exceed $250,000.00. Each day such violation continues shall constitute a separate violation for purposes of this subdivision. In determining the amount of any penalty, consideration shall be given to the seriousness of the violation, including any irreparable harm to the environment and any threat to the health or safety of the public; the standard of care manifested by such person; the economic benefit which delayed compliance may confer upon such person; the nature, extent, and degree of success of such person's efforts to minimize or mitigate the effects of such violation upon the environment; such person's history of previous violations; and the ability of such person to pay such penalty. Civil penalties may be assessed under this subdivision for any violation occurring within two years prior to the date of issuance of an order under paragraph a. of this subdivision or commencement of such civil action under paragraph b. of this subdivision. All civil penalties recovered under this subdivision by the department or Attorney General shall be deposited into the State Treasury to the credit of the General Fund, except that portion which represents the reasonable costs incurred by the department or Attorney General to recover such penalties which shall be deposited to the credit of the operating fund of the department or Attorney General, whichever incurred such costs.

(19) Commence a civil action in the circuit court of the county in which the defendant or any material defendant resides or does business or in which the threatened or continuing violation of any provision of law identified in subdivision (1) of this section, any rule, regulation, or standard promulgated by the department, any provision of any order, or any condition of any permit, license, certification, or variance issued by the department. The Attorney General or district attorney having jurisdiction in the circuit, county or territory in which the threatened or continuing violation occurs may also commence a civil action to enjoin such violation. In any such action, any person having an interest which is or may be adversely affected may intervene as a matter of right.

(20) Perform any other duty or take any other action necessary for the implementation and enforcement of this chapter.

(Acts 1982, No. 82-612, p. 1111, §5; Acts 1984, 1st Ex. Sess., No. 84-783, p. 163, §1; Acts 1986, No. 86-542, p. 1053, §1; Acts 1988, No. 88-537, p. 823, §9; Act 2003-397, p. 1136, §1; Act 2011-612, p. 1356, §1.)

Section 22-22A-6

Environmental Management Commission; powers and duties; composition; appointments; vacancies; qualifications; terms; chairman; quorum; regular and special meetings; effect of failure to attend three consecutive meetings; record of proceedings; compensation; expenses; ethical requirements.

(a) There is hereby created a seven member Environmental Management Commission of the Alabama Department of Environmental Management which shall have the following duties:

(1) To select a director for the Department of Environmental Management and to advise the director on environmental matters which are within the department's scope of authority;

(2) To establish, adopt, promulgate, modify, repeal and suspend any rules, regulations or environmental standards for the department which may be applicable to the state as a whole or any of its geographical parts;

(3) To develop environmental policy for the state; and

(4) To hear and determine appeals of administrative actions.

(b) The Environmental Management Commission shall be composed of seven members who are citizens of the State of Alabama. Initial members of the commission shall be appointed to places on the Environmental Management Commission by the Governor, Lieutenant Governor, and Speaker of the House of Representatives pursuant to the procedure set out in subsection (d) of this section with the advice and consent of the Senate. Initial appointments shall be made on or before October 1, 1982. All subsequent appointments to places on the Environmental Management Commission after the initial appointments shall be made by the Governor with the advice and consent of the Senate. No member of the Environmental Management Commission may serve more than a total of 18 years. When a vacancy occurs during a period when the Legislature is not in session to advise and consent, such appointee shall have the full power of the office until and unless the Senate, upon the reconvening of the Legislature, shall by affirmative vote refuse to consent in such appointment. Qualifications of the seven members shall be as follows:

(1) One member shall be a physician licensed to practice medicine in the State of Alabama and shall be familiar with environmental matters;

(2) One member shall be a professional engineer registered in the State of Alabama and shall be familiar with environmental matters;

(3) One member shall be an attorney licensed to practice law in the State of Alabama and shall be familiar with environmental matters;

(4) One member shall be a chemist possessing as a minimum a bachelor's degree from an accredited university or a veterinarian licensed to practice veterinary medicine in the State of Alabama and shall be familiar with environmental matters;

(5) One member that has been certified by the National Water Well Association Certification Program;

(6) One member shall be a biologist or an ecologist possessing as a minimum a bachelor's degree from an accredited university and shall have training in environmental matters; and

(7) One member shall be a resident of the state for at least two years but shall not be required to have any specialized experience.

(c) At the expiration of the terms of all members initially appointed, their successors shall be promptly appointed by the Governor for terms of six years. At the expiration of a term of office or in the event of a vacancy on the Environmental Management Commission, the Governor shall promptly make an appointment to fill the vacancy. The expiring term of an incumbent member shall be continued until an appointment is made.

(d) Provided however that the initial appointments to the Environmental Management Commission shall be made as follows notwithstanding the other provisions of this chapter:

(1) The Governor shall appoint three members of the Environmental Management Commission, two of whom shall come from the voting members of the boards or commissions abolished by this chapter. The Governor's three initial appointments shall fill the positions described in subdivisions (4), (6) and (7) of subsection (b) of this section. The terms of these initial position appointments shall be for six years.

(2) The Lieutenant Governor shall appoint two members of the Environmental Management Commission, one who shall come from the voting members of the boards or commissions abolished by this chapter. The Lieutenant Governor's appointments pursuant to this subsection shall fill the positions described in subdivisions (1) and (5) of subsection (b) of this section. The term of the initial position described in subdivision (1) of subsection (b) of this section shall be for four years. The term of the initial position described in subdivision (5) of subsection (b) of this section shall be for two years.

(3) The Speaker of the House of Representatives shall appoint two members of the Environmental Management Commission, one who shall come from the voting members of the boards or commissions abolished by this chapter. The Speaker of the House of Representatives' appointments pursuant to this subsection shall fill the positions described in subdivisions (2) and (3) of subsection (b) of this section. The term of the initial position described in subdivision (2) of subsection (b) of this section shall be for four years. The term of the initial position described in subdivision (3) of subsection (b) of this section shall be for two years.

(e) The Environmental Management Commission shall select a chairman from among its members, and the chairman's term of office shall be determined by the Environmental Management Commission, but shall not exceed three consecutive years. The Environmental Management Commission shall not take official action unless a quorum is present. A quorum shall be any four of the seven members. Recusal of a member shall not affect the quorum.

(f) The Environmental Management Commission shall meet regularly, at least once every two months at times and places to be fixed by the Environmental Management Commission. Special meetings may be called at the discretion of the chairman of the Environmental Management Commission and special meetings shall be called by him on written request of any four members to take up any matters within the jurisdiction of the Environmental Management Commission. All members shall be notified of the time and place of any regular or special meeting in any one of the following ways: in writing or by telegram to a member's last known address as provided to the department or by telephone.

(g) Any member of the Environmental Management Commission who misses three consecutive regularly scheduled meetings, shall immediately cease to be a member of the commission and the Governor shall promptly appoint a new member with appropriate qualifications to fill the remainder of the term.

(h) The Environmental Management Commission shall keep a complete and accurate record of the proceedings of all its meetings, a copy of which shall be kept on file in the office of the director and open to public inspection.

(i)(1) Each member shall receive $100.00 per day for each day of attendance at an official meeting. Members of the Environmental Management Commission shall be reimbursed for expenses when attending meetings which are approved and certified by the director. Reimbursement shall be in accordance with Sections 36-7-1 through 36-7-42;

(2) All proper expenses of the Environmental Management Commission shall be paid from the appropriations to or funds of the department in the same manner as expenses of the department are paid.

(j) Members of the Environmental Management Commission shall meet all requirements of the state ethics law and the conflict of interest provisions of applicable federal laws and regulations.

(Acts 1982, No. 82-612, p. 1111, §6.)

Section 22-22A-7

Hearings and procedures before commission; appeal and review.

(a) Beginning October 1, 1982, the Environmental Management Commission, in addition to any other authority which may be conferred upon it by law, shall have the power to:

(1) Develop and prescribe its own hearing procedures, unless otherwise specified by law; and

(2) Administer oaths, certify to official acts, take and cause to be taken depositions of witnesses, issue subpoenas, and compel the attendance of witnesses and the production of papers, books, accounts, payrolls, documents and records. In the event of failure of any person to comply with any subpoena lawfully issued, or on the refusal of any witness to produce evidence or to testify as to any matter regarding which he may be lawfully interrogated, it shall be the duty of any court of competent jurisdiction or of the judge thereof,

upon the application of the Environmental Management Commission or its designee, to compel obedience by contempt proceedings, as in the case of disobedience of the requirements of a subpoena issued by such court or a refusal to testify therein. The fees of witnesses for attendance and travel shall be the same as fees of witnesses before courts of record and shall be paid from the funds of the department.

(b)(1) The Environmental Management Commission may delegate the power to hear appeals which are before it to a hearing officer. Any such hearing conducted by a hearing officer shall be in accordance with rules and regulations prescribed by the Environmental Management Commission pursuant to subdivision (1) of subsection (a) of this section, and in such case the hearing officer shall prepare findings of fact, conclusions of law and recommendations to the Environmental Management Commission for its final decision.

(2) The Environmental Management Commission may hire hearing officers to hear appeals which are before it. Such hearing officers shall be attorneys licensed to practice in the State of Alabama and shall be paid appropriately from department funds.

(c) Upon a proper request made in accordance with subdivisions (1) or (2) of this subsection and any hearing procedures prescribed by the Environmental Management Commission, any person aggrieved by an administrative action of the department shall be entitled to a hearing before the Environmental Management Commission or its designated hearing officer. To obtain a hearing on any order assessing a civil penalty issued pursuant to subdivision (18) of Section 22-22A-5, an aggrieved person shall either be subject to the order or have submitted timely written comments on the proposed order in accordance with subdivision (18) of Section 22-22A-5.

(1) Request for such hearing to contest an administrative action of the department, other than to contest the issuance of any rule or regulation or emergency order, must be filed with the Environmental Management Commission within 30 days of the contested administrative action.

(2) Request for a hearing before the Environmental Management Commission or its designated hearing officer to contest the issuance of any rule or regulation by the department must be filed with the Environmental Management Commission within 45 days of the promulgation of the rule or regulation by the department; except, that if such request is based solely on grounds arising after such forty-fifth day, then any request for a hearing under this subdivision must be filed within 45 days after such grounds arise.

(3) The Environmental Management Commission or its designated hearing officer shall within a reasonable time, not to exceed 45 days after receipt of a request in accordance with subdivisions (1) or (2) of this subsection, hold a hearing of which at least 15 days' written notice shall be given to such person requesting the hearing and any other named or necessary party. Within 30 days after such hearing, the Environmental Management Commission shall issue an appropriate order modifying, approving or disapproving the department's administrative action. A copy of the Environmental Management Commission's order shall be served upon all parties either personally, by registered mail or by certified mail return receipt requested. The notice and hearing requirements of this subsection shall not apply to emergency orders. Hearings on emergency orders shall be held before the Environmental Management Commission and notice of such hearing as may be reasonable under the circumstances shall be given to such persons as the Environmental Management Commission deems appropriate.

(4) Pending the determination by the Environmental Management Commission, and upon application therefor, the Environmental Management Commission may stay the operation of such administrative action upon such terms and conditions as it may deem proper.

(5) The parties shall not be bound by the strict rules of evidence prevailing in the courts. However, a full and complete record shall be kept of all proceedings before the Environmental Management Commission. All testimony or comments given in any hearing before the Environmental Management Commission shall be electronically or stenographically recorded, but need not be transcribed unless an appeal is taken to court or unless requested by any party who shall pay for the cost of transcription.

(6) Any order of the Environmental Management Commission made pursuant to the above procedure, modifying, approving or disapproving the department's administrative action, constitutes a final action of the department and is appealable to the Montgomery County Circuit Court or the circuit court in which the applicant does business or resides for judicial review on the administrative record provided that such appeal is filed within 30 days after issuance of such order.

(7) Administrative action with respect to which review was or could have been obtained under this section shall not be subject to judicial review in any civil or criminal proceeding for enforcement.

(Acts 1982, No. 82-612, p. 1111, §7; Acts 1986, No. 86-542, p. 1053, §2; Act 2003-397, p. 1136, §1.)

Section 22-22A-8

Adoption of rules, regulations and standards; review by director; public notice and hearing.

(a) All rules, regulations or standards shall be adopted by and promulgated by the Environmental Management Commission. With the exception of editorial changes, no rule, regulation or standard shall be adopted, amended or repealed unless such rule, regulation or standard has been reviewed by the director and until after a public hearing has been held. Unless different notice provisions are specifically required elsewhere by law, at least 45 days prior to the scheduled date of the hearing the department shall give notice of such hearing by public advertisement in the three newspapers of this state with the largest regional circulation of the date, time, place and purpose of such hearing; and make available to any person upon request copies of the proposed rules, regulations or standards, together with summaries of the reasons supporting their adoption, amendment or repeal.

(b) Any public hearing relating to the adoption, amendment or repeal of department rules, regulations or standards under this section shall be held before a department representative, who shall be designated by the Environmental Management Commission. All such hearings shall be open to the public, and reasonable opportunity to be heard with respect to the subject of the hearing shall be afforded to any person. All testimony taken before the department representative shall be recorded and transcribed. The transcript, any exhibits or any written submissions to the department in relation to such hearings shall be open to public inspection.

(c) After such hearing, the department may revise the proposed rules, regulations or standards, before adoption in response to testimony, written submissions or exhibits introduced at the hearing, without conducting a further hearing on the revisions.

(d) Nothing in this section shall be construed to require a hearing prior to the issuance of any temporary emergency rule or regulation.

(Acts 1982, No. 82-612, p. 1111, §8.)

Section 22-22A-9

Transfer of functions, personnel, equipment, funds, etc., to Department of Environmental Management.

(a) All employees engaged in duties pertaining to the functions transferred by this chapter to the department, shall be assigned to the department on October 1, 1982, to perform their usual duties, subject to any action that may be appropriate thereafter in accordance with the laws and rules governing personnel and employees.

(b) All files, books, papers, records, equipment, furniture, motor vehicles, any other tangible property, and any other asset employed in carrying out the powers, duties and functions transferred by this chapter to the department shall, on October 1, 1982, be transferred to the department.

(c) All reports, documents, surveys, books, records, files, correspondence, papers or other writings in the possession of any department, division, bureau, board, commission or other agency, the functions, powers and duties of which have been transferred to the department by this chapter, or which have been employed in carrying out the functions, powers and duties transferred by this chapter to the department shall, on October 1, 1982, be transferred to the department.

(d) All funds, credits or other moneys held in connection with the functions transferred by this chapter, shall be transferred to the Alabama Department of Environmental Management Fund created by Section 22-22A-11 on October 1, 1982. Subsequent to the transfer of all funds, credits or other moneys to the department for programs whose functions are transferred by this chapter to the department, the Water Improvement Commission Fund established by Section 22-22-10; the Safe Drinking Water Fund established by Section 22-23-51; the Well Driller Licensing Fund established by Section 22-24-10; the Operator's Certification Fund established by Section 22-25-10; and the Hazardous Waste Management Fund established by Section 22-30-23 are abolished, and any funds from any source whatsoever which may accrue to any of the foregoing funds in the future shall accrue to the Alabama Department of Environmental Management.

(e) Any appropriation made for the purpose of carrying out the powers, duties and functions transferred by this chapter to the department, shall on October 1, 1982, be transferred and credited to the department for the purpose of carrying out such transferred powers, duties and functions.

(f) Except where in conflict with provisions of this chapter, on October 1, 1982, all rules, regulations, standards, comprehensive plans for the prevention, abatement and control of pollution in this state; and all orders, permits, licenses, certificates, bonds and variances of the departments, divisions, boards, commissions, or other agencies, relating to the functions transferred by this chapter to the department, are enforceable as the rules, regulations, standards, plans, orders, permits, licenses, certificates, bonds and variances of the department and shall continue to be effective until revised, amended, repealed or nullified pursuant to law.

(g) All pending business before the boards, commissions, or agencies affected by this chapter, relating to the functions transferred by this chapter to the department, shall be continued and acted upon by the department. All existing contracts, obligations and memoranda of understanding pertaining to the functions transferred by this chapter to the department, shall remain in force and effect and shall be performed by the department.

(h) All state officials required to maintain contact with or provide services to any agency, board or commission affected by this chapter shall continue to perform such services for the department unless otherwise directed by this chapter.

(i) Neither the abolition of any agency nor any of the transfers authorized by this chapter shall affect the validity of any action performed by such agency, board or commission affected by this chapter, prior to October 1, 1982.

(j) Except where required elsewhere by the chapter, on October 1, 1982, the performance of any such transferred duties or functions by the department or its respective divisions shall have the same effect as if done by the former agency, board or commission referred to or designated by law or contract. The reference to or designation of the former agency, board or commissions shall apply to the department.

(k) During an appropriate transition period after October 1, 1982, the State Health Department shall continue to assist the department in personnel and fiscal matters in order to effect the smooth transition of such functions to the department.

(Acts 1982, No. 82-612, p. 1111, §9.)

Section 22-22A-10

Transfer of functions, personnel, equipment, etc., of coastal area board to Office of State Planning and Federal Programs; exception.

(a) On October 1, 1982, all functions of the Coastal Area Board, as set forth in Sections 9-7-10 through 9-7-22, except those which relate to permitting, regulatory and enforcement functions, shall be transferred to the Office of State Planning and Federal Programs established pursuant to Sections 41-9-205 through 41-9-214.

(b) All employees engaged in duties pertaining to the functions transferred by this section, shall be assigned to the Office of State Planning and Federal Programs on October 1, 1982 to perform their usual duties, subject to any action that may be appropriate thereafter in accordance with the laws and rules governing personnel and employees.

(c) All files, books, papers, records, equipment, furniture, motor vehicles, any other tangible property and any other asset employed in carrying out the powers, duties and functions transferred by this chapter to the Office of State Planning and Federal Programs shall, on October 1, 1982, be transferred to the Office of State Planning and Federal Programs.

(d) All reports, documents, surveys, books, records, files, correspondence, papers or other writings in the possession of the Coastal Area Board, the functions, powers and duties of which have been transferred to the Office of State Planning and Federal Programs by this chapter, or which have been employed in carrying out the functions, powers and duties transferred by this chapter to said office shall, on October 1, 1982, be transferred to the Office of State Planning and Federal Programs.

(e) All funds, credits or other moneys held in connection with the functions transferred by this chapter to the Office of State Planning and Federal Programs, shall be transferred to said office on October 1, 1982. Subsequent to the transfer of all funds, credits or other moneys to the Office of State Planning and Federal Programs, the Coastal Area Board Fund established by Section 9-7-19 is abolished.

(f) Any appropriation made to the Coastal Area Board for the purpose of carrying out the powers, duties and functions transferred by this chapter to the Office of State Planning and Federal Programs shall, on October 1, 1982, be transferred and credited to said office for the purpose of carrying out such transferred powers, duties and functions.

(g) The Office of State Planning and Federal Programs shall provide the department sufficient funds to administer the permitting, regulatory and enforcement functions of the Coastal Area Management Program from those federal funds obtained by the office for such purposes.

(h) All pending business before the Coastal Area Board, relating to the functions transferred by this chapter to the Office of State Planning and Federal Programs, shall be continued and acted upon by said office. All existing contracts, obligations and memoranda of understanding pertaining to the functions herein transferred shall remain in force and effect and shall be performed by the Office of State Planning and Federal Programs.

(i) All State Officials required to maintain contact with or provide services to the Coastal Area Board shall continue to perform such services for the Office of State Planning and Federal Programs or as otherwise directed by this chapter.

(j) Neither the abolition of the Coastal Area Board nor any of the transfers to the Office of State Planning and Federal Programs authorized by this chapter shall affect the validity of any action performed by the Coastal Area Board, prior to October 1, 1982.

(Acts 1982, No. 82-612, p. 1111, §10.)

Section 22-22A-11

Alabama Department of Environmental Management Fund.

There is hereby created a fund known as the Alabama Department of Environmental Management Fund. This fund shall consist of: (1) all appropriations; (2) all grants, gifts, bequests or donations; (3) all money derived through any source of federal aid; (4) all fees; (5) all moneys from any program whose functions were transferred to the department by this chapter; and (6) all moneys from any other source whatsoever. However, the department may not solicit or accept any gift or donation from any person that has any official request or action pending before the Alabama Department of Environmental Management. All moneys deposited in said fund are hereby appropriated to the use of the department in addition to any other appropriations heretofore or hereafter made. The fund shall be used and expended by the department in accordance with the terms of the appropriations, gift, bequest, grant, donation or transfer from which said moneys are derived and in the absence of any such terms or stipulations, shall be expended by the department in furtherance of any of the provisions of this chapter. All necessary expenses of the department shall likewise be paid out of the fund on the requisition of the director as may be deemed advisable.

(Acts 1982, No. 82-612, p. 1111, §12; Acts 1984, 1st Ex. Sess., No. 84-783, p. 163, §2; Acts 1986, No. 86-542, p. 1053, §3.)

Section 22-22A-12

Coastal Resources Advisory Committee; composition; terms; chairman; meetings.

(a) There is hereby created a Coastal Resources Advisory Committee to advise the department and the Office of State Planning and Federal Programs on all matters concerning the coastal area. The committee shall consist of not less than seven members who shall be predominantly from Baldwin and Mobile Counties.

(b) The initial members of the Coastal Resources Advisory Committee shall be the current Coastal Area Board established by Section 9-7-14, as amended and abolished by this chapter. The terms of the initial members of the committee shall be for one year beginning October 1, 1982.

(c) The subsequent membership of the Coastal Resources Advisory Committee shall be as follows:

(1) One member shall be a member of the Mobile City Commission and shall be selected by that commission;

(2) One member shall be a member of the Mobile County Commission and shall be selected by that commission;

(3) One member shall be a member of the Baldwin County Commission and shall be selected by that commission;

(4) One member shall be an official of a municipal corporation in Baldwin County and shall be selected by the Baldwin County Mayors Association;

(5) One member shall be the Commissioner of Conservation and Natural Resources, who may designate an employee of his department to represent him on the committee;

(6) One member shall be the State Geologist who may designate an employee of his agency to represent him on the committee; and

(7) One member shall be the director of the Marine Environmental Science Consortium.

The term of each of these members of the Coastal Resources Advisory Committee shall be consistent with his elective or appointive office.

(d) Additional members of the Coastal Resources Advisory Committee may be appointed by the Governor for terms not to exceed four years and shall be eligible for reappointment.

(e) The committee shall meet initially to select a chairman and subsequent meetings of the committee shall be at the call of the chairman of the Coastal Resources Advisory Committee or the director of the Office of State Planning and Federal Programs.

(Acts 1982, No. 82-612, p. 1111, §13.)

Section 22-22A-13

Effect of chapter on powers of Attorney General.

All remedies for the prevention and abatement of pollution given to the Attorney General through the authority of this chapter are merely cumulative. Except as provided in subdivisions (12) and (15) of Section 22-22A-5 nothing in this chapter shall be interpreted as negating or destroying any common law or statutory right, duty, power or authority of the Attorney General of Alabama.

(Acts 1982, No. 82-612, p. 1111, §15.)

Section 22-22A-15

Chapter does not repeal Section 22-30-5.1.

No provision of this chapter shall be construed to repeal in whole or in part any provision of Section 22-30-5.1.

(Acts 1982, No. 82-612, p. 1111, §14(e); Acts 1983, 2nd Ex. Sess., No. 83-131, p. 137, §1.)

Section 22-22A-16

Pollution Control Grant Fund.

(a) There is hereby created a fund known as the Pollution Control Grant Fund. This fund shall consist of

(1) All appropriations made to the fund; and

(2) All grants, gifts, bequests or donations made to the fund from any source whatsoever. This fund shall be used and expended by the Alabama Department of Environmental Management in accordance with the terms of the appropriation, gift, bequest, grant or donation from which said moneys are derived and in the absence of such terms or stipulations, shall be expended by said department in accordance with the provisions of subsection (b). All necessary expenses of said department in implementing the provisions of this section shall likewise be paid out of the fund on the requisition of the director of said department as may be deemed advisable.

(b) Except as provided in subsection (a), the Alabama Department of Environmental Management is authorized to make grants to any county, municipality or public corporation, agency or instrumentality organized under the laws of the state, for the purpose of carrying out any air, land or water pollution control, prevention or abatement practices, measures, experiments or research, from the Pollution Control Grant Fund and to enter into and carry out contracts or agreements in connection therewith and include in any contract or agreement such conditions as it may deem reasonable and appropriate.

(c) Acting through the Environmental Management Commission, the Alabama Department of Environmental Management is authorized to promulgate rules, regulations and standards to carry out the provisions of this section.

(Acts 1985, No. 85-755, p. 1255.)

Section 22-22A-17

Navigable Waters Dredging Fund.

(a) Notwithstanding any provision of law, the budget proposed each year for the Alabama Department of Environmental Management shall include as a line item in the General Fund Budget the Navigable Waters Dredging Fund for the dredging of the navigable waters of this state and for sediment reuse. The director of the department shall present the proposed budget at the appropriate budget hearing scheduled by the Alabama Legislature.

(b) There is established a Navigable Waters Dredging Fund which shall be administered by the Alabama Department of Environmental Management which funds shall be paid to the U.S. Army Corps of Engineers for the purposes of dredging the navigable waters of this state and for sediment reuse. The principal of the fund shall consist of the following:

(1) Funds appropriated by any governmental entity.

(2) Funds received as gifts from any source.

(c) All funds collected or received by the department for the Navigable Waters Dredging Fund shall be deposited into the fund and payments from the fund made to the corps may be used only to carry out the provisions of this section.

(Act 2015-436, §§1, 2.)

CODE OF ALABAMA 1975

Chapter 27 Solid Waste

Article 1 Solid Wastes Disposal Act

Section 22-27-1

Short title.

This article shall be known as the "Solid Wastes and Recyclable Materials Management Act."

(Acts 1969, No. 771, p. 1373, §1; Act 2008-151, p. 244, §1.)

Section 22-27-2

Definitions.

For the purpose of this article, the following terms shall have the meanings respectively ascribed to them by this section:

(1) AGENCY. Any controlling agency, public or private, elected, appointed, or volunteer utilizing methods approved by the health department or the department for the purpose of controlling and supervising the collection or management of solid wastes or recyclable materials.

(2) ASHES. The solid residue from burning of wood, coal, coke, or other combustible material used for heating, from incineration of solid wastes, or for the production of electricity at electric generating plants.

(3) COAL COMBUSTION BY-PRODUCTS. Fly ash, bottom ash, boiler slag, or flue gas emission control by-products which result primarily from the combustion of coal or other fossil fuels at electric generating plants.

(4) COMPOSTING OR COMPOST PLANT. An officially controlled method or operation whereby putrescible solid wastes are broken down through microbic action to a material offering no hazard or nuisance factors to public health or well-being.

(5) DEPARTMENT. The Alabama Department of Environmental Management.

(6) DIRECTOR. The Director of the Alabama Department of Environmental Management or his or her designee.

(7) DISCHARGE. The accidental or intentional spilling, leaking, pumping, emitting, emptying, or dumping of solid waste, including leachate, into or on any land or water.

(8) DISPOSAL. The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including, but not limited to, ground waters.

(9) FACILITY. All contiguous land, structures, and other appurtenances used for the processing, treatment, storage, or disposal of solid waste, or the recovery of recyclable materials from solid waste, whether or not authorized or permitted, including, but not limited to, waste disposal areas and waste disposed therein.

(10) FINANCIAL ASSURANCE. A financial arrangement by the owner or operator of a municipal solid waste landfill which guarantees the availability of funds which may be used to close, provide post-closure care, or conduct corrective action at that facility if the owner or operator fails to properly execute his or her responsibilities under this article and any rules promulgated by the department for closure, post-closure care, or corrective action and the terms of any permit issued for operation of that facility.

(11) GARBAGE. Putrescible animal and vegetable wastes resulting from the handling, preparation, cooking, and consumption of food, including wastes from markets, storage facilities, handling and sale of produce and other food products and excepting such materials that may be serviced by garbage grinders and handled as household sewage.

(12) GENERATION. The act or process of producing solid waste. Solid waste shall be considered to be generated at the point that waste materials are first discarded or collected, regardless of any subsequent materials recovery or recycling.

(13) HAZARDOUS WASTES. Those wastes defined in, and regulated under, the Alabama Hazardous Waste Management and Minimization Act of 1978, as amended.

(14) HEALTH DEPARTMENT. An approved county or district health department, including the Alabama State Department of Public Health and the affected state and county health department.

(15) HEALTH OFFICER. The state or affected county health officer or his or her designee.

(16) HOUSEHOLD WASTE. Any solid waste, including, but not limited to, garbage, trash, and sanitary waste in septic tanks derived from households, including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreational areas. Sanitary waste in septic tanks shall be considered as household waste only when it is disposed in a landfill or unauthorized dump and its inclusion as a household waste shall in no way prohibit or supersede the authority of the board or the department to regulate onsite sewage systems or the management of sanitary waste in septic tanks.

(17) INCINERATOR. A device designed to burn that portion of garbage and rubbish which will be consumed at temperatures generally ranging 1,600 degrees Fahrenheit or over. The unburned residue from an incinerator, including metal, glass, and the like shall be called ashes.

(18) INDUSTRIAL SOLID WASTE. Solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Chapters 22 to 30, inclusive, of this title.

(19) INNOCENT LANDOWNER. An owner of real property upon which there is located an unauthorized dump and who meets all of the following conditions:

a. The solid waste was disposed of on the property after the owner acquired title to the property or the waste was disposed of before the owner acquired title to the property and the owner lacked actual knowledge of the waste after conducting reasonable due diligence or title was acquired by bequest or devise.

b. The owner did not have knowledge that the waste was being disposed of on the property or the owner took steps, including, but not limited to, posting signs to prevent disposal on the property.

c. The owner did not participate in or consent to the disposal of solid waste on the property.

d. The owner did not receive any financial benefit from the disposal of solid waste on the property.

e. Title to the property was not transferred to the owner for the purpose of evading liability for operating an unauthorized dump.

f. The person or persons responsible for disposing of the solid waste on the property, in doing so, were not acting as an agent for the owner.

(20) LANDFILL. A method of compaction and earth cover of solid wastes other than those containing garbage or other putrescible wastes, including, but not limited to, tree limbs and stumps, demolition materials, incinerator residues, and like materials not constituting a health or nuisance hazard, where cover need not be applied on a per day used basis.

(21) MATERIALS RECOVERY FACILITY. A solid waste management facility that provides for the extraction from solid waste of recyclable materials, materials suitable for use as a fuel or soil amendment, or any combination of those materials. A materials recovery facility shall be deemed to be a solid waste treatment facility.

(22) MEDICAL WASTE. A solid waste or combination of solid wastes which because of its infectious characteristics may either:

a. Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness.

b. Pose a substantial present hazard or potential hazard to human health or the environment when improperly treated, stored, transported, disposed, or otherwise managed.

(23) MUNICIPAL SOLID WASTE LANDFILL. A discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile. A municipal solid waste landfill may also receive other types of solid wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, industrial solid waste, construction/demolition waste, and rubbish. A municipal solid waste landfill is a sanitary landfill.

(24) PERSON. An individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, agent, agency, association, state, municipality, commission, political subdivision of a state, an interstate body, or other private or public legal entity.

(25) PRIVATE SOLID WASTE MANAGEMENT FACILITY. A solid waste management facility that is operated exclusively by and for a private solid waste generator for the purpose of accepting solid waste generated on-site or by the permittee.

(26) PUBLIC SOLID WASTE MANAGEMENT FACILITY. A solid waste management facility that accepts solid waste from the public generally or for a fee or any solid waste management facility that is not a private solid waste management facility.

(27) RECOVERED MATERIALS. Those materials which have known recycling potential; which can be feasibly recycled; which have been diverted or removed from the solid waste stream for recycling, whether or not requiring subsequent separation and processing; and which have a substantial portion that is consistently used in the manufacture of products which may otherwise be produced from raw or virgin materials. Recovered materials shall not include solvents or materials, except sawdust, bark, and paper materials that are destined for incineration, energy recovery, or any use which constitutes disposal. Recovered materials shall only be those materials for which during the calendar year, commencing on January 1, the amount of material recycled or diverted from the solid waste stream for recycling and transferred to a different site for recycling equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period.

(28) RECOVERED MATERIALS PROCESSING FACILITY. A facility primarily engaged in the storage, processing, and resale or reuse of recovered materials. A recovered materials processing facility is not a solid waste management facility; however, any solid waste resulting from the operation of a facility shall be subject to all applicable laws and regulations relating to solid waste and shall be deemed to be generated for purposes of reporting pursuant to solid waste reduction goals, at the point of collection of the recovered materials from which the solid waste resulted. A recovered material processing facility shall provide notification to the department according to rules adopted by the department.

(29) RECYCLABLE MATERIALS. Those materials which are capable of being recycled, whether or not the materials have been diverted or removed from the solid waste stream.

(30) RECYCLING. Any process by which materials are collected, separated, stored, recovered, or processed and reused or returned to use in the form of raw materials or products, but does not include the use of materials as a fuel, or for any use which constitutes disposal.

(31) RUBBISH. Nonputrescible solid wastes, excluding ashes, consisting of both combustible and noncombustible wastes. Combustible rubbish includes paper, rags, cartons, wood, furniture, rubber, plastics, yard trimmings, leaves, and similar materials. Noncombustible rubbish includes glass, crockery, metal cans, metal furniture, and like materials which will not burn at ordinary incinerator temperatures, not less than 1,600 degrees Fahrenheit.

(32) SANITARY LANDFILL. A controlled area of land upon which solid waste is deposited and is compacted and covered with compacted earth each day as deposited, with no on-site burning of wastes, and so located, contoured, and drained that it will not constitute a source of water pollution as determined by the department.

(33) SOLID WASTE. Any garbage, rubbish, construction or demolition debris, ash, or sludge from a waste treatment facility, water supply plant, or air pollution control facility, and any other discarded materials, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations or community activities, or materials intended for or capable of recycling, but which have not been diverted or removed from the solid waste stream. The term "solid waste" does not include recovered materials, solid or dissolved materials in domestic sewage, solid or dissolved material in irrigation return flows, or industrial discharges which are point sources subject to the National Pollutant Discharge Elimination System permits under the Federal Water Pollution Control Act, as amended, or the Alabama Waste Pollution Control Act, as amended; or source, special, nuclear, or by-product materials as defined by the Atomic Energy Act of 1954, as amended. Also excluded from this definition are land applications of crop residues, animal manure, and ash resulting exclusively from the combustion of wood during accepted agricultural operations, waste from silvicultural operations, or refuse as defined and

regulated pursuant to the Alabama Surface Mining Act of 1969, Article 1, commencing with Section 9-16-1, of Chapter 16 of Title 9.

(34) SOLID WASTE DISPOSAL FACILITY. Any landfill or part of a facility where final deposition of solid waste occurs and at which waste may remain after closure.

(35) SOLID WASTE MANAGEMENT. The systematic control of solid waste including its storage, processing, treatment, recovery of materials from solid waste, or disposal.

(36) SOLID WASTE MANAGEMENT FACILITY. Any solid waste volume reduction plant, transfer station, material recovery facility, or other facility, the purpose of which is the storage, treatment, utilization, processing, disposal, or recovery of materials from solid waste, or any combination thereof.

(37) UNAUTHORIZED DUMP. Any collection of solid wastes either dumped or caused to be dumped or placed on any public or private property, whether or not regularly used, and not having a permit from the department. Abandoned automobiles, large appliances, or similar large items of solid waste shall be considered an unauthorized dump within the meaning of this article. The careless littering of a relatively few, smaller individual items such as tires, bottles, cans, and the like shall not be considered an unauthorized dump, unless the accumulation of solid waste poses a threat to human health or the environment. An unauthorized dump shall also mean any solid waste disposal site which does not meet the regulatory provisions of this article.

(Acts 1969, No. 771, p. 1373, §1; Acts 1982, No. 82-612, p. 1111, §11(f); Act 2005-302, 1st Sp. Sess., p. 596, §1; Act 2008-151, p. 244, §1; Act 2011-258, p. 462, §1.)

Section 22-27-3

Authority of local governing bodies as waste collections and disposal; household exemptions; state regulatory program.

(a) Generally. (1) The county commission or municipal governing body may, and is hereby authorized to, make available to the general public collection and disposal facilities for solid wastes in a manner acceptable to the department. The county commission or municipal governing body may provide such collection or disposal services by contract with private or other controlling agencies and may include house-to-house service or the placement of regularly serviced and controlled bulk refuse receptacles within reasonable (generally less than eight miles) distance from the farthest affected household and the wastes managed in a manner acceptable to the department.

(2) Any county commission or municipal governing body providing services to the public under this article shall have the power and authority by resolution or ordinance to adopt rules and regulations providing for mandatory public participation in and subscription to such system of services. Such governing body may, in its discretion, submit the question of requiring such mandatory public participation to a vote of the qualified electors of the county or municipality as the case may be. If such governing body submits the question to the voters, then the governing body shall also provide for holding and canvassing the returns of the election and for the giving notice thereof for two consecutive weeks in a paper of general circulation in the county. Every person, household, business, industry, or property generating solid wastes, garbage, or ash as defined in this section shall participate in and subscribe to such system of service unless granted a certificate of exception as provided in subsection (g). Provided, however, any individual, household, business, industry, or property generating solid wastes that were sharing service for a period of at least 6 months may continue to share service without filing for a certificate of exception. In the event such person,

household, business, industry, or property owner who has not been granted a certificate of exception refuses to participate in and subscribe to such system of service, the county commission or municipal governing body may in addition to any other remedy provided in this article bring an appropriate civil action in circuit court to compel such participation and subscription. Except as provided in subsection (g), any person, firm, or corporation violating such rules and regulations shall be in violation of this article and shall be punished as provided in Section 22-27-7.

(3) Any household whose sole source of income is Social Security benefits shall be granted an exemption from the payment of any fees required under this article, provided the household seeking to claim the exemption shall present proof of income to the county health officer no later than the first billing date of any year in which the exemption is desired. The county health officer or his designee shall forward the exemption request and proof of income to the solid waste officer or municipal governing body upon receipt. The exemption shall apply only so long as the household's sole source of income is Social Security and shall be requested each year in which the exemption is desired. Additionally, the Legislature may, by local law, authorize the county commission to grant additional exemptions to households whose total income does not exceed 75 percent of the federal poverty level. Any person who knowingly provides false or misleading information in order to obtain an exemption shall be subject to the provisions of Section 22-27-7.

(4) No county commission shall provide solid waste collection and disposal services within the corporate limits of a municipality without the express consent of the municipal governing body of such municipality nor shall any municipality provide solid waste collection and disposal services outside its corporate limits without the express consent of the county commission of the county in which it is situated.

(5) Any county providing door-to-door solid waste collection shall not reduce such service unless and until a letter has been sent to each resident or property or business owner receiving door to door service stating that such service will be reduced or changed and allowing at least 60 days for any resident, business owner, or property owner to call for a public hearing and for the county or municipality to hold such public hearing upon request.

(6) Any provision of this article to the contrary notwithstanding, no person, household, business, industry, or property owner shall be required to pay any solid waste collection exemption or disposal fee chargeable under this article unless solid waste collection and disposal services for which such charge was made were actually made available to such person, household, business, industry, or property owner.

(b) Solid waste officer. As used in this article, solid waste officer shall mean any county official or county employee or any official or employee of a solid waste disposal authority authorized under Section 11-89A-1 et seq. designated by the county commission to exercise the authority and perform the duties delegated by this article to such official and such officer shall have the same powers of enforcement against persons violating this article as do license inspectors with regard to persons violating revenue laws as provided under Section 40-12-10 (i), (j), (k), and (n).

(c) As used in this article, the terms "solid wastes", "garbage", and "ash" do not include any drilling discharges from oil or natural gas operations.

(d) Garbage disposal. Garbage and rubbish containing garbage shall be disposed of by sanitary landfill, approved incineration, composting, or by other means now available or which may later become available as approved by the department. The method chosen and used shall also meet the requirements of the health department for sanitation and the protection of public health.

(e) Burning. No garbage or rubbish containing garbage or other putrescible materials or hazardous wastes shall be burned except in approved incinerators meeting the necessary temperature requirements and air pollution controls as now established or as may later be established. The open burning of rubbish shall be permitted only under sharply controlled circumstances where sanitary landfill or landfill is not feasible and not in proximity to sanitary landfill or landfill operations where spread of fire to these operations may be a hazard in the opinion of the department.

(f) Haulage. Trucks or other vehicles engaged in the business of hauling garbage and rubbish shall be so covered, secured, or sealed that there will be no loss during haulage to cause littering of streets and highways, or cause a nuisance or hazard to the public health.

(g) Exception. (1) A person, household, business, industry, or any property owner may store, haul, and dispose of his or her own solid wastes on his or her land or otherwise, provided such storage, haulage, or disposal is accomplished pursuant to a certificate of exception as provided in this subsection. In order to obtain a certificate of exception, an application, an application fee, and plan must be filed with the county health officer or his or her designee in the case of household solid waste or with the department in the case of solid waste from business or industry, setting out the proposed method of storing, hauling, and disposing of solid waste so as to comply with rules and regulations adopted by the state or county boards of health or the department as appropriate and not create a public nuisance or hazard to the public health. The certification of exception application fee shall be established by the State Board of Health or the department, as the case may be, except that with regard to an individual household such fee shall be ten dollars ($10). The proceeds from such application fees are hereby appropriated to the State Board of Health or the department, as the case may be, to be used for the administration of this article. The county health officer or his or her designee or the department as appropriate shall investigate such application and plan and issue a certificate of exception within the time set by the State Board of Health or the department, as the case may be (not to exceed sixty days in the case of an individual household), if such proposal will, in such officer's or designee's or the department's judgment, comply with such rules and regulations and adequately prevent a public nuisance or hazard to public health. A certificate of exception granted under authority of this section shall be valid for the period established by the department, except that in the case of an individual household such period shall not exceed one year. The county health officer or his or her designee or the department shall notify the county commission or municipal governing body in writing of the intention to grant a certificate of exception and no such certificate of exception shall be granted for an individual household without prior written approval of the county commission or municipal governing body as the case may be.

(2) Notwithstanding any other provision of this chapter to the contrary, no exception, exception fee, or any other review, approval, or payment shall be required of any generator for the collection, handling, or disposal of its own solid waste using facilities or equipment owned by the generator, its corporate parent, affiliate, or subsidiary and duly permitted for such use by the Alabama Department of Environmental Management or its successor in function.

(h) Coal combustion by-products. Upon the adoption and implementation of a federal regulatory program to govern the disposal of coal combustion by-products pursuant in whole or in part to Subtitle D of the Solid Waste Disposal Act, 42 U.S.C. §6941 et seq., the department is authorized to develop and adopt rules as necessary to implement a state regulatory program consistent with the federal requirements. Until such federal program requirements take effect, the disposal of coal combustion by-products shall be subject to the applicable requirements of this article; provided, however, that a facility permitted by the department pursuant to Chapter 22 of this title as of May 25, 2011, and thereafter may continue to operate without additional authorization by the department until federal requirements under the Solid Waste Disposal Act

take effect. To the extent permissible under the federal program, the department shall allow beneficial uses of coal combustion by-products as an alternative to disposal as part of any adopted state program.

(Acts 1969, No. 771, p. 1373, §2; Acts 1971, No. 2247, p. 3604, §1; Acts 1982, No. 82-612, p. 1111, §11(f); Acts 1989, No. 89-630, p. 1231, §1; Acts 1997, No. 97-636, p. 1159, §1; Act 2011-258, p. 462, §1.)

Section 22-27-4

Hazardous wastes; unauthorized dumps; vermin controls.

(a) Hazardous wastes. Hazardous wastes shall be managed in accordance with the provisions of Sections 22-30-1 through 22-30-24, and the rules promulgated thereunder.

(b) Unauthorized dumps. The creation, contribution to, or operation of unauthorized dumps shall be prohibited, removed, enjoined, and enforced upon and regulated as provided in this article generally, and Section 22-27-11, specifically.

(c) Vermin controls. Rodents and insects of public health importance, including, but not limited to, rats, flies, and mosquitoes shall be controlled in a manner consistent with the administrative rules of the Board of Health and the department, and the closure of any unauthorized dump where deemed necessary by the health officer and the department, shall be accompanied by an adequate vermin eradication program to prevent the spread of vermin to nearby properties.

(Acts 1969, No. 771, p. 1373, §3; Acts 1982, No. 82-612, p. 1111, §11(f); Act 2008-151, p. 244, §1.)

Section 22-27-5

Authority of localities to establish charges, fees, etc., and enter into mutual agreements or contracts; approval of department; licensing of private or corporate agencies; permits and bonds; nonpayment of fees, etc.

(a) Fees, etc.; mutual agreements or contracts. The county commission or municipality undertaking the responsibility for providing services to the public under this article may establish fees, charges and rates and may collect and disburse funds within cooperating areas or districts, inside or outside the corporate limits of municipalities or inside or outside of county boundaries, for the specific purpose of administering this article and providing and operating a solid waste program. Also, said county commission or public authority may enter into mutual agreements or contracts with the government bodies of other counties, municipalities, corporations or individuals, where deemed to be mutually economical and feasible, to jointly or individually collect, haul and/or dispose of solid wastes generated within the cooperating area. All contracts or mutual agreements under this article shall be subject to review by the health officer, and all such contracts and agreements shall be subject to cancellation upon 30 days' notice from said health officer with the concurrence of the department, any time said contracts or agreements fail to be in the best interest of the health, safety and welfare of the citizens residing in the affected area.

(b) Private or corporate agencies. Individuals, corporations, partnerships or other agencies engaging in the collection and disposal of solid wastes are subject to this article. Governing bodies may assign territories, approve or disapprove disposal sites, with the concurrence of the health department, and shall establish and collect annual license fees from such firms and set rate schedules if a service fee is charged. In addition to any other approvals which are necessary for any contract between private or corporate agencies and governmental entities for the disposal of solid wastes, approval of the department shall be obtained.

(c) Permits and bonds. Under subsection (b) of this section, no license shall be granted or fee collected without a permit issued by the state or county health department, renewable annually at the time licenses are due. Such permit shall be based upon performance and may be revoked for cause, including failure to perform under the provisions of this article and regulations adopted under authority of this article. No license shall be granted without the posting of a performance bond satisfactory to the governing body. All solid waste disposal sites except those which have certificates of exception shall have a permit from the department.

(d) Financial assurance. No permit for transportation of garbage by out-of-state transporters, for disposal of such garbage in a sanitary landfill in this state, shall be issued unless financial assurance is posted by such transporter with the health department.

The financial assurance shall be in an amount not less than $250,000 and must guarantee that such garbage does not contain any regulated hazardous waste, infectious waste, or explosive materials or debris. The financial assurance shall be provided in accordance with acceptable financial assurance instruments which include but are not limited to an escrow account, performance bond, or letter of credit. The health department shall promulgate regulations specifying the terms and conditions of financial assurance instruments, as appropriate.

(e) Nonpayment of fees, etc. Any county commission or municipality establishing fees, charges and rates pursuant to subsection (a) of this section shall have the power and authority to adopt resolutions or ordinances providing that if the fees, charges or rates for the services furnished by the county commission or municipality, or licensee of either, under the provisions of said chapter, shall not be paid within 30 days after the same shall become due and payable, such county commission or municipality may, at the expiration of such 30-day period, suspend such services or may proceed to recover the amount of any such delinquency with interest in a civil action, or both.

(Acts 1969, No. 771, p. 1373, §5; Acts 1971, No. 2247, p. 3604, §2; Acts 1979, No. 79-668, p. 1176; Acts 1982, No. 82-612, p. 1111, §§11(f), 14(a)(7); Acts 1988, No. 88-655, p. 1052; Acts 1988, 1st Ex. Sess., No. 88-858, p. 346.)

Section 22-27-5.1

Tipping fee for use of certain county landfills.

(a) Notwithstanding any other provision of law, any county having a population of 25,000 inhabitants or less, according to the 1990 federal decennial census, which voluntarily operates a landfill as defined in Section 22-27-2(8), may charge a tipping fee for use of the county landfill. The county may deposit any or all of the tipping fee in the county general fund to be used for county general purposes. This section shall not be construed to grant any solid waste disposal authority or unit of local government the authority to impose a tipping fee on the processing, treatment, or disposal of solid waste at a privately-owned or privately-operated solid waste facility.

(b) The provisions of this section are remedial and shall be given retroactive effect for any time period for any county to which this section applies and which has operated a county landfill for inert solid waste.

(Act 98-610, p. 1342, §§1, 2.)

Section 22-27-5.2

Solid waste landfill moratorium.

(a)(1) Notwithstanding any provision of law, until May 31, 2014, neither the department nor any state or local agency may grant any new permits to a new public solid waste landfill facility which is intended to receive waste not generated by the permittee.

(2) The moratorium period is necessary in order to allow the department and the Alabama Department of Public Health to review their duties and responsibilities pursuant to the Solid Wastes and Recyclable Materials Management Act. As appropriate, following this review, the department, with input from the Alabama Department of Public Health, shall make recommendations for necessary legislation or undertake rulemaking to implement enhancement identified during the review period.

(3) For the purpose of evaluating solid waste landfill management issues facing the state and to allow for the update of the state's comprehensive solid waste management plan to identify and provide for the state's solid waste management needs, there is imposed a moratorium on the issuance by the department of any new permits for new public solid waste landfills which are intended to receive wastes not generated by the permittee as further qualified in subsection (b). The moratorium shall not apply to industrial landfills receiving waste generated in-state only by the permittee.

(b) The moratorium restriction provided in subsection (a) applies only to any proposed public solid waste landfill facility that has not received its final approval within the department solid waste landfill permitting process and shall include proposed facilities which will meet, upon completion, any of the following criteria regarding capacity, site acreage, or location.

(1) A proposed capacity in excess of 1,500 tons per day.

(2) A proposed capacity of 2,000 cubic yards per day or more.

(3) A site consisting of 500 acres or more.

(4) When combined with existing or proposed public solid waste landfill facilities located within the same county or counties or within 20 miles thereof, a capacity or site which exceeds the minimum amounts set forth in subdivision (1), (2), or (3).

(5) A proposed capacity by a new public solid waste landfill which will be more than that reasonably anticipated in the foreseeable future as identified in the local solid waste management plan for the communities located within the county in which the facility is to be located or within 20 miles of the facility.

(c) The director may waive the limitation imposed by this moratorium for a particular facility upon a finding based upon a joint recommendation by the State Health Officer and the respective host government. The request for waiver shall be initiated by resolution of the governing body of the jurisdiction which recognizes a potential crisis in solid waste management by public solid waste landfills in the jurisdiction. The resolution shall be adopted at a public meeting of the governing body following publication of at least one notice in a newspaper of general circulation in the area at least 10 days prior to the meeting. The resolution shall request the State Health Officer and the respective host government to determine if the situation poses a threat to human health or the environment within the jurisdiction based upon substantive criteria to be established jointly by the department, the State Health Officer, and the respective host government. In the event the

State Health Officer and the host government so certify, the moratorium may be waived and the director may issue a permit for the limited purpose of serving the service area or jurisdiction identified.

(Act 2011-297, p. 551, §§1-3; Act 2012-434, p. 1212, §1.)

Section 22-27-6

Authority to adopt resolution or ordinance; rules and regulations; noncompliance as public nuisance; citation; court proceedings.

(a) The county commission may by resolution or ordinance provide for the orderly collection of fees charged under the provisions of this article. Such commission may establish periodic payment systems and is authorized to purchase necessary supplies and materials and employ personnel necessary to effectuate any such periodic payment system. Such periodic payment system may be effected by the county through negotiation with any one or more public or private utilities providing service in the county for the periodic billing of such fees and the collection thereof on behalf of the county by one or more such utilities. Any delinquency in any such payment shall constitute a violation of this article and entitle the county to pursue any remedy provided in this article. The county may agree to pay reasonable compensation to any such utility for its services in connection with the collection and payment to the county of all such sums so collected. The county commission shall adopt such rules and regulations as it deems necessary to implement the provisions of this article.

(b) Whenever the solid waste officer shall find that any person, household, business, industry or any property owner has failed to subscribe to the county solid waste collection program and pay the required solid waste collection and disposal fees or has failed to obtain a certificate of exception in violation of this article such failure shall constitute a public nuisance. The solid waste officer shall thereupon cite such delinquent to appear before the solid waste officer within 10 days at the courthouse of the county in which the citation is issued and to show cause why subscription has not been made, such fees have not been paid or an exemption has not been obtained and, at the same time, shall file with the county commission a copy of such citation showing service on the delinquent. Should such delinquent appear timely before the solid waste officer and cannot give satisfactory proof that he has obtained a certificate of exception such officer shall cause the delinquent to subscribe to the solid waste collection and disposal program and pay the required fees. If such delinquent shall fail or refuse to subscribe to such program and pay such fees, the solid waste officer shall institute or cause to be instituted proceedings as provided in Section 22-27-7 against such delinquent before any court having jurisdiction of such offense. Should such delinquent fail to appear before the solid waste officer within the time allowed such officer shall institute or cause to be instituted proceedings as provided in Section 22-27-7 against such delinquent before any court having jurisdiction of such offense.

(Acts 1969, No. 771, p. 1373, §4; Acts 1989, No. 89-630, p. 1231, §2.)

Section 22-27-7

Supervision and regulatory control; rules and regulations; penalty for violation of article.

With regard to the collection of solid wastes, the Health Department shall exercise such supervision over equipment, methodology and personnel in the management of solid wastes as may be necessary to enforce sanitary requirements, and the state and county boards of health may adopt such rules and regulations as may be needed to specify methodology and procedures to meet the requirements of this article. With regard to the disposal of solid wastes, the department shall exercise such regulatory control over the management

of solid wastes as may be necessary to enforce the requirements of the department, and the department may adopt such rules and regulations as may be needed to meet the requirements of this article. Any person violating any provision of this article or any rule or regulation made pursuant to this article shall be guilty of a misdemeanor and, upon conviction, shall be fined not less than $50.00 nor more than $200.00, and, if the violation or failure or refusal to obey or comply with such provision of this article or such rule or regulation is a continuing one, each day's violation shall constitute a separate offense and shall be punished accordingly. Any person, firm or corporation granted an exception under subsection (g) of Section 22-27-3 who or which fails to carry out and comply with the provisions of the proposals embodied in the application and plan upon which a certificate of exception was issued to him or it shall be guilty of a misdemeanor and shall be punished as provided in this section. Any person, firm or corporation which has not been issued a certificate of exception under subsection (g) of Section 22-27-3 and which utilizes the Solid Waste Disposal System of any county or municipality and which fails to pay the fee, rate or charge established by the county commission or municipal governing body therefor shall be guilty of a misdemeanor and shall be punished as provided in this section. All citations to violators of this article shall be served by any lawful officer or by the Solid Waste Officer.

(Acts 1969, No. 771, p. 1373, §6; Acts 1971, No. 2247, p. 3604, §3; Acts 1982, No. 82-612, p. 1111, §11(f); Acts 1989, No. 89-630, p. 1231, §3.)

Section 22-27-8

Financial assurance.

(a) All persons having or requesting a permit for the operation of a municipal solid waste landfill shall establish and maintain financial assurance for proper closure, post-closure care, or corrective action in the form and amount the department specifies by regulation. This requirement is applicable to all municipal solid waste landfills required by federal law or regulations to demonstrate such assurance.

(b) All municipal solid waste landfills permitted or to be permitted by the department shall submit financial assurance forms and supporting documents to the department, and such forms and documents shall establish that there is funding to the appropriate levels required by department regulation. The financial assurance mechanism shall be maintained for the life of the municipal solid waste landfill, and for a period of not less than 30 years after closure, unless the owner or operator demonstrates to the director that a period less than 30 years is sufficient to protect human health and the environment and the director approves this demonstration, or the solid waste is removed and the department determines that no waste or contamination remains at the site. The department may extend post-closure care or corrective action periods for longer than 30 years when necessary to protect human health and the environment.

(c) The financial assurance and requirements established by the department pursuant to this section shall in all respects comply with Environmental Protection Agency rules and regulations regarding closure, post-closure care, or corrective action for a municipal solid waste landfill. In no event shall the department require financial assurance or other requirements pursuant to this section which are more stringent than the Environmental Protection Agency requirements in effect at the time.

(d) The department may adopt rules necessary to implement this section.

(Act 2005-302, 1st Sp. Sess., p. 596, §2.)

Section 22-27-9

Authority of Department of Environmental Management and Department of Public Health.

(a) The Department of Environmental Management shall be the agency with primary regulatory authority over the management of solid waste in the state, except for the collection and transportation of nonhazardous and nonmedical solid waste. The department may exercise the regulatory authority over the permitting and operation of solid waste management facilities necessary to enforce the requirement and purposes of this article.

(b) The Alabama Department of Public Health shall have primary regulatory authority over the collection and transportation of solid waste, excluding medical waste and hazardous waste, the management of sanitary waste in septic tanks, excluding landfill disposal, and the management of collection activities including, but not limited to, the provision of collection services by county and municipal governing bodies, participation in local collection systems, the temporary retainment of solid waste on the generator's own property, not constituting storage, and any containers, or container systems used in the collection of solid waste, such as bulk refuse receptacles, dumpsters, roll-off containers, and household collection carts. The State Board of Health may adopt rules necessary to enforce the requirements of this article.

(c) The State Health Officer and the Director of the Alabama Department of Environmental Management shall ensure that their responsibilities under this article are consistently and equitably applied.

(Act 2008-151, p. 244, §2.)

Section 22-27-10

Control of unauthorized dumping; open burning; construction with other rights and remedies.

(a) Solid waste shall be collected, transported, disposed, managed, or any combination thereof, according to the requirements of this article, and the rules of the department or the health department, as authorized by this article, and if disposed of in this state, shall be disposed in a permitted landfill or permitted incineration, or reduced in volume through composting, materials recovery, or other existing or future means approved by and according to the requirements of the department, under authorities granted by this article.

(b) The creation, contribution to, or operation of an unauthorized dump is declared to be a public nuisance per se, a menace to public health, and a violation of this article. In addition to other remedies which are available, an unauthorized dump may be enjoined through an action in the circuit court having jurisdiction over the property in which the violation occurred. In addition to any fines, penalties, and other remedies set forth herein, any person who participates in the creation or operation of an unauthorized dump, or contributed to an unauthorized dump, shall be responsible for the removal of the waste or otherwise the closure of the unauthorized dump in accordance with this article and rules of the department. If those who created, operated, or contributed to an unauthorized dump do not remove or close the unauthorized dump, the landowner shall also be responsible for the removal or otherwise the closure of the unauthorized dump. An innocent landowner, as further detailed by department rules, shall have access to the Solid Waste Fund to pay for reasonable or actual costs of investigation, required cleanup, and closure of the dump, subject to a ranking system established by the department through rules. Landowners shall cooperate with local governments or the department, or both, in stopping unauthorized dumping and removing the waste or otherwise closing an unauthorized dump in accordance with this article, and where applicable, the rules of the department. Innocent landowners who do not participate in the creation or operation of an unauthorized

dump, and who have not contributed to the unauthorized dump, shall not be liable for any fines, costs, actions, punishments, sanctions, or penalties under this article if they are part of the site ranking system established in accordance with department rules to use the Solid Waste Fund to remove the waste or otherwise close the unauthorized dump in accordance with this article and rules of the department with reasonable diligence after written notice. Unless excepted, each landowner shall be liable for applicable fines, penalties, and sanctions under this article if he or she fails to remove the waste or otherwise close the unauthorized dump with reasonable diligence after written notice. It shall be unlawful for any person to fail to comply with an administrative order from the department or, unless excepted, to knowingly or intentionally abandon an unauthorized dump without either removing the waste or otherwise closing the unauthorized dump in accordance with this article and the rules of the department. The sale or lease of land does not constitute an abandonment within the meaning of this section, however, the purchaser or lessee shall not be considered an innocent landowner.

(c) Open burning at a solid waste management facility is prohibited except as necessary to respond to emergencies and pursuant to a restricted burning approval issued by the department. Approved open burning operations must also comply with all applicable federal, state, and local air pollution control laws and regulations.

(d) The permittee shall be responsible for the compliance of a permitted facility with all applicable rules notwithstanding the performance of compliance-related duties by independent contractors or agents.

(e) No provision of this article and no rule promulgated under the authority of this article shall be construed to be a limitation on any of the following:

(1) The power of a municipality or county to declare, prohibit, or abate public nuisances; provided no municipality, county, or solid waste authority utilizes or adopts definitions related to any of the subjects or activities contained within this article that are not consistent with the definitions contained in Section 22-27-2, as may be amended from time to time.

(2) The power of the Attorney General to bring an action in the name of the State of Alabama to enforce this article, including, but not limited to, enjoining any public nuisance.

(3) The power of any state agency in the enforcement or administration of any law it is specifically permitted or required to enforce or administer.

(4) The right of any person to maintain at any time any appropriate action for relief against any private nuisance.

(f) Nothing contained in this article shall be construed in any way to abridge or alter civil or criminal rights of action or remedies now or hereafter existing. No provision of this article, or the granting of any permit under this article, or any act done by virtue of this article, shall be construed as prohibiting the state, counties, municipalities, or its citizens in the exercise of their rights from proceeding to suppress public nuisances, to abate any pollution now or hereafter existing, or to enforce any law. Nothing in this article shall be construed in any way to alter or abridge that authority granted under Chapter 3A of Title 11.

(Act 2008-151, p. 244, §2.)

Section 22-27-11

Violations; penalties; administrative orders; injunctive relief.

(a) Any violation of this article, any rule promulgated under the authority of this article, any order issued under the authority, or any term or condition of any permit issued under the authority of this article is unlawful. In addition to any penalties lawfully assessed, any person committing a violation shall be liable for all costs of abatement of any pollution and correction of any public nuisance caused by the violation.

(b) The department may issue administrative orders under Section 22-22A-5 or initiate civil actions, or both, as it deems necessary against any person in the enforcement of this article, or any regulation promulgated or permit issued under the authority of this article.

(c) In addition to any other remedies provided in this article, the department or the health department may institute suit against any person for a violation of law or, whenever a public nuisance is threatened or exists, for an injunction to restrain a violation of this article or the rules, standards, or orders adopted or issued under this article.

(d) In addition to any other remedies provided in this article, upon relation of the Attorney General or any district attorney, an action may be brought in a court of competent jurisdiction for an injunction to restrain any and all violations of this article, or the rules promulgated under this article, or to restrain any public nuisance or detriment to public health.

(e) Except as otherwise provided by law, other than administrative orders and notices issued by the department or the health department to enforce this article, all citations to violators of this article shall be served by any law enforcement officer or by the solid waste officer.

(Act 2008-151, p. 244, §2.)

Section 22-27-12

Powers of department.

The department may do the following:

(1) Adopt rules to implement this article.

(2) Adopt rules establishing requirements and restrictions for the management of solid waste, excluding the collection and transportation of nonhazardous and nonmedical solid waste. The rules may include factors such as the characteristics of the solid waste, the potential for contamination of soils or ground and surface waters, the design and operation of management facilities, the financial capabilities of the applicant, soil and geological considerations, human health, and other environmental considerations. With respect to solid waste disposal or materials recovery facilities, the rules may also include factors such as the quantity, nature, and origin of solid wastes and recovered materials to be managed. The department may condition the issuance of a permit for any solid waste management or materials recovery facility upon the facility being consistent with applicable rules as are necessary to carry out the intent of this article and the department's responsibilities under this article. Permits shall be issued for a period of time based on design life of the facility and may include renewal periods as determined by rules and not inconsistent with federal law.

(3) Issue permits, notices, and orders, specify the terms and conditions of permits or notices, conduct inspections, require that records be established and maintained, direct the abatement of unauthorized dumps or other public nuisances involving solid waste, and implement the rules and standards adopted pursuant to this article.

(4) Require postclosure activities be conducted in accordance with the Alabama Uniform Covenants Act and the corresponding rules developed by the department.

(5) Require that solid waste management facilities identify the volumes and types of solid waste to be managed and the counties and state where such solid waste will be generated.

(6) Enter upon, during reasonable hours, all solid waste management and materials recovery facilities owned and operated by persons subject to this chapter to inspect, investigate, obtain samples, monitor, or observe the transfer, treatment, storage, or disposal of solid waste and recovered materials, and to examine or copy records to determine compliance with this article and the rules promulgated under this article.

(7) No later than April 15, 2010, require that operators of all public solid waste management facilities be certified. The department shall, by rule or regulation, establish qualifications for certification programs, to include variance procedures for existing programs which meet the qualifications and taking into account the types of solid waste management facilities.

(8) Promote, initiate, conduct, and support research, demonstration projects, and investigations and participate in all state agency research programs pertaining to solid waste handling, disposal, materials recovery, and energy recovery systems.

(9) Promulgate rules to ban certain wastes from landfilling or incineration in order to protect the public health and environment and to promote recycling.

(10) Regulate the management, including collection and transportation of all medical waste, until such time as the United States Environmental Protection Agency may establish specific rules which are applicable within the state for infectious waste under Subtitle C of the federal Resource Conservation and Recovery Act of 1976, 42 U.S.C. §6901, et seq., as amended.

(11) Do any and all other actions not inconsistent with this article or other state law which it deems necessary and proper for the effective enforcement of this article and the rules promulgated pursuant to it.

(Act 2008-151, p. 244, §2.)

Section 22-27-13

Search warrants.

The department or any appropriate law enforcement agency may apply for, and any judge of a court of record may issue, an appropriate search warrant necessary to achieve the purposes of this article within the court's territorial jurisdiction. The warrant shall be issued upon probable cause.

(Act 2008-151, p. 244, §2.)

Section 22-27-14

Commencement of actions.

Notwithstanding any other law to the contrary, actions to correct any violations of this article, the rules promulgated under this article, or for civil or criminal penalties under this article shall be commenced within a period of four years from the date the offense is discovered by the department or other enforcing agency or person.

(Act 2008-151, p. 244, §2.)

Section 22-27-15

Establishment and review of reduction goals.

(a) No later than October 15, 2009, the department shall establish, by rule, a goal for the percentage, on a statewide basis only, of the reduction in the amount of household and commercial solid waste and the time frames for that reduction. Reduction, by means including, but not limited to, recycling, source reduction, waste minimization, reuse, and composting shall be determined at public solid waste disposal or incineration facilities on a statewide, per capita basis. In order to evaluate the statewide efforts, the department shall adopt rules for the determination of the base year data, and reporting requirements by local governing bodies and public solid waste disposal or incineration facilities, to include both the quantity and origin of the solid waste disposed or incinerated at such facilities. Notwithstanding anything herein to the contrary, the reduction goals shall emphasize activities prior to the delivery of solid waste to public solid waste disposal or incineration facilities, unless reduction activities are provided on the site of the solid waste disposal or incineration facility under an agreement between the generator or collector of the solid waste and the solid waste disposal facility.

(b) Every three years after the implementation of subsection (a), the director shall review the solid waste reduction activities of the state and determine whether the reduction goal established pursuant to this section should be modified by future rulemaking.

(c) In determining the minimum solid waste reduction goals, the department may consider factors such as local collection and disposal costs, solid waste composition, the population density of counties or municipalities, and the distance to available markets for recovered materials.

(Act 2008-151, p. 244, §2.)

Section 22-27-16

Ownership and disposition of recovered materials.

Notwithstanding any other law or any provision of this article to the contrary, a generator of recovered materials owns those materials until such time as the generator may voluntarily relinquish ownership of those materials. The generator may not be prohibited from selling, conveying, or arranging for the transportation of recovered materials to a recycler or recovered materials processing facility for reuse or recycling, nor preventing a recycling company, recovered materials processing facility, or nonprofit entity from buying, accepting, collecting, or transporting recovered materials from a buy-back center, drop-box, or from any generator of recovered materials.

(Act 2008-151, p. 244, §2.)

Section 22-27-17

Disposal fees; disposition of funds; exemptions; review of records; biennial report.

(a) Beginning on October 1, 2008, the following disposal fees are levied upon generators of solid waste who dispose of solid waste at solid waste management facilities permitted by the department subject to this chapter, which shall be collected in accordance with subsection (b):

(1) One dollar ($1) per ton for all waste disposed of in a municipal solid waste landfill.

(2) One dollar ($1) per ton or twenty-five cents ($0.25) per cubic yard for all waste disposed of in public industrial landfills, construction and demolition landfills, non-municipal solid waste incinerators, or composting facilities, which receive waste not generated by the permittee.

(3) Twenty-five cents ($0.25) per cubic yard for all waste disposed of in a private solid waste management facility, not to exceed one thousand dollars ($1,000) per calendar year.

(4) Regulated solid waste that may be approved by the department as alternate cover materials in landfills shall be assessed the disposal fees applicable in subdivisions (1) and (2).

(5) Regulated solid waste received from out-of-state for disposal at public solid waste facilities permitted by the department shall be assessed the same disposal fees applicable in subdivisions (1) and (2), to be collected by the operator of the solid waste facility and remitted in accordance with subsection (b).

(b) Unless exempted under subsection (f), operators of permitted solid waste disposal facilities shall assess the disposal fees levied in subsection (a) on generators of all waste as the waste is delivered to solid waste facilities and shall collect and remit the disposal fees on all wastes received at the facility to the Department of Revenue on a quarterly basis not later than the 20th day of January, April, July, and October. Any sums collected from a generator that purports to be collected due to this section shall be paid to the Department of Revenue. The owner or operator shall certify to the Department of Revenue the volumes of solid waste received for disposal. The Department of Revenue may retain one percent of the solid waste fees collected as an administrative collection allowance. All owners and operators collecting the solid waste fee established in this section may retain four percent of the total solid waste fees collected at their facility as an administrative collection allowance.

(c) The Department of Revenue shall transfer each month all funds collected from this section less its administrative collection allowance as follows:

(1) Twenty-five percent of fees collected shall be paid to the State Treasury to the credit of the Alabama Recycling Fund (ARF), which is hereby created, to be used by the department exclusively to provide grants to local governments, authorities, and nonprofit organizations for use in developing, implementing, and enhancing local recycling, reuse and waste minimization projects and programs. Such grants shall be awarded annually by the department in accordance with rules adopted pursuant to this article. The ARF is authorized to receive funding from other sources including interest generated by the fund, grants, allotments, and contributions whether public or private.

(2) Twenty-five percent of the fees collected shall be paid to the State Treasury to the credit of the Solid Waste Fund (SWF), which is hereby created, to be used by the department to pay the costs of remediation, abatement, removal, or other actions related to the closure of unauthorized dumps and landfills, including, but not limited to, equipment, labor, supplies, materials, and professional services. The funds shall be disbursed according to rules adopted by the department and shall be carried out in accordance with any applicable state contracting requirements. The SWF is authorized to receive funding from other sources including interest generated by the fund, grants, allotments, and contributions, whether public or private.

(3) Forty-five percent of the fees collected shall be paid to the State Treasury to the credit of the Alabama Department of Environmental Management to be used exclusively to pay the costs of performing its duties under this article and to fund educational programs administered by the department on solid waste management, waste minimization, and recycling.

(d) Where operators of solid waste facilities have entered into fixed-price contracts for disposal of solid waste prior to April 15, 2008, the disposal fee collected by the solid waste facilities pursuant to subsection (b) shall not be considered part of the contract price for disposal.

(e) A waste hauler who has entered into a contract for transportation and disposal of solid waste which is in effect on April 15, 2008, may recover amounts paid as a disposal fee pursuant to subsection (a) from the entity with whom the waste hauler has contracted under the procedure set out herein.

(1) On September 1, 2008, and each September 1 thereafter during the term of the contract, the waste hauler shall report to the entity with whom it has contracted the total tonnage transported under the terms of the contract in the previous three-month period or, at the option of the waste hauler, the previous 12-month period.

(2) The amount reported pursuant to subdivision (1) shall be converted into a monthly average tonnage, and the waste hauler may thereafter collect from the entity an amount equal to the average tonnage amount transported multiplied by the monthly disposal fee paid by the waste hauler pursuant to subsection (a).

(3) Effective October 1, 2008, the rates assessed to each customer serviced pursuant to the contract shall be adjusted in an amount equal to each customer's share of the amount paid to the waste hauler pursuant to subdivision (2).

(4) This subsection shall only apply to contracts in effect on April 15, 2008, and shall not apply to the renewal of an existing contract or to a contract executed on or after April 15, 2008.

(f) The following persons are exempt from payment of fees required by this article:

(1) Operators of industrial boilers, furnaces, and other processing equipment that burn solid waste generated on site for the purpose of fuel replacement or energy recovery and which are permitted by the department or by a local air pollution control agency.

(2) Operators of composting facilities which are owned by the Alabama Department of Corrections and which receive only wastes generated by Alabama Department of Corrections facilities and institutions or those composting facilities otherwise exempt from permitting as provided in rules promulgated by the department.

(3) Operators of industrial boilers, furnaces, and other processing equipment that burn scrap tires for the purpose of fuel replacement or energy recovery and are registered with the department as provided in rules promulgated by the department.

(4) Scrap tire processors who receive and process scrap tires and who are permitted by or registered with the department as provided in rules promulgated by the department, except that a solid waste disposal facility permitted as a scrap tire processor shall collect the fee on all waste disposed of in its landfill.

(g) The department or the Department of Revenue may review or audit all records of wastes received for disposal at each solid waste disposal facility to determine compliance with this article. Further, the Department of Revenue shall perform the following duties:

(1) Collect and administer the fees imposed in this chapter in accordance with Chapter 2A of Title 40.

(2) Impose appropriate interest on any disposal fees paid after the due date in accordance with Section 40-1-44.

(3) Promulgate and enforce rules to effectuate the reporting, collection, and payment of disposal fees established by this article. All rules promulgated shall have the same force and effect of law.

(4) Share information, data, reports, or documentation related to the collection and administration of the disposal fees imposed by this article with the department for the purpose of administering this article, notwithstanding any provisions of law requiring confidentiality.

(h) All fees, interest, or other income distributed under this section shall only be used for the purposes specified in this chapter. Any unexpended funds during a budget year shall be carried over to the subsequent budget year and added to the subsequent year's distribution.

(i) The department shall, on or before January 20, 2011, and biennially thereafter, transmit a report to the Alabama Environmental Management Commission, the Legislature, and the Governor concerning the implementation of this article for the preceding two fiscal years. Each biennial report shall include the following information:

(1) The amount of solid waste disposed of at solid waste facilities in the state.

(2) The amount of disposal fees collected under this article.

(3) How funds generated by this article were expended for the previous fiscal years.

(4) The activities and accomplishments of the department in implementing this article.

(Act 2008-151, p. 244, §2.)

Section 22-27-18

Solid Waste Fund; Alabama Recycling Fund.

(a) There are established separate special revenue trust funds in the State Treasury to be known as the Solid Waste Fund (SWF) and the Alabama Recycling Fund (ARF). These funds shall be used for the purposes

set forth in this article and for no other governmental purposes, nor shall any portion hereof ever be available to borrow from by any branch of government, it being the intent of the Legislature that these funds and their increments shall remain intact and inviolate for the purposes set out in this article. Any interest or earnings on the funds shall be credited only to the funds.

(b) The funds shall be audited annually by the Department of Examiners of Public Accounts.

(c) No funds shall be withdrawn or expended from the funds created in subdivision (a) except as budgeted and allotted according to Sections 41-4-80 to 41-4-96, inclusive, and 41-19-1 to 41-19-12, inclusive, and only in amounts as stipulated in the general appropriations act or other appropriation acts.

(Act 2008-151, p. 244, §2.)

Alabama Rules of Civil Procedure

IV. PARTIES

Rule 24.

Intervention.

(a) Intervention of right. Upon timely application, anyone shall be permitted to intervene in an action: (1) when a statute confers an unconditional right to intervene; or (2) when the applicant claims an interest relating to the property or transaction which is the subject of the action and the applicant is so situated that the disposition of the action may as a practical matter impair or impede the applicant's ability to protect that interest, unless the applicant's interest is adequately represented by existing parties.

(b) Permissive intervention. Upon timely application anyone may be permitted to intervene in an action: (1) when a statute confers a conditional right to intervene; or (2) when an applicant's claim or defense and the main action have a question of law or fact in common. When a party to an action relies for ground of claim or defense upon any statute or executive order administered by a federal or state governmental officer or agency or upon any regulation, order, requirement or agreement issued or made pursuant to the statute or executive order, the officer or agency upon timely application may be permitted to intervene in the action. In exercising its discretion the court shall consider whether the intervention will unduly delay or prejudice the adjudication of the rights of the original parties.

(c) Procedure. A person desiring to intervene shall serve a motion to intervene upon the parties as provided in Rule 5. The motion shall state the grounds therefor and shall be accompanied by a pleading setting forth the claim or defense for which intervention is sought. The same procedure shall be followed when a statute gives a right to intervene.

(dc) District court rule. Rule 24 applies in the district courts.

[Amended eff. 10-1-95.]

Committee Comments on 1973 Adoption

This rule is virtually identical with Rule 24, F.R.C.P. The only differences are the deletions of matters not relevant to state practice.

The rule is more detailed, both as to the grounds for intervention and the procedure therefor, than Code of Ala., Tit. 7, § 247 and Equity Rule 37, which it supersedes. It expressly permits intervention wherever a statute gives a right to intervene, as in Code of Ala., §§ 6-6-252 (detinue), 6-6-568 (proceedings to quiet title), 6-6-150 (trial of right of property), and 35-6-21 (partition suits).

Leave of court is not required for the filing of a motion to intervene. An order authorizing intervention is, of course, necessary before the would-be intervenor becomes a party. Cowan v. Tipton, 1 F.R.D. 694 (E.D.Tenn.1941). Thus, the technical requirement of filing an application for leave to file a petition with the petition for intervention as Exhibit "A" and said petition often being a rehash of the application is no longer necessary. The federal counterpart of Rule 24(c) has been construed to relax the requirements for a showing of a right to intervene. An earlier version of Rule 24 contained reference to being "bound by a judgment", suggesting that the applicant was required to show an impairment of his interest by operation of the doctrine of res judicata. Now, the rule refers to impairment of interest "as a practical matter" as adequate justification for intervention. This recognizes the impediment posed by stare decisis in later

litigation involving the same questions of law and fact to which the unsuccessful applicant for intervention is finally a party. This broadening is confirmed in Cascade Natural Gas v. El Paso Natural Gas, 386 U.S. 129, 87 S.Ct. 932, 17 L.Ed.2d 814 (1967), wherein several parties, including the State of California, were permitted to intervene as a matter of right in a proceeding to frame a divestiture decree in an anti-trust case. Hence, there appears to be a recognition of interests other than immediate injury or loss to property as justification for intervention.

Committee Comments to October 1, 1995, Amendment to Rule 24

The amendment is technical. No substantive change is intended.

Committee Comments Adopted February 13, 2004, to Rule 24

In regard to Rule 24(a)(1), note that § 6-6-227, Code of Alabama 1975, provides: "In any proceeding which involves the validity of a municipal ordinance, or franchise, such municipality shall be made a party and shall be entitled to be heard ...." Also, if an ordinance or a statute is alleged to be unconstitutional, § 6- 6-227 requires that the attorney general be served and be entitled to be heard. See the Committee Comments Adopted February 13, 2004, to Rule 5 regarding service on the attorney general in a case in which the constitutionality of an ordinance or a statute is being challenged.

Note from the reporter of decisions: The order adopting the Committee Comments to Rules 5, 15, 21, 23, 24, and 42, Alabama Rules of Civil Procedure, effective February 13, 2004, is published in that volume of Alabama Reporter that contains Alabama cases from 865 So.2d.

Appendix C

Side by Side Comparison

ADEM

Alabama Department of Environmental Management

Land Division - Solid Waste Branch

Subpart D—Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments	CHAPTER 335-13-15 Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments	**Differences in the Alabama CCR Regulation vs. the Federal CCR Regulation.**
§ 257.50 Scope and purpose.	**335-13-15-.01 General Provisions.** (1) 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.		Removed – unnecessary and references national standards. As protective.
(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.	(a) This chapter 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 chapter, these requirements also apply to disposal units located off-site of the electric utility or independent power producer. This chapter also applies to any practice that does not meet the definition of a beneficial use of CCR.	Renumbered
(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.	(b) This chapter 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.	Renumbered
(d) This subpart does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015.	(c) This chapter does not apply to CCR landfills that have ceased receiving CCR prior to October 19, 2015.	Renumbered
(e) This subpart does not apply to electric utilities or independent power producers that have ceased producing electricity prior to October 19, 2015.	(d) This subpart does not apply to electric utilities or independent power producers that have ceased producing electricity prior to October 19, 2015.	Renumbered
(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	(e) This chapter 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	Renumbered

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.	chapter 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.	(f) This chapter does not apply to practices that meet the definition of a beneficial use of CCR.	Renumbered
(h) This subpart does not apply to CCR placement at active or abandoned underground or surface coal mines.	(g) This chapter does not apply to CCR placement at active or abandoned underground or surface coal mines.	Renumbered
(i) This subpart does not apply to municipal solid waste landfills that receive CCR.	(h) This chapter does not apply to municipal solid waste landfills that receive CCR.	Renumbered

Federal Regulation Reference	Georgia Rule Reference
40 C.F.R. Part 257.53	391-3-4-.10(2)
40 C.F.R. Parts 257.60 – 257.64	391-3-4-.10(3)
40 C.F.R. Parts 257.70 – 257.74	391-3-4-.10(4)
40 C.F.R. Parts 257.80 – 257.84	391-3-4-.10(5)
40 C.F.R. Parts 257.90 – 257.98	391-3-4-.10(6)
40 C.F.R. Parts 257.100 – 257.104	391-3-4-.10(7)
40 C.F.R. Parts 257.105 – 257.107	391-3-4-.10(8)

§ 257.51 Effective date of this subpart. The requirements of this subpart take effect on October 19, 2015.		Removed – not consistent with other chapters. As protective.
§ 257.52 Applicability of other regulations.	(2) Applicability of other regulations.	Renumbered
(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.	(a) Compliance with the requirements of this chapter 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, 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.	(b) Any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit continues to be subject to the requirements in 335-13-4-.01(1)(a), 335-13-4-.01(1)(b), 335-13-4-.01(1)(e), and 335-13-4-.01(2).	Additional requirement for archaeological or historic sites to be consistent with State regs. As protective
§ 257.53 Definitions. The following definitions apply to this subpart. Terms not defined in this	**335-13-15-.02 Definitions.** When used in this chapter, the following terms have the meaning given below:	Changed wording-As protective.

section have the meaning given by RCRA.		
Acre foot means the volume of one acre of surface area to a depth of one foot.	(1) Acre foot - 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 14, 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 14, 2015. An off-site disposal facility is in operation if it is accepting or managing CCR on or after October 14, 2015.	(2) Active facility or active electric utilities or independent power producers - any facility subject to the requirements of this subpart that is in operation on October 14, 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 14, 2015. An off-site disposal facility is in operation if it is accepting or managing CCR on or after October 14, 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.	(3) Active life or in operation - 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 335-13-15-.07(3).	
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.	(4) Active portion - 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 335-13-15-.07(3).	
Aquifer means a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells or springs.	(5) Aquifer - a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells, springs, or waters of the state.	Added language to be consistent with Ch. 1.
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.	(6) Area-capacity curves - 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,	(7) Areas susceptible to mass movement - 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 - of gravitational influence. Areas of mass movement include, but are not limited	

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

to, landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.

(8) Beneficial use of CCR - the CCR meet all of the following conditions:

(a) The CCR must provide a functional benefit;

(b) 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;

(c) 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

(d) 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.

(9) Closed - placement of CCR in a CCR unit has ceased, and the owner or operator has completed closure of the CCR unit in accordance with 335-13-15-.07(3) and has initiated post-closure care in accordance with 335-13-15-.07(5).

(10) Coal combustion residuals (CCR) - 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.

(11) CCR fugitive dust - solid airborne particulate matter that contains or is derived from CCR,

any source other than a stack or chimney.	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.	(12) CCR landfill or landfill - 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 chapter, 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 noncontainerizedaccumulation of solid, non-flowing CCR that is placed on the land. CCR that is beneficially used offsite is not a CCR pile.	(13) CCR pile or pile - any non-containerized accumulation of solid, non-flowing 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.	(14) CCR surface impoundment or impoundment - 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.	(15) CCR unit - 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.	(16) Dike - 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.		Definition already included in Ch. 1
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	(17) Disposal – the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste as defined in 335-13-1-.03 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. Disposal does not include the storage or the beneficial use of CCR.	

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.

(18) Downstream toe - 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.

(19) Encapsulated beneficial use - 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 14, 2015, or for which construction commenced prior to October 14, 2015 and receives CCR on or after October 14, 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 14, 2015.

(20) Existing CCR landfill - a CCR landfill that receives CCR both before and after October 14, 2015, or for which construction commenced prior to October 14, 2015 and receives CCR on or after October 14, 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 14, 2015.

Existing CCR surface impoundment means a CCR surface impoundment that receives CCR both before and after October 14, 2015, or for which construction commenced prior to October 14, 2015 and receives CCR on or after October 14, 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 14, 2015.

(21) Existing CCR surface impoundment - a CCR surface impoundment that receives CCR both before and after October 14, 2015, or for which construction commenced prior to October 14, 2015 and receives CCR on or after October 14, 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 14, 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).

(22) Facility - 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

(23) Factor of safety (Safety factor) - the ratio of the forces tending to resist the failure of a structure to the forces tending to cause such

determined by accepted engineering practice.	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.		Definition already included in Ch. 1.
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.	(24) Flood hydrograph - 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.	(25) Freeboard - 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.		Definition already included in Ch. 1.
Groundwater means water below the land surface in a zone of saturation.		Definition already included in Ch. 1.
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:	(26) Hazard potential classification - 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 misoperation will probably cause loss of human life.	(a) High hazard potential CCR surface impoundment - 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 misoperation 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.	(b) Low hazard potential CCR surface impoundment - 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	(c) Significant hazard potential CCR surface impoundment - 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.	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.	(27) Height - 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.		Definitional already included in Ch. 1.
Hydraulic conductivity means the rate at which water can move through a permeable medium (*i.e.,* the coefficient of permeability).	(28) Hydraulic conductivity - 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 14, 2015 and still contains both CCR and liquids on or after October 14, 2015.	(29) Inactive CCR surface impoundment - a CCR surface impoundment that no longer receives CCR on or after October 14, 2015 and still contains both CCR and liquids on or after October 14, 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.	(30) Incised CCR surface impoundment - 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:	(31) Indian country or Indian lands:	
(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;	(a) 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	(b) 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 Alabama; and	
(3) All Indian allotments, the Indian titles to which have not been	(c) All Indian allotments, the Indian titles to which have not been	

extinguished, including rights of way running through the same.	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.	(32) Indian Tribe or Tribe – 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.	(33) Inflow design flood - 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.*	(34) In operation - 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.	(35) Karst terrain - 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 terraines 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 14, 2015.	(36) Lateral expansion - a horizontal expansion of the waste boundaries of an existing CCR landfill or existing CCR surface impoundment made after October 14, 2015.	
Liquefaction factor of safety means the factor of safety (safety factor) determined using analysis under liquefaction conditions.	(37) Liquefaction factor of safety - 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.		Definition already included in Ch. 1.
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	(38) Maximum horizontal acceleration in lithified earth material - 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	

years, or the maximum expected horizontal acceleration based on a sitespecific seismic risk assessment.

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 14, 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 14, 2015. Overfills are also considered new CCR landfills.

(39) New CCR landfill - a CCR landfill or lateral expansion of a CCR landfill that first receives CCR or commences construction after October 14, 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 14, 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 14, 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 14, 2015.

(40) New CCR surface impoundment - a CCR surface impoundment or lateral expansion of an existing or new CCR surface impoundment that first receives CCR or commences construction after October 14, 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 14, 2015.

Operator means the person(s) responsible for the overall operation of a CCR unit.

(41) Operator - 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.

(42) Overfill - 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.

(43) Owner - 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 humaninduced 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.

(44) Poor foundation conditions - 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 335-13-15-.03(4)(e) and 335-13-15-.03(5)(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.	(45) Probable maximum flood - 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.	(46) Qualified person - 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.	(47) Qualified professional engineer - an individual who is licensed by the State of Alabama 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.	(48) Recognized and generally accepted good engineering practices - 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.	Removed definition since defined in Chapter 1.
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	(49) Retrofit - to remove all CCR and contaminated soils and sediments from the CCR surface impoundment, and to ensure the unit complies with the requirements in 335-13-15-.04(3).	
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.		Definition already included in Ch. 1.

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.

(50) Run-off - 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.

(51) Run-on - 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.

(52) Sand and gravel pit or quarry - 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.

(53) Seismic factor of safety - 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.

(54) Seismic impact zone - 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.

(55) Slope protection - 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.

(56) Solid waste management or management - 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.		Definition already included in Ch. 1.
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.		Definition already included in Ch. 1.
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-ofconstruction loading condition.	(57) Static factor of safety - 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.	(58) Structural components - 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 humaninduced 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.	(59) Unstable area - 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.	(60) Uppermost aquifer - 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.	(61) Waste boundary - a vertical surface located at the hydraulically downgradient limit of the CCR unit. The vertical surface extends down into the uppermost aquifer.	

Location Restrictions **§ 257.60 Placement above the uppermost aquifer.**	**335-13-15-.03 <u>Location Restrictions</u>.** (1) <u>Placement above the uppermost aquifer</u>.	
(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.	(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 highest measured groundwater level as determined by the following procedures:	Additional requirement added to be consistent other chapters – As protective.
	1. The site hydrogeology shall be established to the upper most aquifer and subsequent interconnecting aquifers. The hydrogeological evaluation for a specific site must be performed by a firm or individual having expertise in hydrogeology. The hydrogeological evaluation shall require a minimum of three exploration borings to include sampling and geologic logging and completion of these borings as piezometers.	Additional requirement to be consistent with Ch .4. As protective.
	2. Two groundwater measurements shall be taken during each of the three consecutive months of February, March, and April with no two measurements taken within any twelve day period.	Additional requirement to be consistent with Ch .4. As protective.
	3. From the hydrogeological evaluation and groundwater measurements, the subsequent establishment of the first saturation zone, the uppermost aquifer and subsequent underlying and interconnected aquifers, piezometer measuring point elevations, water table elevations and an estimate of groundwater flow direction and rate will be required.	Additional requirement to be consistent with Ch .4. As protective.
	4. Based on the groundwater measurements, the owner or operator shall design the CCR unit so that the bottom base is five feet above the highest measured groundwater level.	Additional requirement to be consistent with Ch .4. As protective.
	5. When the geological and hydrological data so indicate, the Department may specify greater separation distances to protect groundwater.	Additional requirement to be consistent with Ch .4. As protective.

	6. When the geological and hydrological data so indicate, the Department may allow engineering controls to remove, divert, drain, or otherwise modify zones of saturation above the uppermost aquifer.	Additional requirement to be consistent with Ch .4. As protective.
	(b) The owner or operator must demonstrate by the dates specified in 335-13-15-.03(1)(d) that the CCR unit meets the minimum requirements for placement above the uppermost aquifer.	Additional requirement to be consistent with Ch .4. As protective.
(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 obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of 335-13-15-.03(1)(a).	Renumbered
(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.	(d) The owner or operator of the CCR unit must complete the demonstration required by 335-13-15-.03(1)(a) by the date specified in either 335-13-15-.03(1)(d)1. or 2.	Renumbered
(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.	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.	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).	3. The owner or operator has completed the demonstration required by 335-13-15-.03(1)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(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).	4. An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.03(1)(a) by the date specified in 335-13-15-.03(1)(d)1. is subject to the requirements of 335-13-15-.07(2)(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)	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	

of this section is prohibited from placing CCR in the CCR unit.	335-13-15-.03(1)(a) 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).	(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the internet requirements specified in 335-13-15-.08(3)(e).	Renumbered
§ 257.61 Wetlands.	(2) 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.	(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 335-13-1-.03, unless the owner or operator demonstrates by the dates specified in 335-13-15-.03(2)(c) that the CCR unit meets the requirements of 335-13-15-.03(2)(a)1. through 5.	Wetland defined in Ch. 1.
(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.	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:	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;	(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;	(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	(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.	(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	3. The CCR unit will not cause or contribute to significant degradation	

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.

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 335-13-15-.03(2)(a)1. through 3., 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 335-13-15-.03(2)(a)1. through 4.

(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 335-13-15-.03(2)(a).

(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

(c) The owner or operator of the CCR unit must complete the demonstrations required by 335-13-15-.03(2)(a) by the date specified in either 335-13-15-.03(2)(c)1. or 2.

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 335-13-15-.03(2)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(e).

4. An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.03(2)(a) by the date specified in 335-13-15-.03(2)(c)1. is subject to the requirements of 335-13-15-.07(2)(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 335-13-15-.03(2)(a) is prohibited from placing CCR in the CCR unit.

(d) The owner or operator must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the internet requirements specified in 335-13-15-.08(3)(e).

(3) <u>Fault areas</u>.

(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 335-13-15-

that an alternative setback distance of less than 60 meters (200 feet) will prevent damage to the structural integrity of the CCR unit.	.03(3)(c) 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.	(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 335-13-15-.03(3)(a).
(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.	(c) The owner or operator of the CCR unit must complete the demonstration required by 335-13-15-.03(3)(a) by the date specified in either 335-13-15-.03(3)(c)1. or 2.
(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.	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.	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).	3. The owner or operator has completed the demonstration required by 335-13-15-.03(3)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(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).	4. An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.03(3)(a) by the date specified in 335-13-15-.03(3)(c)1. is subject to the requirements of 335-13-15-.07(2)(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.	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 335-13-15-.03(3)(a) 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	(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the

in § 257.107(e).	internet requirements specified in 335-13-15-.08(3)(e).
§ 257.63 Seismic impact zones.	(4) 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.	(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 335-13-15-.03(4)(c) 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.	(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 335-13-15-.03(4)(a).
(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.	(c) The owner or operator of the CCR unit must complete the demonstration required by 335-13-15-.03(4)(a) by the date specified in either 335-13-15-.03(4)(c)1. or 2.
(1) For an existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.	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.	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).	3. The owner or operator has completed the demonstration required by 335-13-15-.03(4)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(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).	4. An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.03(4)(a) by the date specified in 335-13-15-.03(4)(c)1. is subject to the requirements of 335-

	13-15-.07(2)(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.	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 335-13-15-.03(4)(a) 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).	(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the internet requirements specified in 335-13-15-.08(3)(e).
§ 257.64 Unstable areas.	(5) <u>Unstable areas</u>.
(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.	(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 335-13-15-.03(5)(d) 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:	(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;	1. On-site or local soil conditions that may result in significant differential settling;
(2) On-site or local geologic or geomorphologic features; and	2. On-site or local geologic or geomorphologic features; and
(3) On-site or local human-made features or events (both surface and subsurface).	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.	(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 335-13-15-.03(5)(a).

(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.	(d) The owner or operator of the CCR unit must complete the demonstration required by 335-13-15-.03(5)(a) by the date specified in either 335-13-15-.03(5)(d)1. or 2.	
(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.	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.	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).	3. The owner or operator has completed the demonstration required by 335-13-15-.03(5)(a) when the demonstration is placed in the facility's operating record as required by 335-13-15-.08(1)(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.	4. An owner or operator of an existing CCR surface impoundment or existing CCR landfill who fails to demonstrate compliance with the requirements of 335-13-15-.03(5)(a) by the date specified in 335-13-15-.03(5)(d)1. is subject to the requirements of 335-13-15-.07(2)(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.	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 335-13-15-.03(5)(a) 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).	(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(e), the notification requirements specified in 335-13-15-.08(2)(e), and the internet requirements specified in 335-13-15-.08(3)(e).	
	(6) Buffer Requirement. A buffer requirement of 100 feet measured in a horizontal plane shall be required from the perimeter of	Additional requirement to be consistent with state regs. As protective.

	the facility boundary. In addition, a 100 foot buffer shall be required around wetlands, beaches, or dunes. No disposal or storage practices for waste shall take place in the buffer zone. Roads, access control measures, earth storage, and buildings may be placed in the buffer zone.
Design Criteria **§ 257.70 Design criteria for new CCR landfills and any lateral expansion of a CCR landfill.**	**335-13-15-.04 Design Criteria.** (1) 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.	(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 335-13-15-.04(1)(b) or an alternative composite liner that meets the requirements in 335-13-15-.04(1)(c), and a leachate collection and removal system that meets the requirements of 335-13-15-.04(1)(d).
(2) Prior to construction of an overfill the underlying surface impoundment must meet the requirements of § 257.102(d).	2. Prior to construction of an overfill the underlying surface impoundment must meet the requirements of 335-13-15-.07(3)(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 twofoot 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:	(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 $1x10^{-7}$ 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	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

stress of installation, and the stress of daily operation;

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;

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

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.

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:

(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.

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 $1x10^{-7}$ 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

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 $1x10^{-7}$ cm/ sec. The hydraulic conductivity for the two feet of compacted soil used in the comparison shall be no greater than $1x10^{-7}$ cm/sec. The hydraulic conductivity of any alternative to the two feet of compacted soil must be

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.
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).

determined using recognized and generally accepted methods. The liquid flow rate comparison must be made using Equation 1 of this section, which is derived from Darcy's Law for gravity flow through porous media.

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

Where,
Q = flow rate (cubic centimeters/second);
A = surface area of the liner (squared centimeters);
q = flow rate per unit area (cubic centimeters/ second/squared centimeter);
k = hydraulic conductivity of the liner (centimeters/second);
h = hydraulic head above the liner (centimeters); and
t = thickness of the liner (centimeters).

(3) The alternative composite liner must meet the requirements specified in paragraphs (b)(1) through (4) of this section.

3. The alternative composite liner must meet the requirements specified in 335-13-15-.04(1)(b)1. through 4.

(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 postclosure care period. The leachate collection and removal system must be:

(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;

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

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.

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

(e) Prior to construction of the CCR landfill or any lateral

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.

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.

(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).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).

§ 257.71 Liner design criteria for existing CCR surface impoundments.

(2) <u>Liner design criteria for existing CCR surface impoundments</u>.

(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:

(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;

(i) A liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec;

(ii) A composite liner that meets the requirements of § 257.70(b); or

(ii) A composite liner that meets the requirements of 335-13-15-.04(1)(b); or

(iii) An alternative composite liner that meets the requirements of § 257.70(c).

(iii) An alternative composite liner that meets the requirements of 335-13-15-.04(1)(c).

(2) The hydraulic conductivity of the compacted soil must be determined using recognized and generally accepted methods.

2. The hydraulic conductivity of the compacted soil must be determined using recognized and generally accepted methods.

(3) An existing CCR surface

3. An existing CCR surface

impoundment is considered to be an existing unlined CCR surface impoundment if either:	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	(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 335-13-15-.04(2)(a)1.(i), (ii), or (iii); 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.	(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 335-13-15-.04(2)(a)1.(i), (ii), or (iii).	
(4) All existing unlined CCR surface impoundments are subject to the requirements of § 257.101(a).	4. All existing unlined CCR surface impoundments are subject to the requirements of 335-13-15-.07(2)(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.	(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 335-13-15-.04(2)(a) is accurate. This certification must be submitted to the Department.	Additional reporting requirement.
(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).	(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).	
§ 257.72 Liner design criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment.	(3) <u>Liner design criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment</u>.	
(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).	(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 335-13-15-.04(1)(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	(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	

constructed on top of the composite liner.	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.	(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. This certification must be submitted to the Department.	Additional reporting requirement.
(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.	(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).	(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).	
§ 257.73 Structural integrity criteria for existing CCR surface impoundments.	(4) 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.	(a) The requirements of 335-13-15-.04(4)(a)1. through 4. 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 335-13-15-.04(4)(a)1. through 4.	
(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	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	

associated with the CCR unit and the name of the owner or operator of the CCR unit.	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.*	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.	(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 335-13-15-.04(4)(f). 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.	(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 335-13-15-.04(4)(a)2.(i) was conducted in accordance with the requirements of this section. This certification must be submitted to the Department.	Additional reporting requirement.
(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:	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 335-13-15-.04(4)(a)2. 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;	(I) 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) Theowner or operator of a CCR unit subjectto the requirements of paragraph (a)(3)(i)of this section may amend the writtenEAP at any time provided the revisedplan is placed in the facility's operatingrecord 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

(II) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;

(III) Provide contact information of emergency responders;

(IV) 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

(V) 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.

(I) The owner or operator of a CCR unit subject to the requirements of 335-13-15-.04(4)(a)3.(i) may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by 335-13-15-.08(1)(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.

(II) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in 335-13-15-.04(4)(a)3.(i) is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by 335-13-15-.08(1)(f)6.

(iii) Changes in hazard potential classification.

(I) 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

placed in the facility's operating record as required by § 257.105(f)(5).	EAP beginning on the date the periodic hazard potential assessment documentation is placed in the facility's operating record as required by 335-13-15-.08(1)(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.	(II) 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 335-13-15-.04(4)(a)3.(i) 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.	(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 335-13-15-.04(4)(a)3. The EAP, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.	Additional reporting requirement.
(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.	(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.	4. The CCR unit and surrounding areas must be designed, constructed, operated, and maintained with vegetated slopes of dikes. Deep rooted vegetation (roots) that may grow below the six inch erosion layer) shall be prohibited as vegetative cover.	Removed 6" height requirement per vacature rule and replaced with MSW language.
(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:	(b) The requirements of 335-13-15-.04(4)(c) through (e) 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	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.	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.	(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 335-13-15-.04(4)(c)1.(i) through (xi).
(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.	(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.	(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.	(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.	(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.	(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.	(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,	(vii) At a scale that details engineering structures and appurtenances relevant to the

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.	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.	(viii) A description of the type, purpose, and location of existing instrumentation.
(ix) Area-capacity curves for the CCR unit.	(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.	(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.	(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.	(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).	2. Changes to the history of construction. If there is a significant change to any information compiled under 335-13-15-.04(4)(c)1., 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 335-13-15-.08(1)(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	(d) Periodic structural stability assessments. 1. The owner or operator of the CCR unit must conduct initial and periodic structural stability

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:	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;	(i) Stable foundations and abutments;	
(ii) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;	(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;	(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;	(iv) Vegetated slopes of dikes and surrounding areas not to include deep rooted vegetation (roots that may grow below the six inch erosion layer);	Removed 6" height requirement per vacature rule and replaced with MSW language.
(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.	(v) A single spillway or a combination of spillways configured as specified in 335-13-15-.04(4)(d)1.(v)(I). 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 335-13-15-.04(4)(d)1.(v)(II).	
(A) All spillways must be either:	(I) All spillways must be either:	
(1) Of non-erodible construction and designed to carry sustained flows; or	I. 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.	II. 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:	(II) 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	I. 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	II. 1000-year flood for a significant hazard potential CCR surface impoundment; or	
(3) 100-year flood for a low hazard potential CCR surface impoundment.	III. 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	(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.	(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.	2. The periodic assessment described in 335-13-15-.04(4)(d)1. 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 of a CCR unit must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.	Added "of a CCR unit" for clarity.
(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.	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. This certification must be submitted to the Department.	Additional reporting requirement.

(e) *Periodic safety factor assessments.*	(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.	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 335-13-15-.04(4)(e)1.(i) through (iv) 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.	(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.	(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.	(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.	(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.	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 335-13-15-.04(4)(e)1. meets the requirements of this section. This certification must be submitted to the Department.	Additional reporting requirement.
(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	(f) Timeframes for periodic assessments. 1. Initial assessments. Except as provided by 335-13-15-.04(4)(f)2., the owner or operator of the CCR unit must complete the initial assessments required by 335-13-15-.04(4)(a)2., (d),	

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).	and (e) 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 335-13-15-.04(4)(a)2., (d) and (e) in the facility's operating record as required by 335-13-15-.08(1)(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):	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 335-13-15-.04(4)(a)2., (d), and (e) provided that the previously completed assessment(s):	
(i) Was completed no earlier than 42 months prior to October 17, 2016; and	(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.	(ii) Meets the applicable requirements of 335-13-15-.04(4)(a)2., (d), and (e).	
(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),	3. Frequency for conducting periodic assessments. The owner or operator of the CCR unit must conduct and complete the assessments required by 335-13-15-.04(4)(a)2., (d), and (e) 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 335-13-15-.04(4)(f)2., 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. The owner or operator has completed an assessment when the relevant assessment(s) required by 335-13-	Removed "for the purposes.." since unnecessary and not consistent. As protective

(10), and (12).	15-.04(4)(a)2., (d), and (e) has been placed in the facility's operating record as required by 335-13-15-.08(1)(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).	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 335-13-15-.04(4)(e) is subject to the requirements of 335-13-15-.07(2)(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).	(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(f).
§ 257.74 Structural integrity criteria for new CCR surface impoundments and any lateral expansion of a CCR surfaceimpoundment.	(5) 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.	(a) The requirements of 335-13-15-.04(5)(a)1. through 4. 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 335-13-15-.04(5)(a)1. through 4.
(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.	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	2. Periodic hazard potential classification assessments.

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.	(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 335-13-15-.04(5)(f). 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.	(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 335-13-15-.04(5)(a)2.(i) was conducted in accordance with the requirements of this section. This certification must be submitted to the Department.	Additional reporting requirements.
(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:	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 335-13-15-.04(5)(a)2. 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;	(I) 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;	(II) 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;	(III) Provide contact information of emergency responders;	
(D) Include a map which delineates	(IV) Include a map which	

the downstream area which would be affected in the event of a CCR unit failure and a physical description of the CCR unit; and	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.	(V) 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.	(ii) Amendment of the plan. (I) The owner or operator of a CCR unit subject to the requirements of 335-13-15-.04(5)(a)3.(i) may amend the written EAP at any time provided the revised plan is placed in the facility's operating record as required by 335-13-15-.08(1)(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 beupdated and a revised EAP placed in the facility's operating record as required by § 257.105(f)(6).	(II) The written EAP must be evaluated, at a minimum, every five years to ensure the information required in 335-13-15-.04(5)(a)3.(i) is accurate. As necessary, the EAP must be updated and a revised EAP placed in the facility's operating record as required by 335-13-15-.08(1)(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).	(iii) Changes in hazard potential classification. (I) 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 335-13-15-.08(1)(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	(II) 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

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.	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 335-13-15-.04(5)(a)3.(i) 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.	(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 335-13-15-.04(5)(a)3. The EAP, as well as the certification from a qualified professional engineer must be submitted to the Department for approval.	Additional reporting requirement.
(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.	(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.	4. The CCR unit and surrounding areas must be designed, constructed, operated, and maintained with vegetated slopes of dikes. Deep rooted vegetation (roots that may grow below the six inch erosion layer) shall be prohibited as vegetative cover.	Removed 6" height requirement per vacature rule and replaced with MSW language.
(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:	(b) The requirements of 335-13-15-.04(5)(c) through (e) 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	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.	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	(c)1. No later than the initial receipt of CCR in the CCR unit, the	

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.	owner or operator of a CCR unit must compile the design and construction plans for the CCR unit, which must include, to the extent feasible, the information specified in 335-13-15- 04(5)(c)1.(i) through (xi).	Added "of a CCR unit" for clarity.
(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.	(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.	(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.	(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.	(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.	(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.	(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	(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,	

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.	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.	(viii) A description of the type, purpose, and location of existing instrumentation.
(ix) Area-capacity curves for the CCR unit.	(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.	(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.	(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.	(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).	2. Changes in the design and construction. If there is a significant change to any information compiled under 335-13-15-.04(5)(c)1., 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 335-13-15-.08(1)(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	(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,

with:	document whether the CCR unit has been designed, constructed, operated, and maintained with:	
(i) Stable foundations and abutments;	(i) Stable foundations and abutments;	
(ii) Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;	(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;	(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;	(iv) Vegetated slopes of dikes and surrounding areas not to include deep rooted vegetation (roots that may grow below the six inch erosion layer);	Removed 6" height requirement per vacature rule and replaced with MSW language.
(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.	(v) A single spillway or a combination of spillways configured as specified in 335-13-15-.04(5)(d)1.(v)(I). 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 335-13-15-.04(5)(d)1.(v)(II).	
(A) All spillways must be either:	(I) All spillways must be either:	
(*1*) Of non-erodible construction and designed to carry sustained flows; or	I. 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.	II. 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:	(II) 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	I. 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	II. 1000-year flood for a significant hazard potential CCR surface impoundment; or	

(3) 100-year flood for a low hazard potential CCR surface impoundment.	III. 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	(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.	(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.	2. The periodic assessment described in 335-13-15-.04(5)(d)1. 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 of a CCR unit must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.	Added "of a CCR unit" for clarity.
(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.	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. This certification must be submitted to the Department.	Additional reporting requirement.
(e) *Periodic safety factor assessments.*	(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	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	

(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.	335-13-15-.04(5)(e)1.(i) through (v) 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.	(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.	(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.	(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.	(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.	(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.	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 335-13-15-.04(5)(e)1. meets the requirements of this section. This certification must be submitted to the Department.	Additional reporting requirement.
(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	(f) Timeframes for periodic assessments. 1. Initial assessments. Except as provided by 335-13-15-.04(5)(f)2., the owner or operator of the CCR unit	

(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).

must complete the initial assessments required by 335-13-15-.04(5)(a)2., (d), and (e) 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 335-13-15-.04(5)(a)2., (d), and (e) in the facility's operating record as required by 335-13-15-.08(1)(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).

2. Frequency for conducting periodic assessments. The owner or operator of the CCR unit must conduct and complete the assessments required by 335-13-15-.04(5)(a)2., (d), and (e) 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, the owner or operator has completed an assessment when the relevant assessment(s) required by 335-13-15-.04(5)(a)2., (d), and (e) has been placed in the facility's operating record as required by 335-13-15-.08(1)(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.

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 335-13-15-.04(5)(e)1.(i) through (v), 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).

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 335-13-15-.04(5)(e) is subject to the requirements of 335-13-15-

.07(2)(c).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(f), the notification requirements specified in § 257.106(f), and the internet requirements specified in § 257.107(f).

(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(f), the notification requirements specified in 335-13-15-.08(2)(f), and the internet requirements specified in 335-13-15-.08(3)(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

335-13-15-.05 Operating Criteria.
(1) 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 335-13-15-.05(1)(b)1. through 7. 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

operations during high wind events; or applying a daily cover.	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.	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.	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.	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).	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 chapter 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 335-13-15-.08(1)(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	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 335-13-15-.08(1)(g)1. The owner or operator must amend the written plan whenever there is a change in conditions that would substantially

and operation of a new CCR unit.	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.	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. The CCR fugitive dust plan, as well as the certification from a qualified engineer must be submitted to the Department for approval.	Additional reporting and approval requirements..
(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).	(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. The owner or operator has completed the annual CCR fugitive dust control report when the plan has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(g)2.	Removed "for the purposes.." since unnecessary and not consistent. As protective Additional reporting requirement.
(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).	(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).	
§ 257.81 Run-on and run-off controls for CCR landfills.	(2) <u>Run-on and run-off controls for CCR landfills</u>.	
(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:	(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	1. A run-on control system to	Additional requirement to be

flow onto the active portion of the CCR unit during the peak discharge from a 24-hour, 25-year storm; and	prevent flow onto the active and/or closed portion of the CCR unit during the peak discharge from a 24-hour, 25-year storm; and	consistent with Ch. 4. As protective.
(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.	2. A run-off control system from the active and/or closed portion of the CCR unit to collect and control at least the water volume resulting from a 24-hour, 25-year storm.	Additional requirement to be consistent with Ch. 4 As protective.
(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.	(b) Run-off from the active and/or closed portion of the CCR unit must be handled in accordance with the surface water requirements under 335-13-4-.01(2)(a) and (b).	Additional requirement to be consistent with Ch. 4 As protective Corrected citation to meet requirements of 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).	(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 335-13-15-.05(2)(c)3. and 4. 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 335-13-15-.08(1)(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 runoff control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.	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 335-13-15-.08(1)(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 runoff control system plan no later than October 17, 2016.	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 runon and run-off control system plan no later than the date of initial receipt of CCR in the CCR unit.	(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 runoff 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).	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 335-13-15-.05(2)(c)1. 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. 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 335-13-15-.08(1)(g)3.	Removed "for the purposes.." since unnecessary and not consistent. As protective.
(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.	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. The run-on and run-off control system plans, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.	Additional reporting and approval requirements.
(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).	(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).	
§ 257.82 Hydrologic and hydraulic capacity requirements for CCR surface impoundments.	(3) 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.	(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 335-13-15-.05(3)(a)1. and 2.	
(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.	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 335-13-15-.05(3)(a)3.	
(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.	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 335-13-15-.05(3)(a)3.	
(3) The inflow design flood is:	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;	(i) For a high hazard potential CCR surface impoundment, as determined under 335-13-15-.04(4)(a)2. or 335-13-15-.04(5)(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;	(ii) For a significant hazard potential CCR surface impoundment, as determined under 335-13-15-.04(4)(a)2. or 335-13-15-.04(5)(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	(iii) For a low hazard potential CCR surface impoundment, as determined under 335-13-15-.04(4)(a)2. or 335-13-15-.04(5)(a)2., the 100-year flood; or	
(iv) For an incised CCR surface impoundment, the 25-year flood.	(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.	(b) Discharge from the CCR unit must be handled in accordance with the surface water requirements under 335-13-4-.01(2)(a) and (b).	Corrected citation to meet requirements of 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	(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 335-13-15-.05(3)(c)3. and 4. These	

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).	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 335-13-15-.08(1)(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.	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 335-13-15-.08(1)(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.	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.	(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	4. Frequency for revising the plan. The owner or operator must prepare periodic inflow design flood control system plans required by 335-13-15-.05(3)(c)1. 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

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).	reasonable amount of time. In all cases, the deadline for completing a subsequent plan is based on the date of completing the previous plan. 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 335-13-15-.08(1)(g)4.	Removed "for the purposes.." since unnecessary and not consistent. As protective.
(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.	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).	(d) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).	
§ 257.83 Inspection requirements for CCR surface impoundments.	(4) Inspection requirements for CCR surface impoundments.	
(a) *Inspections by a qualified person.*	(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:	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;	(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	(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.	(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).	(iv) The results of the inspection by a qualified person must be recorded in the facility's operating record as required by 335-13-15-.08(1)(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.	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 335-13-15-.05(4)(a) 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.	(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 335-13-15-.05(4)(a) 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:	(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 335-13-15-.04(4)(d) or 335-13-15-.04(5)(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);	(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 335-13-15-.04(4)(c)1. and 335-13-15-.04(5)(c)1., previous periodic structural stability assessments required under 335-13-15-.04(4)(d) and 335-13-15-.04(5)(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	(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.	(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:	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;	(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;	(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;	(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;	(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;	(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	(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.	(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*	3. Timeframes for conducting the initial inspection.

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 18, 2016.	(i) Existing CCR surface impoundments. The owner or operator of the CCR unit must complete the initial inspection required by 335-13-15-.05(4)(b)1. and 2. no later than January 18, 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.	(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 335-13-15-.05(4)(b)1. and 2. no later than 14 months following the date of initial receipt of CCR in the CCR unit.	Removed "is completed" As protective
(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).	4. Frequency of inspections. (i) Except as provided for in 335-13-15-.05(4)(b)4.(ii), the owner or operator of the CCR unit must conduct the inspection required by 335-13-15-.05(4)(b)1. and 2. 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. The owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by 335-13-15-.08(1)(g)6.	Removed "for the purposes.." since unnecessary and not consistent. As protective.
(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	(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 335-13-15-.04(4)(d) and 335-13-15-.04(5)(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	

from the date of completing the quinquennial structural stability assessment.	paragraph, 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.	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 and submit to the Department documentation detailing the corrective measures taken.	Additional reporting requirement.
(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).	(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).	
§ 257.84 Inspection requirements for CCR landfills.	(5) Inspection requirements for CCR landfills.	
(a) *Inspections by a qualified person.*	(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:	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	(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).	(ii) The results of the inspection by a qualified person must be recorded in the facility's operating record as required by 335-13-15-.08(1)(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.	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 335-13-15-.05(5)(a) 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	(ii) New CCR landfills and any lateral expansion of a CCR landfill. The owner or operator of	

the inspections required under paragraph (a) of this section upon initial receipt of CCR by the CCR unit.	the CCR unit must initiate the inspections required under 335-13-15-.05(5)(a) 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:	(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	(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.	(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:	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;	(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;	(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	(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.	(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 18, 2016.	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 335-13-15-.05(5)(b)1. and 2. no later than January 18, 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.	(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 335-13-15-.05(5)(b)1. and 2. 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).	4. Frequency of inspections. The owner or operator of the CCR unit must conduct the inspection required by 335-13-15-.05(5)(b)1. and 2. 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. The owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by 335-13-15-.08(1)(g)9.	Removed "for purposes.." since unnecessary and not consistent. As protective.
(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.	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).	(c) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(g), the notification requirements specified in 335-13-15-.08(2)(g), and the internet requirements specified in 335-13-15-.08(3)(g).	

(6) General operational standards for CCR units.	Additional requirement to be consistent with Ch .4. As protective.
(a) The operation and use of the CCR unit shall be as stipulated in the approved plans and the permit.	Additional requirement to be consistent with Ch .4. As protective.
(b) The disposal area shall be identified with a sufficient number of permanent markers which are at least visible from one marker to the next.	Additional requirement to be consistent with Ch .4. As protective.
(c) Open Burning.	Additional requirement to be consistent with Ch .4. As protective.
1. Open burning of solid waste at any CCR unit is prohibited unless approved by the Department as follows:	Additional requirement to be consistent with Ch .4. As protective.
(i) Clearing debris at the CCR unit such as trees and stumps may be burned if prior approval is received from the Department and the Alabama Forestry Commission.	Additional requirement to be consistent with Ch .4. As protective.
(ii) If approved, the burning shall not occur within 200 feet of existing disposal operations unless otherwise specified by the Department and such burning shall not cause a public nuisance or pose a threat to public health.	Additional requirement to be consistent with Ch .4. As protective.
2. The person or agency requesting permission to burn solid waste shall apply in writing to the Department, outlining why a burn request should be granted. This request should include, but not be limited to, specifically what areas will be utilized, types of waste to be burned, the projected starting and completion dates for the project, and the projected days and hours of operation.	Additional requirement to be consistent with Ch .4. As protective.
(d) The owner or operator of a CCR landfill unit must prevent the disposal of free liquids in the CCR landfill.	Additional requirement to be consistent with Ch .4. As protective.
(e) Adequate equipment shall be provided to insure continued operation in accordance with the permit and regulations.	Additional requirement to be consistent with Ch .4. As protective.
(f) The site shall be adequately secured using artifical barriers, natural	Additional requirement to be consistent with Ch .4.

	barriers, or both to prevent entry of unauthorized vehicular traffic.	As protective.
	(g) Adequate personnel shall be provided to insure continued and smooth operation of the facility	Additional requirement to be consistent with Ch .4. As protective.
	(h) Provisions shall be made for disposal activities in adverse weather conditions.	Additional requirement to be consistent with Ch .4. As protective.
	i) Environmental monitoring and treatment structures shall be clearly marked and identified, protected, and maintained in good repair and shall be easily accessible.	Additional requirement to be consistent with Ch .4. As protective.
Groundwater Monitoring and Corrective Action **§ 257.90 Applicability.**	**335-13-15-.06 <u>Groundwater Monitoring and Corrective Action</u>.**	
	(1) <u>Applicability</u>.	
(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.	(a) All CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under 335-13-15-.06(1) through 335-13-15-.06(9).	Removed "Except as provided for in.....for inactive CCR surface impoundments" in accordance with 8/16 vacatur rule.
	(b) Groundwater monitoring requirements under paragraphs (1) through (6) of this rule may be suspended by the Department for a CCR unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from the CCR unit to the uppermost aquifer, as defined in 335-13-15-.02, during the active life of the CCR unit and the post-closure care period. This demonstration must be certified by a qualified professional engineer, as defined by 335-13-15-.02, and approved by the Department.	Added flexibility as allowed under EPA guidance issued 8/17.
	The information used to make the demonstration must be re-evaluated every ten years and submitted to the Department for approval. The initial, and any subsequent demonstration must be based upon:	Added flexibility as allowed under EPA guidance issued 8/17.
	1. Site specific field collected measurements, sampling, and analysis of physical, chemical and biological processes affecting contaminant fate and transport, and	Added flexibility as allowed under EPA guidance issued 8/17.

	2. Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and the environment.	Renumbered
	The provisions of 335-13-15-.06(1)(b) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].	Language added to be effective upon specific approval by EPA through the state program approval process.
(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:	(c) 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;	(i) Install the groundwater monitoring system as required by 335-13-15-.06(2);	
(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;	(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 335-13-15-.06(4);	
(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	(iii) Initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient well as required by 335-13-15-.06(5)(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.	(iv) Begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in Appendix III as required by 335-13-15-.06(5).	
(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	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 335-13-15-.06(1)(c)1.(i)and (ii). In addition, the owner or operator of the CCR unit must initiate the detection monitoring program to include obtaining a minimum of eight	Renumbered

background well as required by § 257.94(b).	independent samples for each background well as required by 335-13-15-.06(5)(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) Once a groundwater monitoring system and groundwater monitoring program has been established at the CCR unit as required by this chapter, 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.	Renumbered
(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) 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 335-13-15-.06(7), 335-13-15-.06(8), and 335-13-15-.06(9).	Renumbered
(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	(f) 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 chapter, 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. The owner or operator has prepared	Renumbered Removed "for purposes.." since unnecessary and not consistent. As protective.

annual groundwater monitoring and corrective action report must contain the following information, to the extent available:	the annual report when the report is submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(h)1. At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:	Additional reporting requirement.
(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;	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;	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;	3. In addition to all the monitoring data obtained under 335-13-15-.06(1) through 335-13-15-.06(9), 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	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 as a statistically significant increase over background levels); and	Changed wording (at to as)
(5) Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.	5. Other information required to be included in the annual report as specified in 335-13-15-.06(1) through 335-13-15-.06(9).	
(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).	(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).	Renumbered

§ 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

(2) 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

aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.	boundary of the uppermost aquifer, including, but not limited to, thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.	
	3. The number, spacing, and depth of the monitoring system developed under 335-13-15-.06(2) shall be certified by a qualified professional engineer and submitted to the Department for approval. Within 14 days of the Department's approval, the owner or operator must notify the Department that the certification has been placed in the facility operating record.	Additional requirement to be consistent with Ch .4. As protective..
(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:	(c) The groundwater monitoring system must include the number of monitoring wells necessary to meet the performance standards specified in 335-13-15-.06(2)(a), based on the site-specific information specified in 335-13-15-.06(2)(b). The groundwater monitoring system must contain:	Removed "minimum" since State may require the facility to install as many as necessary. As protective.
(1) A minimum of one upgradient and three downgradient monitoring wells; and	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.	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.	(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:	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 335-13-15-.06(2)(a) through (c) for each CCR unit based on the following factors:	
(i) Number, spacing, and orientation of each CCR unit;	(i) Number, spacing, and orientation of each CCR unit;	

(ii) Hydrogeologic setting;	(ii) Hydrogeologic setting;	
(iii) Site history; and	(iii) Site history; and	
(iv) Engineering design of the CCR unit.	(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.	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 335-13-15-.04(2)(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 are detected at statistically significant levels above the groundwater protection standard established under 335-13-15-.06(6)(h) or (i) for the multiunit system, then all unlined CCR surface impoundments comprising the multiunit groundwater monitoring system are subject to the requirements under 335-13-15-.07(2)(a) to retrofit or close.	Additional language to include optional alternative list. As protective. Removed "closure" to allow facility to choose between closure and retrofit. As protective.
	(e) Well design and construction.	Additional requirement to be consistent with Ch .4. As protective.
	1. Groundwater monitoring wells shall be designed and constructed in accordance with the following reference: "Design and Installation of Groundwater Monitoring Wells in Aquifers", ASTM Subcommittee D18.21 on Groundwater Monitoring or otherwise as specifically approved by the Department.	Additional requirement to be consistent with Ch .4. As protective.
	2. Plans for groundwater monitoring well location, design, construction and/or abandonment shall be submitted to the Department for review and approval prior to installation or abandonment.	Additional requirement to be consistent with Ch .4. As protective.
(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	3. 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	Renumbered

prevent contamination of samples and the groundwater.	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.	4. 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 335-13-15-.06(2)(f).	Renumbered
(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.	5. 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.	(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 335-13-15-.06(2)(c)1., the certification must document the basis supporting this determination. . Once completed, the certification must be submitted to the Department and placed in the operating record in accordance with 335-13-15-.08(1)(h)3.	Additional reporting requirement.
	(g) Abandoned wells and bore holes shall be abandoned in accordance with the following procedures in order to prevent contamination of groundwater resources. A plan of abandonment must be submitted and approved by the Department prior to implementing abandonment of any well.	Additional requirement to be consistent with Ch .4. As protective.
	1. A well shall be measured for depth prior to sealing to ensure that it is free from any obstructions that may interfere with sealing operations.	Additional requirement to be consistent with Ch .4. As protective.

	2. Where feasible, wells shall be completely filled with neat cement. If the well cannot be completely filled, the sealing materials for the top 20 feet must be neat cement and no material that could impart taste, odor, or toxic components to water may be used in the sealing process.	Additional requirement to be consistent with Ch .4. As protective.
	3. Liner pipe shall be removed from each well in order to ensure placement of an effective seal. If the liner pipe cannot be readily removed, it shall be perforated to ensure that proper sealing is obtained.	Additional requirement to be consistent with Ch .4. As protective.
	4. Concrete, cement grout, or neat cement shall be used as primary sealing materials and shall be placed from the bottom upwards using methods that will avoid segregation or dilution of material.	Additional requirement to be consistent with Ch .4. As protective.
	5. Complete, accurate records of the abandonment procedure shall be kept for each well abandoned. The record of abandonment shall include, at a minimum, the depth of each layer of all sealing and backfilling materials, the quantity of sealing materials used, measurements of static water levels and depth, and any changes made in the well during the sealing. A copy of these records shall be submitted to the Department and a copy placed in the operating record.	Additional requirement to be consistent with Ch .4. As protective.
(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).	(h) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).	Renumbered
§ 257.92 [Reserved]	(3) Reserved.	
§ 257.93 Groundwater sampling and analysis requirements.	(4) <u>Groundwater sampling and analysis requirements</u>.	
(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	(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	

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:	background and downgradient wells required by 335-13-15-.06(2). The owner or operator of the CCR unit must develop, and submit to the Department for approval, a sampling and analysis program that includes procedures and techniques for:	Additional reporting and approval requirement.
(1) Sample collection;	1. Sample collection;	
(2) Sample preservation and shipment;	2. Sample preservation and shipment;	
(3) Analytical procedures;	3. Analytical procedures;	
(4) Chain of custody control; and	4. Chain of custody control; and	
(5) Quality assurance and quality control.	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.	(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 335-13-15-.06(1) through 335-13-15-.06(9), the term constituent refers to both hazardous constituents and other monitoring parameters listed in either Appendix III or IV.	
(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.	(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	(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	

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).	program that applies to the CCR unit as determined under 335-13-15-.06(5)(a) or 335-13-15-.06(6)(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 335-13-15-.06(2)(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.	(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 335-13-15-.06(4)(f) and the performance standards under 335-13-15-.06(4)(g). The sampling procedures shall be those specified under 335-13-15-.06(5)(b) through (d) for detection monitoring, 335-13-15-.06(6)(b) through (d) for assessment monitoring, and 335-13-15-.06(7)(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.	(f) The owner or operator of the CCR unit must specify in writing to the Department and place in the operating record one of the statistical methods specified in 335-13-15-.06(4)(f)1. through 5. 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.	Additional reporting requirement.
(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.	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.	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	3. A tolerance or prediction	

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.	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.	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.	5. Another statistical test method that meets the performance standards of 335-13-15-.06(4)(g). The owner or operator must place a justification for this alternative in the operating record and submit it to the Department for approval to use this alternative method. The justification must demonstrate that the alternative method meets the performance standards of 335-13-15-.06(4)(g).	Additional requirement to be consistent with Ch .4. As protective.
(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.	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:	(g) Any statistical method chosen under 335-13-15-.06(4)(f) 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.	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.	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.	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.	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	5. The statistical method must account for data below the limit of detection with one or more statistical procedures that shall be at least as effective as any other	Added "be" for clarity.

ED_002047_00000009-00365

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.	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.	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).	(h) The owner or operator of the CCR unit must determine and certify in writing to the Department if there is a statistically significant increase over background values or the groundwater protection standard for each constituent required in the particular groundwater monitoring program that applies to the CCR unit, as determined under 335-13-15-.06(5)(a) or 335-13-15-.06(6)(a).	Additional reporting requirement. Added reference to GWPS since cited later in requirement (per EPA discussion).
(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.	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 335-13-15-.06(2)(a)2. or (d)1. to the background value of that constituent, when in detection monitoring or to the groundwater protection standard when in assessment monitoring, according to the statistical procedures and performance standards specified under 335-13-15-.06(4)(f) and (g).	Added reference to assessment monitoring and GWPS per (h).
(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.	2. Within 30 days after completing sampling and receiving analytical results, the owner or operator must determine whether there has been a statistically significant increase over background when in detection monitoring or to the groundwater protection standard when in assessment monitoring for any constituent at each monitoring well.	Reworded to be more in line with State requirements. As protective. Added reference to assessment monitoring and GWPS per (h).
	3. If a statistically significant increase is detected over background groundwater quality when in detection monitoring or to	Additional requirement to be consistent with Ch .4. As protective.

	the groundwater protection standard when in assessment monitoring, the owner or operator must notify the Department in writing within 14 days of this event.	Added reference to assessment monitoing and GWPS per (h)
(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 fieldfiltered prior to analysis.	(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).	(j) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).	
§ 257.94 Detection monitoring program.	(5) 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.	(a) The owner or operator of a CCR unit must conduct detection monitoring at all groundwater monitoring wells consistent with this section.	
	1. At a minimum, a detection monitoring program must include groundwater monitoring for the constituents listed in Appendix III of this chapter.	Renumbered
	2. The Department may establish an alternative list of parameters, in addition to the Appendix III constituents, if the additional parameters provide a reliable indication of releases from the CCR unit to the groundwater. In determining additional parameters, the Department shall consider the following factors:	Additional requirement to be consistent with Ch .4. As protective.
	(i) The types, quantities, and concentrations of constituents in waste managed at the CCR unit;	Additional requirement to be consistent with Ch .4. As protective.
	(ii) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the CCR unit;	Additional requirement to be consistent with Ch .4. As protective.

	(iii) The detectability of indicator parameters, waste constituents, and reaction products in groundwater; and	Additional requirement to be consistent with Ch .4. As protective.
	(iv) The concentration or values and coefficients of variation of monitoring parameters or constituents in the groundwater background.	Additional requirement to be consistent with Ch .4. As protective.
(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.	(b) Except as provided in 335-13-15-.06(5)(d), the monitoring frequency for the constituents listed in 335-13-15-.06(5)(a) 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, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV, for the purpose of establishing background concentrations 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 335-13-15-.06(5)(a) for the purpose of establishing background concentrations during the first six months of sampling.	Additional language to clarify that purpose of paragraph is to determine background concentrations for App II & IV. As protective.
		Additional language to clarify that purpose of paragraph is to determine background concentrations for App II & IV. As protective.
(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.	(c) The number of samples collected and analyzed for each background well and downgradient well during subsequent semiannual sampling events must be consistent with 335-13-15-.06(4)(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	(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, or the alternative list as provided by in 335-13-15-.06(5)(a)2.,during the active life and the post-closure care period based on the availability of groundwater. If there is not	Additional language to include optional alternative list. As protective

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.	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 335-13-15-.06(5)(d)1. and 2.	
(1) Information documenting that the need for less frequent sampling. The alternative frequency must be based on consideration of the following factors:	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;	(i) Lithology of the aquifer and unsaturated zone;	
(ii) Hydraulic conductivity of the aquifer and unsaturated zone; and	(ii) Hydraulic conductivity of the aquifer and unsaturated zone; and	
(iii) Groundwater flow rates.	(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.	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).	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 submit the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer to the Department for approval. If Departmental approval is granted, the owner or operator must place the demonstration in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(f).	Additional reporting requirement Additional reporting and approval requirement. Renumbered
(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	(e) If the owner or operator of the CCR unit determines, pursuant to 335-13-15-.06(4)(h) that there is a statistically significant increase over background levels for one or	

appendix III to this part at any monitoring well at the waste boundary specified under § 257.91(a)(2), the owner or operator must:	more of the constituents listed in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., at any monitoring well at the waste boundary specified under 335-13-15-.06(2)(a)2., the owner or operator must:	Additional language to include optional alternative list. As protective
(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.	1. Except as provided for in 335-13-15-.06(5)(e)2., within 90 days of detecting a statistically significant increase over background levels for any constituent, establish an assessment monitoring program meeting the requirements of 335-13-15-.06(6).	
(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.	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. A report documenting this demonstration must be certified by a qualified professional engineer verifying the accuracy of the information in the report, and placed in the operating record. 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, subject to subsequent review and approval by the Department. 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 335-13-15-.06(6). The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(f), in addition to the certification by a qualified professional engineer.	Reworded, as protective Additional reporting and approval requirement. Additional approval requirement. Renumbered
(3) The owner or operator of a CCR unit must prepare a notification stating	3. The owner or operator of a CCR unit must prepare a	

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).	notification stating that a statistically significant increase over background has been detected and 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 335-13-15-.08(1)(h)5; and	Additional notification requirement. Added "and" for additional reporting requirement below.
	4. Must, within 14 days of this finding, place a notice in the operating record, and submit a copy of this notice to the Department, indicating which constituents have shown statistically significant changes from background levels.	Additional reporting requirement.
(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).	(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).	
	(g) The owner or operator of a CCR unit must submit a semi-annual report to the Department to coincide with the semi-annual sampling event. The report shall be certified by a qualified professional engineer.	Additional reporting requirement.
§ 257.95 Assessment monitoring program.	(6) <u>Assessment monitoring program</u>.	
(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.	(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, or the alternative list as provided by in 335-13-15-.06(5)(a)2..	Additional language to include optional alternative list. As protective.
(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.	(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 III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV. The number of samples collected and analyzed for each well during each sampling event must be consistent with 335-13-15-.06(4)(e), and must account	Added additional language to include App III and optional alternative list since EPA intended operators to continue sampling App III along with IV is assessment monitoring. As protective.

	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.	(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 III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV 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 335-13-15-.06(6)(c)1. and 2.	Added additional language to include App III and optional alternative list since EPA intended operators to continue sampling App III along with IV is assessment monitoring. As protective.
(1) Information documenting that the need for less frequent sampling. The alternative frequency must be based on consideration of the following factors:	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;	(i) Lithology of the aquifer and unsaturated zone;	
(ii) Hydraulic conductivity of the aquifer and unsaturated zone; and	(ii) Hydraulic conductivity of the aquifer and unsaturated zone;	
(iii) Groundwater flow rates.	(iii) Groundwater flow rates; and	
	(iv) Nature (fate and transport) of any constituents detected in response to this rule.	Additional requirements to be consistent with Ch. 4. As protective.
(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.	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	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	

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).	owner or operator must submit the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer to the Department for approval. If Departmental approval is granted, the owner or operator must place the demonstration in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(f).	Additional reporting requirement. Additional reporting and approval requirement.
(d) After obtaining the results from the initial and subsequent sampling events required in paragraph (b) of this section, the owner or operator must:	(d) After obtaining the results from the initial and subsequent sampling events required in 335-13-15-.06(6)(b), the owner or operator must:	Renumbered.
	1. Within 14 days, place a notice in the operating record and submit a copy of this notice to the Department identifying the Appendix IV constituents that have been detected;	Additional reporting requirement.
(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. 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 335-13-15-.06(2), conduct analyses for all parameters in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and for those constituents in Appendix IV that are detected in response to 335-13-15-.06(6)(b), 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 335-13-15-.06(4)(e), and must account for any unique characteristics of the site, but must be at least one sample from each background and downgradient well.	Renumbered Additional language to include optional alternative list. As protective. Additional requirements to be consistent with Ch. 4.
(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. Establish groundwater protection standards for all Appendix IV constituents detected pursuant to 335-13-15-.06(6)(b) or (d). The groundwater protection standards must be established in accordance with 335-13-15-.06(6)(h); and	Renumbered Added "Appendix IV" since GWPS was intended to be established for App IV only.

(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).	4. Include the recorded concentrations required by 335-13-15-.06(6)(d)2., identify the background concentrations established under 335-13-15-.06(5)(b), and identify the groundwater protection standards established under 335-13-15-.06(6)(d)3. in the annual groundwater monitoring and corrective action report required by 335-13-15-.06(1)(f).	Renumbered Renumbered Renumbered Renumbered
	5. The Department may specify an alternative monitoring frequency during the active life (including closure) and the post-closure period for the constituents referred to 335-13-15-.06(6)(d)2.. The alternative frequency shall be no less than annual and shall be based on consideration of the factors specified in 335-13-15-.06(6)(c);	Added flexibility as allowed under EPA guidance issued 8/17.
	The provisions of 335-13-15-.06(6)(d)5. will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].	Language added to be effective upon specific approval by EPA through the state program approval process.
(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).	(e) If the concentrations of all constituents listed in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV are shown to be at or below background values, using the statistical procedures in 335-13-15-.06(4)(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 335-13-15-.08(1)(h)7 and submitted to the Department.	Additional language to include optional alternative list. As protective. Additional reporting requirement.
(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	(f) If the concentrations of any constituent in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV are above background values, but all concentrations are below the groundwater protection standard established under 335-13-	Additional language to include optional alternative list. As protective.

must continue assessment monitoring in accordance with this section.	15-.06(6)(h) or (i), using the statistical procedures in 335-13-15-.06(4)(g), the owner or operator must continue assessment monitoring in accordance with this section.	Added "or (i)" for alt GWPS rule. As protective.
(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:	(g) If one or more constituents in Appendix IV are detected at statistically significant levels above the groundwater protection standard established under 335-13-15-.06(6)(h) or (i) in any sampling event, the owner or operator must prepare a notification identifying the constituents in Appendix IV 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 335-13-15-.08(1)(h)8. The owner or operator of the CCR unit also must:	Added "or (i)" for alt GWPS flexibility. As protective.
	1. Submit a copy of the notification to the Department and all appropriate local government officials, if the facility is subject to the local host government approval requirements as specified 335-13-5-.02(a); and	Additional reporting requirement.
(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:	2. 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 335-13-15-.06(7). Characterization of the release includes the following minimum measures:	Renumbered
(i) Install additional monitoring wells necessary to define the contaminant plume(s);	(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;	(ii) Collect data on the nature and estimated quantity of material released including specific information on the constituents listed in Appendix IV 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	(iii) Install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample	

accordance with paragraph (d)(1) of this section; and	this well in accordance with 335-13-15-.06(6)(d)2. or 5.; and	Renumbered and (5) to reference the proposed flexibility
(iv) Sample all wells in accordance with paragraph (d)(1) of this section to characterize the nature and extent of the release.	(iv) Sample all wells in accordance with 335-13-15-.06(6)(d)2.or 5. to characterize the nature and extent of the release.	Renumbered and (5) to reference the proposed flexibility Renumbered
(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.	3. 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 335-13-15-.06(6)(g)2.	Renumbered
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).	The owner or operator has completed the notifications when they are placed in the facility's operating record as required by 335-13-15-.08(1)(h)8.	Renumbered
(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:	4. Within 90 days of finding that any of the constituents listed in Appendix IV have been detected at a statistically significant level exceeding the groundwater protection standards the owner or operator must either:	Renumbered
(i) Initiate an assessment of corrective measures as required by § 257.96; or	(i) Initiate an assessment of corrective measures as required by 335-13-15-.06(7); 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.	(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 and approved by the Department.	Additional approval requirement.
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.	If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in Appendix III, or the alternative list as provided by in 335-13-15-.06(5)(a)2., and Appendix IV are at or below background as specified in 335-13-15-.06(6)(e).	Additional language to include optional alternative list. As protective.
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.	The owner or operator must also include the demonstration in the annual groundwater monitoring and	

	corrective action report required by 335-13-15-.06(1)(f), in addition to the certification by a qualified professional engineer.	Renumbered
(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 a successful determination has not been made at the end of the 90 day period provided by 335-13-15-.06(6)(g)4., the owner or operator of the CCR unit must initiate the assessment of corrective measures requirements under 335-13-15-.06(7).	Renumbered
(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.	6. If an assessment of corrective measures is required under 335-13-15-.06(7) by either 335-13-15-.06(6)(g)4.(i) or (g)5., and if the CCR unit is an existing unlined CCR surface impoundment as determined by 335-13-15-.04(2)(a), then the CCR unit is subject to the requirements under 335-13-15-.07(2)(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.	Renumbered Renumbered Removed "closure" because operator is given a choice between closure and retrofit.
(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:	(h) The owner or operator of the CCR unit must establish a groundwater protection standard for each constituent in Appendix IV 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;	1. For constituents for which a maximum contaminant level (MCL) has been established under 335-7-2-.03(1) and 335-7-2-.08(1) and (2), 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	2. For constituents for which an MCL has not been established, the background concentration for the constituent established from wells in accordance with 335-13-15-.06(5)(b); or	Changed citation from 2 to 5(b) since 5(b) is the section that includes procedures for establishing background.
(3) For constituents for which the background level is higher than the MCL identified under paragraph (h)(1) of this section, the background concentration.	3. For constituents for which the background level is higher than the MCL identified under 335-13-15-.06(6)(h)1., the background concentration.	
	(i) The Department may establish an alternative groundwater protection standard for constituents for which MCLs have not been	Added flexibility as allowed under EPA guidance issued 8/17.

	established. These groundwater protection standards shall be appropriate health based levels that satisfy the following criteria:	
	1. The level is derived in a manner consistent with EPA guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, September 24, 1986);	Additional language to include optional alternative list. As protective.
	2. The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR 792) or equivalent;	Additional language to include optional alternative list. As protective.
	3. For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) with the 1x10-4 to 1x10-6 range; and	Additional language to include optional alternative list. As protective.
	4. For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this rule, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.	Additional language to include optional alternative list. As protective.
	The provisions of 335-13-15-.06(6)(i) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].	Language added to be effective upon specific approval by EPA through the state program approval process.
	(j) In establishing groundwater protection standards under subparagraph (i) of this paragraph, the Department may consider the following:	Additional language to include optional alternative list. As protective.
	1. Multiple contaminants in the groundwater;	Additional language to include optional alternative list. As protective.
	2. Exposure threats to sensitive environmental receptors; and	Additional language to include optional alternative list. As protective.
	3. Other site-specific exposure or potential exposure to groundwater.	Additional language to include optional alternative list. As protective.
(i) The owner or operator of the CCR unit must comply with the	(k) The owner or operator of the CCR unit must comply with the	Renumbered

recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the Internet requirements specified in § 257.107(h).	recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).	
§ 257.96 Assessment of corrective measures.	(7) 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.	(a) Within 90 days of finding that any constituent listed in Appendix IV has been detected at a statistically significant level exceeding the groundwater protection standard defined under 335-13-15-.06(6)(h) or (i), 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 and submit the demonstration to the Department for approval. 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 335-13-15-.06(1)(f), in addition to the certification by a qualified professional engineer.	Added "or (i)" for alt GWPS flexibility. As protective. Additional approval requirement. Renumbered
(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.	(b) The owner or operator of the CCR unit must continue to monitor groundwater in accordance with the assessment monitoring program as specified in 335-13-15-.06(6).	
(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	(c) The assessment under 335-13-15-.06(7)(a) must include an analysis of the effectiveness of potential corrective measures in	

requirements and objectives of the remedy as described under § 257.97 addressing at least the following:	meeting all of the requirements and objectives of the remedy as described under 335-13-15-.06(8) 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;	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;	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).	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).	(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 335-13-15-.08(1)(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.	(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).	(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).
§ 257.97 Selection of remedy.	(8) <u>Selection of remedy</u>.
(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	(a) Based on the results of the corrective measures assessment conducted under 335-13-15-.06(7), the owner or operator must, as soon as feasible, select a remedy that, at a minimum, meets the standards listed in 335-13-15-.06(8)(b). 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).	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 335-13-15-.06(8)(b). The owner or operator must obtain a certification from a qualified professional engineer that the remedy selected meets the requirements of this section. Within 14 days of selecting a remedy, the owner or operator must submit the report to the Department for approval of the selected remedy. The report has been completed when it is placed in the operating record as required by 335-13-15-.08(1)(h)12.	Additional reporting and approval requirements.
(b) Remedies must:	(b) Remedies must:	
(1) Be protective of human health and the environment;	1. Be protective of human health and the environment;	
(2) Attain the groundwater protection standard as specified pursuant to § 257.95(h);	2. Attain the groundwater protection standard as specified pursuant to 335-13-15-.06(6)(h) or (i);	Added "or (i)" for alt GWPS flexibility. As protective.
(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;	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 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;	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).	5. Comply with standards for management of wastes as specified in 335-13-15-.06(9)(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:	(c) In selecting a remedy that meets the standards of 335-13-15-.06(8)(b), 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:	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 redisposal 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

(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

ED_002047_00000009-00382

constructing the technology;	associated with constructing the technology;	
(ii) Expected operational reliability of the technologies;	(ii) Expected operational reliability of the technologies;	
(iii) Need to coordinate with and obtain necessary approvals and permits from other agencies;	(iii) Need to coordinate with and obtain necessary approvals and permits from other agencies;	
(iv) Availability of necessary equipment and specialists; and	(iv) Availability of necessary equipment and specialists; and	
(v) Available capacity and location of needed treatment, storage, and disposal services.	(v) Available capacity and location of needed treatment, storage, and disposal services.	
	4. Feasibility of the owner or operator, including a consideration of the technical feasibility. The provisions of 335-13-15-.06(8)(c)4. will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].	Additional requirements to be consistent with Ch. 4. (removed economics and changed capability to feasibility) Language added to be effective upon specific approval by EPA through the state program approval process..
(4) The degree to which community concerns are addressed by a potential remedy(s).	5. The degree to which community concerns are addressed by a potential remedy(s).	Renumbered
(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:	(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 335-13-15-.06(8)(d)1. through 7. The owner or operator of the CCR unit must consider the following factors in determining the schedule of remedial activities:	Renumbered
(1) Extent and nature of contamination, as determined by the characterization required under § 257.95(g);	1. Extent and nature of contamination, as determined by the characterization required under 335-13-15-.06(6)(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;	2. Reasonable probabilities of remedial technologies in achieving compliance with the groundwater protection standards established under 335-13-15-.06(6)(h) or (i) and other objectives of the remedy;	Added "or (i)" for alt GWPS flexibility. As protective.
(3) Availability of treatment or disposal capacity for CCR managed during implementation 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;	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:	5. Resource value of the aquifer including:	
(i) Current and future uses;	(i) Current and future uses;	
(ii) Proximity and withdrawal rate of users;	(ii) Proximity and withdrawal rate of users;	
(iii) Groundwater quantity and quality;	(iii) Groundwater quantity and quality;	
(iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to CCR constituents;	(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	(v) The hydrogeologic characteristic of the facility and surrounding land; and	
(vi) The availability of alternative water supplies; and	(vi) The availability of alternative water supplies; and	
(6) Other relevant factors.	6. Other relevant factors.	
	(e) The Department may determine that remediation of a release of an Appendix IV constituent from a CCR unit is not necessary if the owner or operator demonstrates to the Department that:	Added flexibility as allowed under EPA guidance issued 8/17.
	1. The groundwater is additionally contaminated by substances that have originated from a source other than a CCR unit and those substances are present in concentrations such that cleanup of the release from the CCR unit would provide no significant reduction in risk to actual or potential receptors; or	Added flexibility as allowed under EPA guidance issued 8/17.
	2. The constituent(s) is present in groundwater that:	Added flexibility as allowed under EPA guidance issued 8/17.
	(i) Is not currently or reasonably expected to be a source of drinking water; and	Added flexibility as allowed under EPA guidance issued 8/17.
	(ii) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the groundwater protection standards established under subparagraphs (6)(h) or (i) of this rule; or	Added flexibility as allowed under EPA guidance issued 8/17.

	3. Remediation of the release(s) is technically impracticable; or	Added flexibility as allowed under EPA guidance issued 8/17.
	4. Remediation results in unacceptable cross-media impacts.	Added flexibility as allowed under EPA guidance issued 8/17.
	The provisions of 335-13-15-.06(8)(e) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].	Language added to be effective upon specific approval by EPA through the state program approval process.
	(f) A determination by the Department pursuant to subparagraph (e) of this paragraph shall not affect the authority of the State to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and significantly reduce threats to human health or the environment.	Added flexibility as allowed under EPA guidance issued 8/17.
(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).	(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).	Renumbered
§ 257.98 Implementation of the corrective action program.	(9) 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:	(a) Within 90 days of selecting a remedy under 335-13-15-.06(8), the owner or operator must initiate remedial activities. Based on the schedule established under 335-13-15-.06(8)(d) for implementation and completion of remedial activities the owner or operator must:	
(1) Establish and implement a corrective action groundwater monitoring program that:	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;	(i) At a minimum, meets the requirements of an assessment monitoring program under 335-13-15-.06(6);	

(ii) Documents the effectiveness of the corrective action remedy; and	(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.	(iii) Demonstrates compliance with the groundwater protection standard pursuant to 335-13-15-.06(9)(d).	Corrected rule citation
(2) Implement the corrective action remedy selected under § 257.97; and	2. Implement the corrective action remedy selected under 335-13-15-.06(8); 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:	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 335-13-15-.06(8). 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;	(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;	(ii) Actual or potential exposure of nearby populations or environmental receptors to any of the constituents listed in Appendix IV;	
(iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;	(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;	(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;	(v) Weather conditions that may cause any of the constituents listed in Appendix IV 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	(vi) Potential for exposure to any of the constituents listed in Appendix IV 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.	(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.	(b) If an owner or operator of the CCR unit, determines, at any time, that compliance with the requirements of 335-13-15-.06(8)(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, unless the owner of operator successfully makes the demonstration under subparagraph (c) of this paragraph.	Additional requirements to be consistent with Ch. 4.
	(c) If the owner or operator demonstrates to the satisfaction of the Department that compliance with requirements under subparagraph (8)(b) of this section cannot be feasibly achieved with any currently available methods, the owner or operator must:	Additional requirements to be consistent with Ch. 4. (Replaced practically with feasibly)
	1. Obtain certification of a qualified professional engineer stating that compliance with the requirements under subparagraph (8)(b) of this section cannot be feasibly achieved with any currently available methods;	Additional requirements to be consistent with Ch. 4. (Replaced practically with feasibly)
	2. Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and	Additional requirements to be consistent with Ch. 4.
	3. Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:	Additional requirements to be consistent with Ch. 4.
	(i) Technically feasible; and	Additional requirements to be consistent with Ch. 4. (Replaced practicable with feasible)
	(ii) Consistent with the overall objective of the remedy.	Additional requirements to be consistent with Ch. 4.
	4. Submit the demonstration and the proposed alternative measures to the Department for review and approval within 14 days of completing the demonstration and prior to implementing the alternative measures. Concern over the costs associated with the remedial action is not sufficient to support the demonstration under this section.	Additional requirements to be consistent with Ch. 4. (removed reference to costs)
	The provisions of 335-13-15-.06(9)(c) will become operative on [DATE (Forty-five days after approval by the	Language added to be effective upon specific approval by EPA through the state program

	U.S. Environmental Protection Agency)].	approval process.
(c) Remedies selected pursuant to § 257.97 shall be considered complete when:	(d) Remedies selected pursuant to 335-13-15-.06(8) shall be considered complete when:	Renumbered
(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.	1. The owner or operator of the CCR unit demonstrates compliance with the groundwater protection standards established under 335-13-15-.06(6)(h) or (i) has been achieved at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under 335-13-15-.06(2).	Added "or (i)" for alt GWPS flexibility. As protective.
(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).	2. Compliance with the groundwater protection standards established under 335-13-15-.06(6)(h) or (i) has been achieved by demonstrating that concentrations of constituents listed in Appendix IV have not exceeded the groundwater protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in 335-13-15-.06(4)(f) and (g).	Added "or (i)" for alt GWPS flexibility. As protective.
	(i) The Department may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of Appendix IV constituents have not exceeded the groundwater protection standard(s) taking into consideration:	Additional requirement to be consistent with Ch .4. As protective.
	I Extent and concentration of the release(s);	Additional requirement to be consistent with Ch .4. As protective.
	II Behavior characteristics of the hazardous constituents in the groundwater;	Additional requirement to be consistent with Ch .4. As protective.
	III Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and	Additional requirement to be consistent with Ch .4. As protective.
	IV Characteristics of the groundwater.	Additional requirement to be consistent with Ch .4. As protective.
	(ii) The provisions of 335-13-15-.06(9)(d)2.(i) will become operative on [DATE (Forty-five days after approval	Language added to be effective upon specific approval by EPA through the state program

	by the U.S. Environmental Protection Agency)].	approval process.
(3) All actions required to complete the remedy have been satisfied.	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) All CCR that are managed pursuant to a remedy required under 335-13-15-.06(8), or an interim measure required under 335-13-15-.06(9)(a)3., shall be managed in a manner that complies with all applicable RCRA requirements.	Renumbered
(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) Upon completion of the remedy, the owner or operator must notify the Department within 14 days that a certification from a qualified professional engineer attesting that the remedy has been completed in compliance with the requirements of 335-13-15-.06(9)(d) has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified professional engineer and approved by the Department. The report has been completed when it is placed in the operating record as required by 335-13-15-.08(1)(h)13.	Renumbered Additional reporting requirement. Corrected citation
(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(h), the notification requirements specified in § 257.106(h), and the internet requirements specified in § 257.107(h).	(g) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(h), the notification requirements specified in 335-13-15-.08(2)(h), and the internet requirements specified in 335-13-15-.08(3)(h).	Renumbered
Closure and Post-Closure Care § 257.100 Inactive CCR surface impoundments.	**335-13-15-.07 <u>Closure and Post-Closure Care</u>.** (1) <u>Inactive CCR surface impoundments</u>.	
(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.	(a) Inactive CCR surface impoundments are subject to all of the requirements of this chapter applicable to existing CCR surface impoundments.	Revised paragraph in accordance with the 8/16 vacatur rule.
(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	(b) [Reserved]	Removed in accordance with the 8/16 vacatur rule.

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:	Removed in accordance with the 8/16 vacatur rule.
(i) Control, minimize or eliminate, to the maximum extent feasible, postclosure 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;	Removed in accordance with the 8/16 vacatur rule.
(ii) Preclude the probability of future impoundment of water, sediment, or slurry;	Removed in accordance with the 8/16 vacatur rule.
(iii) Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system; and	Removed in accordance with the 8/16 vacatur rule.
(iv) Minimize the need for further maintenance of the CCR unit.	Removed in accordance with the 8/16 vacatur rule.
(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.	Removed in accordance with the 8/16 vacatur rule.
(i) Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.	Removed in accordance with the 8/16 vacatur rule.
(ii) Remaining wastes must be stabilized sufficient to support the final cover system.	Removed in accordance with the 8/16 vacatur rule.
(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.	Removed in accordance with the 8/16 vacatur rule.
(i) The final cover system must be designed and constructed to meet the	Removed in accordance with the 8/16 vacatur rule.

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.

Removed in accordance with the 8/16 vacatur rule.

(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.

Removed in accordance with the 8/16 vacatur rule.

(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.

Removed in accordance with the 8/16 vacatur rule.

(D) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

Removed in accordance with the 8/16 vacatur rule.

(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.

Removed in accordance with the 8/16 vacatur rule.

(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.

Removed in accordance with the 8/16 vacatur rule.

(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.

Removed in accordance with the 8/16 vacatur rule.

(C) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.

Removed in accordance with the 8/16 vacatur rule.

(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.

Removed in accordance with the 8/16 vacatur rule.

(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.		Removed in accordance with the 8/16 vacatur rule.
(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.		Removed in accordance with the 8/16 vacatur rule.
(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.		Removed in accordance with the 8/16 vacatur rule.
(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.	(c) [Reserved]	Removed in accordance with the 8/16 vacatur rule.
(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.		Removed in accordance with the 8/16 vacatur rule.
(2) The owner or operator must prepare periodic progress reports summarizing the progress of closure		Removed in accordance with the 8/16 vacatur rule.

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.		Removed in accordance with the 8/16 vacatur rule.
(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.		Removed in accordance with the 8/16 vacatur rule.
(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).		Removed in accordance with the 8/16 vacatur rule.
(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.		Removed in accordance with the 8/16 vacatur rule.
(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).	(d) [Reserved]	Removed in accordance with the 8/16 vacatur rule..
	(e) Timeframes for certain inactive CCR surface impoundments.	Additional requirement related to the 8/16 vacatur rule.
	1. An inactive CCR surface impoundment for which the owner or operator has completed the actions by the deadlines specified in 335-13-15-.07(1)(e)1.(i) through (ii) is eligible for the alternative timeframes specified in 335-13-15-.07(1)(e)2. through 6. The	Additional requirement related to the 8/16 vacatur rule

owner or operator of the CCR unit must comply with the applicable recordkeeping and notification requirements associated with these provisions. For the inactive CCR surface impoundment:	
(i) The owner or operator must have prepared and placed in the facility's operating record by December 17, 2015, a notification of intent to initiate closure of the inactive CCR surface impoundment pursuant to 335-13-15-.08(1)(i)1.; and	Additional requirement related to the 8/16 vacatur rule
(ii) The owner or operator must have provided notification to the Director by January 19, 2016, of the intent to initiate closure of the inactive CCR surface impoundment pursuant to 335-13-15-.08(2)(i)1.	Additional requirement related to the 8/16 vacatur rule
2. Location restrictions.	
(i) No later than April 16, 2020, the owner or operator of the inactive CCR surface impoundment must:	Additional requirement related to the 8/16 vacatur rule Additional requirement related to the 8/16 vacatur rule
(I) Complete the demonstration for placement above the uppermost aquifer as set forth by 335-13-15-.03(1)(a), (b), (c) and (d)3.;	Additional requirement related to the 8/16 vacatur rule
(II) Complete the demonstration for wetlands as set forth by 335-13-15-.03(2)(a), (b), and (c)3.;	Additional requirement related to the 8/16 vacatur rule
(III) Complete the demonstration for fault areas as set forth by 335-13-15-.03(3)(a), (b), and (c)3.;	Additional requirement related to the 8/16 vacatur rule
(IV) Complete the demonstration for seismic impact zones as set forth by 335-13-15-.03(4)(a), (b), and (c)3.; and	Additional requirement related to the 8/16 vacatur rule
(V) Complete the demonstration for unstable areas as set forth by 335-13-15-.03(5)(a), (b), (c), and (d)3.	Additional requirement related to the 8/16 vacatur rule
(ii) An owner or operator of an inactive CCR surface impoundment who fails to demonstrate compliance with the requirements of 335-13-15-.07(1)(e)2.(i) is subject to the closure requirements of 335-13-.15-.07(2)(b)1.	Additional requirement related to the 8/16 vacatur rule
3. Design criteria. The owner or operator of the inactive CCR surface impoundment must:	Additional requirement related to the 8/16 vacatur rule

(i) No later than April 17, 2018, complete the documentation of liner type as set forth by 335-13-15-.04(2)(a) and (b).	Additional requirement related to the 8/16 vacatur rule
(ii) No later than June 16, 2017, place on or immediately adjacent to the CCR unit the permanent identification marker as set forth by 335-13-15-.04(4)(a)1.	Additional requirement related to the 8/16 vacatur rule
(iii) [Reserved]	
(iv) No later than April 17, 2018, compile a history of construction as set forth by 335-13-15-.04(4)(b) and (c).	Additional requirement related to the 8/16 vacatur rule
4. Operating criteria. The owner or operator of the inactive CCR surface impoundment must:	Additional requirement related to the 8/16 vacatur rule
(i) [Reserved]	
(ii) No later than April 17, 2018, prepare the initial inflow design flood control system plan as set forth in 335-13-15-.05(3)(c).	Additional requirement related to the 8/16 vacatur rule
(iii) No later than April 18, 2017, initiate the inspections by a qualified person as set forth by 335-13-15-.05(4)(a).	Additional requirement related to the 8/16 vacatur rule
(iv) No later than July 19, 2017, complete the initial annual inspection by a qualified professional engineer as set forth by 335-13-15-.05(4)(b).	Additional requirement related to the 8/16 vacatur rule
5. Groundwater monitoring and corrective action. The owner or operator of the inactive CCR surface impoundment must:	Additional requirement related to the 8/16 vacatur rule
(i) No later than April 17, 2019, comply with groundwater monitoring requirements set forth in 335-13-15-.06(1) and 335-13-15-.06(5)(b); and	Additional requirement related to the 8/16 vacatur rule
(ii) No later than August 1, 2019, prepare the initial groundwater monitoring and corrective action report as set forth in 335-13-15-.06(1)(f).	Additional requirement related to the 8/16 vacatur rule
6. Closure and post-closure care. The owner or operator of the inactive CCR surface impoundment must:	Additional requirement related to the 8/16 vacatur rule
(i) No later than April 17, 2018, prepare an initial written closure plan	

	as set forth in 335-13-15-.07(3)(b); and	Additional requirement related to the 8/16 vacatur rule
	(ii) No later than April 17, 2018, prepare an initial written post-closure care plan as set forth in 335-13-15-.07(5)(d).	Additional requirement related to the 8/16 vacatur rule
§ 257.101 Closure or retrofit of CCR units.	(2) 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.	(a) The owner or operator of an existing unlined CCR surface impoundment, as determined under 335-13-15-.04(2)(a), is subject to the requirements of 335-13-15-.07(2)(a)1.	
(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.	1. Except as provided by 335-13-15-.07(2)(a)3., 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 are detected at statistically significant levels above the groundwater protection standard established under 335-13-15-.06(6)(h) or (i) 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 waste streams into such CCR surface impoundment and either retrofit or close the CCR unit in accordance with the requirements of 335-13-15-.07(3).	Added "or (i)" for alt GWPS flexibility. As protective.
(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.	2. An owner or operator of an existing unlined CCR surface impoundment that closes in accordance with 335-13-15-.07(2)(a)1. must include a statement in the notification required under 335-13-15-.07(3)(g) or (l)5. that the CCR surface impoundment is closing or retrofitting under the requirements of 335-13-15-.07(2)(a)1.	Corrected rule citation.
(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.	3. The timeframe specified in 335-13-15-.07(2)(a)1. does not apply if the owner or operator complies with the alternative closure procedures specified in 335-13-15-.07(4).	
(4) At any time after the initiation of	4. At any time after the	

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).

initiation of closure under 335-13-15-.07(2)(a)1., the owner or operator may cease closure activities and initiate a retrofit of the CCR unit in accordance with the requirements of 335-13-15-.07(3)(l).

(b) The owner or operator of an existing CCR surface impoundment is subject to the requirements of paragraph (b)(1) of this section.

(b) The owner or operator of an existing CCR surface impoundment is subject to the requirements of 335-13-15-.07(2)(b)1.

(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.

1. Except as provided by 335-13-15-.07(2)(b)4., within six months of determining that an existing CCR surface impoundment has not demonstrated compliance with any location standard specified in 335-13-15-.03(1)(a), 335-13-15-.03(2)(a), 335-13-15-.03(3)(a), 335-13-15-.03(4)(a), and 335-13-15-.03(5)(a), the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR waste streams into such CCR unit and close the CCR unit in accordance with the requirements of 335-13-15-.07(3).

(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.

2. Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by 335-13-15-.04(4)(e) by the deadlines specified in 335-13-15-.04(4)(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 335-13-15-.04(4)(e)1.(i) through (iv), the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR waste streams into such CCR unit and close the CCR unit in accordance with the requirements of 335-13-15-.07(3).

(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.

3. An owner or operator of an existing CCR surface impoundment that closes in accordance with 335-13-15-.07(2)(b)1. or 2. must include a statement in the notification required under 335-13-15-.07(3)(g) that the CCR surface impoundment is closing under the requirements of 335-13-15-.07(2)(b)1. or 2.

(4) The timeframe specified in paragraph (b)(1) of this section does not apply if the owner or operator complies

4. The timeframe specified in 335-13-15-.07(2)(b)1. does not apply if the owner or operator

with the alternative closure procedures specified in § 257.103.	complies with the alternative closure procedures specified in 335-13-15-.07(4).
(c) The owner or operator of a new CCR surface impoundment is subject to the requirements of paragraph (c)(1) of this section.	(c) The owner or operator of a new CCR surface impoundment is subject to the requirements of 335-13-15-.07(2)(c)1.
(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.	1. Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by 335-13-15-.04(5)(e) by the deadlines specified in 335-13-15-.04(5)(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 335-13-15-.04(5)(e)1.(i) through (v), the owner or operator of the CCR surface impoundment must cease placing CCR and non-CCR waste streams into such CCR unit and close the CCR unit in accordance with the requirements of 335-13-15-.07(3).
(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.	2. An owner or operator of an new CCR surface impoundment that closes in accordance with 335-13-15-.07(2)(c)1. must include a statement in the notification required under 335-13-15-.07(3)(g) that the CCR surface impoundment is closing under the requirements of 335-13-15-.07(2)(c)1.
(d) The owner or operator of an existing CCR landfill is subject to the requirements of paragraph (d)(1) of this section.	(d) The owner or operator of an existing CCR landfill is subject to the requirements of 335-13-15-.07(2)(d)1.
(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.	1. Except as provided by 335-13-15-.07(2)(d)3., within six months of determining that an existing CCR landfill has not demonstrated compliance with the location restriction for unstable areas specified in 335-13-15-.03(5)(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 335-13-15-.07(3).
(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)	2. An owner or operator of an existing CCR landfill that closes in accordance with 335-13-15-.07(2)(d)1. must include a statement in the notification

that the CCR landfill is closing under the requirements of paragraph (d)(1) of this section.	required under 335-13-15-.07(3)(g) that the CCR landfill is closing under the requirements of 335-13-15-.07(2)(d)1.	
(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.	3. The timeframe specified in 335-13-15-.07(2)(d)1. does not apply if the owner or operator complies with the alternative closure procedures specified in 335-13-15-.07(4).	
§ 257.102 Criteria for conducting the closure or retrofit of CCR units.	(3) 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.	(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 335-13-15-.07(3)(b) through (j). Retrofit of a CCR surface impoundment must be completed in accordance with the requirements in 335-13-15-.07(3)(l).	
(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.	(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 owner or operator must submit the closure plan as part of the permit application to the Department. The written closure plan must include, at a minimum, the information specified in 335-13-15-.07(3)(b)1.(i) through (vi).	Additional reporting requirement.
(i) A narrative description of how the CCR unit will be closed in accordance with 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.	(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 335-13-15-.07(3)(c).	
(iii) If closure of the CCR unit will be accomplished by leaving CCR in place,	(iii) If closure of the CCR unit will be accomplished by leaving	

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.

CCR in place, a description of the final cover system, designed in accordance with 335-13-15-.07(3)(d), 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 335-13-15-.07(3)(d).

(iv) An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.

(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.

(v) An estimate of the largest area of the CCR unit ever requiring a final cover as required by 335-13-15-.07(3)(d) 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.

(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 335-13-15-.07(3)(f)1., the written closure plan must include the site-specific information, factors and considerations that would support any time extension sought under 335-13-15-.07(3)(f)2.

(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

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

(b)(1) of this section.	plan consistent with the requirements specified in 335-13-15-.07(3)(b)1.
(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.	(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 335-13-15-.07(3)(b)1.
(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).	(iii) The owner or operator has completed the written closure plan when the plan, including the certification required by 335-13-15-.07(3)(b)4., has been placed in the facility's operating record as required by 335-13-15-.08(1)(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.	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 335-13-15-.07(3)(b)1. at any time.
(ii) The owner or operator must amend the written closure plan whenever:	(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	(I) 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.	(II) 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.	(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	4. The owner or operator of the CCR unit must obtain a written certification from a qualified

that the initial and any amendment of the written closure plan meets the requirements of this section.	professional engineer that the initial and any amendment of the written closure plan meets the requirements of this section. The closure plan, as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.	Additional reporting and approval requirements.
(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.	(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 335-13-15-.06(6)(h)or (i) for constituents listed in Appendix IV.	Added "or (i)" for alt GWPS flexibility. As protective
(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:	(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, postclosure 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;	(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;	(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;	(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	(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	(v) Be completed in the shortest amount of time consistent with recognized and generally	

engineering practices.	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.	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 335-13-15-.07(3)(d)2.(i) and (ii) prior to installing the final cover system required under 335-13-15-.07(3)(d)3.	
(i) Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.	(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.	(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.	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 335-13-15-.07(3)(d)3.(i), or the requirements of the alternative final cover system specified in 335-13-15-.07(3)(d)3.(ii).	
(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.	(i) The final cover system must be designed and constructed to meet the criteria in 335-13-15-.07(3)(d)3.(i)(I) through (VII). The design of the final cover system must be included in the written closure plan required by 335-13-15-.07(3)(b).	
(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 x10¥5 cm/sec, whichever is less.	(I) 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 $1x10^{-5}$ 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.	(II) 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.	
	(III) The minimum final grade of the final cover system shall not be	Additional requirement to be consistent with Ch. 4.

	less than 5 percent.	As protective.
	(IV) The maximum final grade of the final cover system shall not exceed 25 percent, or as specified by the Department to minimize erosion.	Additional requirement to be consistent with Ch. 4. As protective.
	(V) Slopes longer than 25 feet shall require horizontal terraces, of sufficent width for equipment operation, for every 20 feet rise in elevation or utilize other erosion control measures approved by the Department.	Additional requirement to be consistent with Ch. 4. As protective.
(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.	(VI) 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.	Renumbered
(D) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.	(VII) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.	Renumbered
(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.	(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 335-13-15-.07(3)(d)3.(i)(I) through (IV). The design of the final cover system must be included in the written closure plan required by 335-13-15-.07(3)(b).	Corrected citation (ii to i).
(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.	(I) 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 335-13-15-.07(3)(d)3.(i)(I) and (II).	
(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.	(II) 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 335-13-15-.07(3)(d)3.(i)(VI).	
(C) The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.	(III) 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.	(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.	(e) Initiation of closure activities. Except as provided for in 335-13-15-.07(3)(e)4. and 335-13-15-.07(4), the owner or operator of a CCR unit must commence closure of the CCR unit no later than the applicable timeframes specified in either 335-13-15-.07(3)(e)1. or 2.	
(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:	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	(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.	(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.	2.(i) Except as provided by 335-13-15-.07(3)(e)2.(ii), 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	(ii) Notwithstanding 335-13-15-.07(3)(e)2.(i), the owner or operator of the CCR unit may request an additional two years to initiate closure of the idle unit provided the owner or operator provides written documentation to the Department 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 335-13-15-.07(3)(e)2.(ii)(I) and (II). The Department may approve two-year	Reworded – As protective. Additional reporting requirement. Additional approval requirement.

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.	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 submit each completed demonstration, if more than one time extension is sought, to the Department for approval and place in the facility's operating record as required by 335-13-15-.08(1)(i)5. prior to the end of any two-year period.	Additional reporting requirement.
(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	(I) 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.	(II) 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 335-13-15-.07(3)(e)2.(ii)(II)I. through IV. 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.	I. 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.	II. 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.	III. 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.	IV. 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:	(iii) In order to obtain additional time extension(s) to initiate closure of a CCR unit beyond the two years provided by 335-13-15-.07(3)(e)2.(i), the owner or operator of the CCR unit must include with the demonstration required by 335-13-15-.07(3)(e)2.(ii) 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.	"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."	Added quotations for clarity.
(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:	3. For purposes of this chapter, 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;	(i) Taken any steps necessary to implement the written closure plan required by 335-13-15-.07(3)(b);	
(ii) Submitted a completed application for any required state or		Removed language since we are promulgating a permitting

agency permit or permit modification; or		program.
(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.	(ii) 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.	Renumbered
(4) The timeframes specified in paragraphs (e)(1) and (2) of this section do not apply to any of the following owners or operators:	4. The timeframes specified in 335-13-15-.07(3)(e)1. and 2. 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);	(i) [Reserved]	Revised paragraph (b) in accordance with the 8/16 vacatur rule.
(ii) An owner or operator of an existing unlined CCR surface impoundment closing the CCR unit as required by § 257.101(a);	(ii) An owner or operator of an existing unlined CCR surface impoundment closing the CCR unit as required by 335-13-15-.07(2)(a);	
(iii) An owner or operator of an existing CCR surface impoundment closing the CCR unit as required by § 257.101(b);	(iii) An owner or operator of an existing CCR surface impoundment closing the CCR unit as required by 335-13-15-.07(2)(b); or	
(iv) An owner or operator of a new CCR surface impoundment closing the CCR unit as required by § 257.101(c); or	(iv) An owner or operator of a new CCR surface impoundment closing the CCR unit as required by 335-13-15-.07(2)(c); or	
(v) An owner or operator of an existing CCR landfill closing the CCR unit as required by § 257.101(d).	(v) An owner or operator of an existing CCR landfill closing the CCR unit as required by 335-13-15-.07(2)(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:	(f) Completion of closure activities. 1. Except as provided for in 335-13-15-.07(3)(f)2., 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.	(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.	(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	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:	specified under 335-13-15-.07(3)(f)1. may be extended if the owner or operator can demonstrate to the Department 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 335-13-15-.07(3)(b)1., 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 submit each completed demonstration, if more than one time extension is sought, to the Department for approval and place in the facility's operating record as required by 335-13-15-.08(1)(i)6. prior to the end of any two-year period. Factors that may support such a demonstration include:	Additional approval requirement. Additional reporting and approval requirement.
(A) Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;	(I) 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;	(II) 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; or	
(C) The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or	(III) The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit.	
(D) Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.		Removed since not necessary once state permitting program in place. As protective.
(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.	(ii) Maximum time extensions. (I) 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	(II) CCR surface impoundments larger than 40 acres may extend the timeframe to complete closure of the CCR unit multiple times, in two-year	

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.	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) 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.	(iii) In order to obtain additional time extension(s) to complete closure of a CCR unit beyond the times provided by 335-13-15-.07(3)(f)1., the owner or operator of the CCR unit must include with the demonstration required by 335-13-15-.07(3)(f)2.(i) 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."	Added quotations for clarity.
(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.	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 335-13-15-.07(3)(b) 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	(g) No later than the date the owner or operator initiates closure of a CCR unit, the owner or	

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).	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 335-13-15-.07(3)(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 335-13-15-.08(1)(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).	(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 335-13-15-.07(3)(f)3. The owner or operator has completed the notification when it has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(i)8.	Additional reporting requirement.
(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.	(i) Deed notations. 1. Except as provided by 335-13-15-.07(3)(i)4., 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:	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	(i) The land has been used as a CCR unit; and	
(ii) Its use is restricted under the postclosure care requirements as provided by § 257.104(d)(1)(iii).	(ii) Its use is restricted under the post-closure care requirements as provided by 335-13-15-.07(5)(d)1.(iii).	
	(iii) The locations and dimensions of the CCR unit with respect to permanently surveyed benchmarks and section corners shall be on a plat prepared and sealed by a land surveyor.	Additional requirement to be consistent with Ch. 4. As protective
	(iv) Contain a note, prominently displayed, which states the name of the permittee or operating agency,	Additional requirement to be consistent with Ch. 4. As protective

	the type of CCR unit and the beginning and closure dates of the disposal activity.	
	(v) Certification by an engineer that all closure requirements have been completed as determined necessary by the Department.	Additional requirement to be consistent with Ch. 4. As protective
(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).	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 335-13-15-.08(1)(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.	4. An owner or operator that closes a CCR unit in accordance with 335-13-15-.07(3)(c) is not subject to the requirements of 335-13-15-.07(3)(i)1. through 3.	
	(j) Following closure, the owner or operator of a CCR unit must provide an environmental covenant to the Department in compliance with 335-13-5. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by 335-13-15-.08(1)(i)10.	Additional requirement to be consistent with Ch. 4. As protective
(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) The owner or operator of the CCR unit must comply with the closure recordkeeping requirements specified in 335-13-15-.08(1)(i), the closure notification requirements specified in 335-13-15-.08(2)(i), and the closure internet requirements specified in 335-13-15-.08(3)(i).	Renumbered
(k) *Criteria to retrofit an existing CCR surface impoundment.* (1) To retrofit an existing CCR surface impoundment, the owner or operator must:	(l) Criteria to retrofit an existing CCR surface impoundment. 1. To retrofit an existing CCR surface impoundment, the owner or operator must:	Renumbered
(i) First remove all CCR, including any contaminated soils and sediments from the CCR unit; and	(i) First remove all CCR, including any contaminated soils and sediments from the CCR unit; and	
(ii) Comply with the requirements in § 257.72.	(ii) Comply with the requirements in 335-13-15-.04(3).	
(iii) A CCR surface impoundment	(iii) A CCR surface	

undergoing a retrofit remains subject to all other requirements of this subpart, including the requirement to conduct any necessary corrective action.	impoundment undergoing a retrofit remains subject to all other requirements of this chapter, 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:	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.	(I) 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.	(II) 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.	(III) 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.	(IV) 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.	(V) 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:	(ii) Timeframes for preparing the initial written retrofit plan. (I) No later than 60 days prior to the date of initiating retrofit activities, the owner or operator must prepare an initial written retrofit plan consistent with the requirements specified in 335-13-15-.07(3)(l)2. For purposes of this chapter, 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:	Added "the" for clarity.
(*1*) Taken any steps necessary to implement the written retrofit plan;	I. Taken any steps necessary to implement the written retrofit	

	plan; or	
(2) Submitted a completed application for any required state or agency permit or permit modification; or		Removed language since we are promulgating a permitting program.
(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.	II. 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.	Renumbered
(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).	(II) The owner or operator has completed the written retrofit plan when the plan, including the certification required by 335-13-15-.07(3)(l)2.(iv), has been placed in the facility's operating record as required by 335-13-15-.08(1)(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.	(iii) Amendment of a written retrofit plan. (I) 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:	(II) 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	I. 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.	II. 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.	(III) 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	(iv) The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the	

retrofit plan, including any amendment of the plan, meet the requirements of this section.	activities outlined in the written retrofit plan, including any amendment of the plan, meet the requirements of this section. The retrofit plan as well as the certification from a qualified professional engineer, must be submitted to the Department for approval.	Additional reporting and approval requirements.
(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.	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 335-13-15-.07(3)(f) or, where applicable, 335-13-15-.07(4).	
(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.	4. Upon completion, the owner or operator must obtain and submit to the Department a certification from a qualified professional engineer verifying that the retrofit activities have been completed in accordance with the retrofit plan specified in 335-13-15-.07(3)(l)2. and the requirements of this section.	Additional reporting requirement.
(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).	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 335-13-15-.08(1)(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).	6. Within 30 days of completing the retrofit activities specified in 335-13-15-.07(3)(l)1., 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 335-13-15-.07(3)(l)4. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by 335-13-15-.08(1)(j)6.	
(7) At any time after the initiation of a CCR unit retrofit, the owner or operator may cease the retrofit and	7. At any time after the initiation of a CCR unit retrofit, the owner or operator may cease the	

initiate closure of the CCR unit in accordance with the requirements of § 257.102.	retrofit and initiate closure of the CCR unit in accordance with the requirements of 335-13-15-.07(3).	
(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).	8. The owner or operator of the CCR unit must comply with the retrofit recordkeeping requirements specified in 335-13-15-.08(1)(j), the retrofit notification requirements specified in 335-13-15-.08(2)(j), and the retrofit internet requirements specified in 335-13-15-.08(3)(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.	(4) 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 335-13-15-.07(2)(a), (b)1., or (d) may continue to receive CCR in the unit provided the owner or operator meets the requirements of 335-13-15-.07(4)(a), (b), or (c), as applicable.	Added reference to (c) to include non-CCR waste water.
(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:	(a)1. No alternative CCR disposal capacity. Notwithstanding the provisions of 335-13-15-.07(2)(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 both on-site and off-site of the facility. To qualify under this paragraph 335-13-15-.07(4)(a)1., the owner or operator of the CCR unit must submit plan to the Department for approval which demonstrates that all of the following conditions have been met:	Additional reporting and approval requirements.
(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;	(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;	(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	(iii) The owner or operator must remain in compliance with all other requirements of this chapter, 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.	(iv) The owner or operator must prepare and submit to the Department an annual progress report documenting the continued lack of alternative capacity and the progress towards the development of alternative CCR disposal capacity.	Additional reporting requirement.
(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).	2. Once alternative capacity is available, the CCR unit must cease receiving CCR and initiate closure following the timeframes in 335-13-15-.07(3)(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).	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 335-13-15-.07(3)(e) and (f).	
(b)(1) *Permanent cessation of a coalfired 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 coalfired 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 onsite 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:	(b)1. Permanent cessation of a coal-fired boiler(s) by a certain date. Notwithstanding the provisions of 335-13-15-.07(2)(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 335-13-15-.07(4)(b)2. through 4., 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, the owner or operator of the CCR unit must submit a plan to the Department for approval which demonstrates that all of the following conditions have been met:	Changed wording. As protective. Additional reporting and approval requirement.
(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.	(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	(ii) The owner or operator must remain in compliance with all other requirements of this chapter, 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.	(iii) The owner or operator must prepare and submit to the Department an annual progress report documenting the continued lack of alternative capacity and the progress towards the closure of the coal-fired boiler.	Additional reporting requirement.
(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.	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 coalfired boiler must cease operation, and the CCR surface impoundment must complete closure no later than October 17, 2028.	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.	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) 1. No alternative non CCR wastewater management capacity. Notwithstanding the provisions of 335-13-15-.07(2)(a) or (b)1., an existing CCR surface impoundment may continue to receive non CCR wastewater if the owner or operator of the CCR surface impoundment certifies that the non CCR wastewater must continue to be managed in that CCR surface impoundment due to the absence of alternative non CCR wastewater management capacity both on-site and off-site of the facility. To qualify under this paragraph, the owner or operator of the CCR surface impoundment must submit a plan to the Department for approval which demonstrates that all of the following conditions have been met:	Added alternative closure requirements to allow flexibility for management of non-CCR waste water which mirrors language for CCR. Clarified requirement to only include CCR surface impoundments.
	(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	Added alternative closure requirements to allow flexibility for management of non-CCR waste water which mirrors

	support qualification under this section;	language for CCR.
	(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;	Added alternative closure requirements to allow flexibility for management of non-CCR waste water which mirrors language for CCR.
	(iii) The owner or operator must remain in compliance with all other requirements of this chapter, including the requirement to conduct any necessary corrective action; and	Added alternative closure requirements to allow flexibility for management of non-CCR waste water which mirrors language for CCR.
	(iv) The owner or operator must prepare and submit to the Department an annual progress report documenting the continued lack of alternative capacity and the progress towards the development of alternative non CCR wastewater management capacity.	Added alternative closure requirements to allow flexibility for management of non-CCR waste water which mirrors language for CCR.
	2. Once alternative capacity is available, the CCR surface impoundment must cease receiving non CCR wastewater and initiate closure following the timeframes in 335-13-15-.07(3)(e) and (f).	Added alternative closure requirements to allow flexibility for management of non-CCR waste water which mirrors language for CCR. (CCR surface impoundment only)
	3. If no alternative capacity is identified within five years after the initial certification, the CCR surface impoundment must cease receiving non CCR wastewater and close in accordance with the timeframes in 335-13-15-.07(3)(e) and (f).	Added alternative closure requirements to allow flexibility for management of non-CCR waste water which mirrors language for CCR. (CCR surface impoundment only)
	The provisions of 335-13-15-.07(4)(c) will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].	Language added to be effective upon specific approval by EPA through the state program approval process.
(c)(e) 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.	(d) Required notices and progress reports. An owner or operator of a CCR unit that closes in accordance with 335-13-15-.07(4)(a), (b), or (c) must complete the notices and progress reports specified in 335-13-15-.07(4)(d)1. through 3.	Renumbered Corrected citation Corrected citation
(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	1. Within six months of becoming subject to closure pursuant to 335-13-15-.07(2)(a), (b)1., or (d), the owner or operator	

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.	must prepare and submit to the Department for approval and place in the facility's operating record a request to comply with the alternative closure requirements of this section. The request must describe why the CCR unit qualifies for the alternative closure provisions under either 335-13-15-.07(4)(a), (b) or (c), in addition to providing the documentation and certifications required by 335-13-15-.07(4)(a), (b) or (c).	Additional reporting and approval requirement. Changed wording. As protective. Changed wording. As protective. Corrected citation Corrected citation
(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:	2. The owner or operator must prepare the periodic progress reports required by 335-13-15-.07(4)(a)1.(iv), (b)1.(iii) or (c)1.(iv), 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:	Corrected citation
(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.	(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 335-13-15-.07(4)(d)1.	Corrected citation
(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.	(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).	(iii) The owner or operator has completed the progress reports specified in 335-13-15-.07(4)(d)2. when the reports are submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(i)12.	Corrected citation Additional reporting requirement. Corrected rule citation.
(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).	3. An owner or operator of a CCR unit must also prepare the notification of intent to close a CCR unit as required by 335-13-15-.07(3)(g).	
(d)(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).	(e) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(i), the notification requirements specified in 335-13-15-.08(2)(i), and the internet requirements specified in	Renumbered

	335-13-15-.08(3)(i).	
§ 257.104 Post-closure care requirements.	(5) 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.	(a) Applicability. 1. Except as provided by either 335-13-15-.07(5)(a)2. or 3., this section applies to owners or operators of CCR landfills, CCR surface impoundments, and all lateral expansions of CCR units that are subject to the closure criteria under 335-13-15-.07(3).	Removed "the" for clarity.
(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 postclosure care criteria under this section.	2. An owner or operator of a CCR unit that elects to close a CCR unit by removing CCR as provided by 335-13-15-.07(3)(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.		Removed paragraph in accordance with the 8/16 vacatur rule.
(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:	(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;	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	2. If the CCR unit is subject to the design criteria under 335-13-15-.04(1), 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 335-13-15-.04(1); and	
(3) Maintaining the groundwater	3. Maintaining the	

monitoring system and monitoring the groundwater in accordance with the requirements of §§ 257.90 through 257.98.	groundwater monitoring system and monitoring the groundwater in accordance with the requirements of 335-13-15-.06(1) through 335-13-15-.06(9).	
(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.	(c) Post-closure care period. 1. Except as provided by 335-13-15-.07(5)(c)2., 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.	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 335-13-15-.06(6), the owner or operator must continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with 335-13-15-.06(6)(e).	Corrected citation. (6)(e) deals with returning to detection monitoring.
	(3) The length of the post-closure care period may be;	Additional requirement to be consistent with Ch .4. As protective.
	(i) Decreased by the Department if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the Department; or	Additional requirement to be consistent with Ch .4. As protective
	(ii) Increased by the Department if the Department determines that lengthening the post-closure care period is necessary to protect human health and the environment.	Additional requirement to be consistent with Ch .4. As protective
	The provisions of 335-13-15-.07(5)(c)3. will become operative on [DATE (Forty-five days after approval by the U.S. Environmental Protection Agency)].	Language added to be effective upon specific approval by EPA through the state program approval process.
(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.	(d) Written post-closure plan. 1. Content of the plan. The owner or operator of a CCR unit must prepare and submit to the Department as part of the permit application a written post-closure plan that includes, at a minimum, the information specified in 335-13-15-.07(5)(d)1.(i) through (iii).	Additional reporting requirement.
(i) A description of the monitoring and maintenance activities required in	(i) A description of the monitoring and maintenance	

paragraph (b) of this section for the CCR unit, and the frequency at which these activities will be performed;	activities required in 335-13-15-.07(5)(b) 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	(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.	(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 chapter. Any other disturbance may be approved by the Department 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, submitted to the Department for approval, 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.	Reworded for additional approval requirement. Additional approval requirement.
(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.	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 335-13-15-.07(5)(d)1.	
(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 postclosure	(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-	

plan consistent with the requirements specified in paragraph (d)(1) of this section.	closure plan consistent with the requirements specified in 335-13-15-.07(5)(d)1.	
(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).	(iii) The owner or operator has completed the written post-closure plan when the plan, including the certification required by 335-13-15-.07(5)(d)4., has been placed in the facility's operating record as required by 335-13-15-.08(1)(i)13.	Corrected rule citation
(3) *Amendment of a written postclosure 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.	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 335-13-15-.07(5)(d)1. at any time.	
(ii) The owner or operator must amend the written closure plan whenever:	(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	(I) 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.	(II) 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.	(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.	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. The post-closure plan, as well as the certification from a qualified professional engineer must be	Additional reporting requirement.

	submitted to the Department for approval.	
(e) *Notification of completion of postclosure 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).	(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 335-13-15-.07(5)(d) and the requirements of this section. The owner or operator has completed the notification when it has been submitted to the Department and placed in the facility's operating record as required by 335-13-15-.08(1)(i)14.	Additional reporting requirement. Corrected rule citation.
(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).	(f) The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in 335-13-15-.08(1)(i), the notification requirements specified in 335-13-15-.08(2)(i), and the internet requirements specified in 335-13-15-.08(3)(i).	
Recordkeeping, Notification, and Posting of Information to the Internet **§ 257.105 Recordkeeping requirements.**	**335-13-15-.08 <u>Recordkeeping, Notification, and Posting of Information to the Internet</u>.** (1) <u>Recordkeeping requirements</u>.	
(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.	(a) Each owner or operator of a CCR unit subject to the requirements of this chapter 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.	(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	(c) An owner or operator of more than one CCR unit subject to the provisions of this chapter may comply with the requirements of this section in one recordkeeping	

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.	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.	(d) The owner or operator of a CCR unit must submit to the Department any demonstration or documentation that is required by this chapter, or any other demonstration or documentation, if requested.	Deleted reference to State Director and Tribal authorities. As protective. Reworded to require all documents to be submitted to Department.
(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.	(e) Location restrictions. The owner or operator of a CCR unit subject to this chapter must place the demonstrations documenting whether or not the CCR unit is in compliance with the requirements under 335-13-15-.03(1)(a), 335-13-15-.03(2)(a), 335-13-15-.03(3)(a), 335-13-15-.03(4)(a), and 335-13-15-.03(5)(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:	(f) Design criteria. The owner or operator of a CCR unit subject to this chapter 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).	1. The design and construction certifications as required by 335-13-15-.04(1)(e) and (f).	
(2) The documentation of liner type as required by § 257.71(a).	2. The documentation of liner type as required by 335-13-15-.04(2)(a).	
(3) The design and construction certifications as required by § 257.72(c) and (d).	3. The design and construction certifications as required by 335-13-15-.04(3)(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).	4. Documentation prepared by the owner or operator stating that the permanent identification marker was installed as required by 335-13-15-.04(4)(a)1. and 335-13-15-.04(5)(a)1.	
(5) The initial and periodic hazard potential classification assessments as required by §§ 257.73(a)(2) and 257.74(a)(2).	5. The initial and periodic hazard potential classification assessments as required by 335-13-15-.04(4)(a)2. and 335-13-15-	

	.04(5)(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.	6. The emergency action plan (EAP), and any amendment of the EAP, as required by 335-13-15-.04(4)(a)3. and 335-13-15-.04(5)(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 335-13-15-.08(1)(b).
(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).	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 335-13-15-.04(4)(a)3.(i)(V) and 335-13-15-.04(5)(a)3.(i)(V).
(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).	8. Documentation prepared by the owner or operator recording all activations of the Emergency Action Plan (EAP) as required by 335-13-15-.04(4)(a)3.(v) and 335-13-15-.04(5)(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.	9. The history of construction, and any revisions of it, as required by 335-13-15-.04(4)(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with 335-13-15-.07(3).
(10) The initial and periodic structural stability assessments as required by §§ 257.73(d) and 257.74(d).	10. The initial and periodic structural stability assessments as required by 335-13-15-.04(4)(d) and 335-13-15-.04(5)(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).	11. Documentation detailing the corrective measures taken to remedy the deficiency or release as required by 335-13-15-.04(4)(d)2. and 335-13-15-.04(5)(d)2.
(12) The initial and periodic safety factor assessments as required by §§ 257.73(e) and 257.74(e).	12. The initial and periodic safety factor assessments as required by 335-13-15-.04(4)(e) and 335-13-15-.04(5)(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.	13. The design and construction plans, and any revisions of it, as required by 335-13-15-.04(5)(c), except that these files must be maintained until the CCR unit completes closure of the unit in accordance with 335-13-15-.07(3).

(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:	(g) Operating criteria. The owner or operator of a CCR unit subject to this chapter 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.	1. The CCR fugitive dust control plan, and any subsequent amendment of the plan, required by 335-13-15-.05(1)(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 335-13-15-.08(1)(b).	
(2) The annual CCR fugitive dust control report required by § 257.80(c).	2. The annual CCR fugitive dust control report required by 335-13-15-.05(1)(c).	
(3) The initial and periodic run-on and run-off control system plans as required by § 257.81(c).	3. The initial and periodic run-on and run-off control system plans as required by 335-13-15-.05(2)(c).	
(4) The initial and periodic inflow design flood control system plan as required by § 257.82(c).	4. The initial and periodic inflow design flood control system plan as required by 335-13-15-.05(3)(c).	
(5) Documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by § 257.83(a).	5. Documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by 335-13-15-.05(4)(a).	
(6) The periodic inspection report as required by § 257.83(b)(2).	6. The periodic inspection report as required by 335-13-15-.05(4)(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).	7. Documentation detailing the corrective measures taken to remedy the deficiency or release as required by 335-13-15-.05(4)(b)5. and 335-13-15-.05(5)(b)5.	
(8) Documentation recording the results of the weekly inspection by a qualified person as required by § 257.84(a).	8. Documentation recording the results of the weekly inspection by a qualified person as required by 335-13-15-.05(5)(a)1.(ii).	Corrected rule citation.
(9) The periodic inspection report as required by § 257.84(b)(2).	9. The periodic inspection report as required by 335-13-15-.05(5)(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	(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter must place the following information, as it becomes	

operating record:	available, in the facility's operating record:	
(1) The annual groundwater monitoring and corrective action report as required by § 257.90(e).	1. The annual groundwater monitoring and corrective action report as required by 335-13-15-.06(1)(f).	Corrected rule citation
(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).	2. Documentation of the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices as required by 335-13-15-.06(2)(e)4.	Corrected rule citation
(3) The groundwater monitoring system certification as required by § 257.91(f).	3. The groundwater monitoring system certification as required by 335-13-15-.06(2)(f).	
(4) The selection of a statistical method certification as required by § 257.93(f)(6).	4. The selection of a statistical method certification as required by 335-13-15-.06(4)(f)6.	
(5) Within 30 days of establishing an assessment monitoring program, the notification as required by § 257.94(e)(3).	5. Within 30 days of establishing an assessment monitoring program, the notification as required by 335-13-15-.06(5)(e)3.	
(6) The results of appendices III and IV to this part constituent concentrations as required by § 257.95(d)(1).	6. The results of Appendices III and IV constituent concentrations as required by 335-13-15-.06(6)(d)2.	Corrected rule citation.
(7) Within 30 days of returning to a detection monitoring program, the notification as required by § 257.95(e).	7. Within 30 days of returning to a detection monitoring program, the notification as required by 335-13-15-.06(6)(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).	8. Within 30 days of detecting one or more constituents in Appendix IV at statistically significant levels above the groundwater protection standard, the notifications as required by 335-13-15-.06(6)(g).	
(9) Within 30 days of initiating the assessment of corrective measures requirements, the notification as required by § 257.95(g)(5).	9. Within 30 days of initiating the assessment of corrective measures requirements, the notification as required by 335-13-15-.06(6)(g)6.	Corrected rule citation.
(10) The completed assessment of corrective measures as required by § 257.96(d).	10. The completed assessment of corrective measures as required by 335-13-15-.06(7)(d).	
(11) Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by § 257.96(e).	11. Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by 335-13-15-.06(7)(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.	12. The semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report as required by 335-13-15-.06(8)(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).	13. Within 30 days of completing the remedy, the notification as required by 335-13-15-.06(9)(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:	(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this chapter 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).	1. The notification of intent to initiate closure of the CCR unit as required by 335-13-15-.07(1)(e)1(i).	Corrected rule citation.
(2) The annual progress reports of closure implementation as required by § 257.100(c)(2)(i) and (ii).	2. [Reserved]	Removed paragraph in accordance with the 8/16 vacatur rule.
(3) The notification of closure completion as required by § 257.100(c)(3).	3. [Reserved]	Removed paragraph in accordance with the 8/16 vacatur rule.
(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.	4. The written closure plan, and any amendment of the plan, as required by 335-13-15-.07(3)(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 335-13-15-.08(1)(b).	
(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).	5. The written demonstration(s), including the certification required by 335-13-15-.07(3)(e)2.(iii), for a time extension for initiating closure as required by 335-13-15-.07(3)(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).	6. The written demonstration(s), including the certification required by 335-13-15-.07(3)(f)2.(iii), for a time extension for completing closure as required by 335-13-15-.07(3)(f)2.(i).	
(7) The notification of intent to close a CCR unit as required by § 257.102(g).	7. The notification of intent to close a CCR unit as required by 335-13-15-.07(3)(g).	
(8) The notification of completion of	8. The notification of	

closure of a CCR unit as required by § 257.102(h).	completion of closure of a CCR unit as required by 335-13-15-.07(3)(h).	
(9) The notification recording a notation on the deed as required by § 257.102(i).	9. The notification recording a notation on the deed as required by 335-13-15-.07(3)(i).	
	10. The notification recording an environmental covenant as required by 335-13-15-.07(3)(j).	Additional requirement to be consistent with Division 5. As protective
(10) The notification of intent to comply with the alternative closure requirements as required by § 257.103(c)(1).	11. The notification of intent to comply with the alternative closure requirements as required by 335-13-15-.07(4)(c)1.	Renumbered
(11) The annual progress reports under the alternative closure requirements as required by § 257.103(c)(2).	12. The annual progress reports under the alternative closure requirements as required by 335-13-15-.07(4)(c)2.	Renumbered
(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 written post-closure plan, and any amendment of the plan, as required by 335-13-15-.07(5)(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 335-13-15-.08(1)(b).	Renumbered
(13) The notification of completion of post-closure care period as required by § 257.104(e).	14. The notification of completion of post-closure care period as required by 335-13-15-.07(5)(e).	Renumbered
(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:	(j) Retrofit criteria. The owner or operator of a CCR unit subject to this chapter 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.	1. The written retrofit plan, and any amendment of the plan, as required by 335-13-15-.07(3)(l)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 335-13-15-.08(1)(b).	
(2) The notification of intent that the retrofit activities will proceed in accordance with the alternative procedures in § 257.103.	2. The notification of intent that the retrofit activities will proceed in accordance with the alternative procedures in 335-13-15-.07(4).	
(3) The annual progress reports required under the alternative requirements as required by § 257.103.	3. The annual progress reports required under the alternative requirements as required by 335-13-15-.07(4).	

(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).	4. The written demonstration(s), including the certification in 335-13-15-.07(3)(f)2.(iii), for a time extension for completing retrofit activities as required by 335-13-15-.07(3)(l)3.	
(5) The notification of intent to initiate retrofit of a CCR unit as required by § 257.102(k)(5).	5. The notification of intent to initiate retrofit of a CCR unit as required by 335-13-15-.07(3)(l)5.	
(6) The notification of completion of retrofit activities as required by § 257.102(k)(6).	6. The notification of completion of retrofit activities as required by 335-13-15-.07(3)(l)6.	
§ 257.106 Notification requirements.	(2) 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.	(a) The notifications required under 335-13-15-.08(2)(e) through (i) must be sent to the Director 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 state holiday, the notification deadline is automatically extended to the next business day.	Deleted reference to State and Tribal authorities. As protective. Corrective reference to reflect State program.
(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.	(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 Director and Tribal authority.	Deleted reference to State. As protective.
(c) Notifications may be combined as long as the deadline requirement for each notification is met.	(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.	(d) Unless otherwise required in this section, the notifications specified in this section must be sent to the Director within 30 days of placing in the operating record the information required by 335-13-15-.08(1).	Deleted reference to State and Tribal authorities. As protective.
(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	(e) Location restrictions. The owner or operator of a CCR unit subject to the requirements of this chapter must notify the Director that each demonstration specified under	Deleted reference to State and Tribal authorities. As protective.

specified under § 257.105(e) has been placed in the operating record and on the owner or operator's publicly accessible internet site.	335-13-15-.08(1)(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:	(f) Design criteria. The owner or operator of a CCR unit subject to this chapter must notify the Director 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:	Deleted reference to State and Tribal authorities. As protective.
(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.	1. Within 60 days of commencing construction of a new CCR unit, provide notification of the availability of the design certification specified under 335-13-15-.08(1)(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 Director a copy of the alternative composite liner design.	Deleted reference to State and Tribal authorities. As protective.
(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).	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 335-13-15-.08(1)(f)1. or 3.	
(3) Provide notification of the availability of the documentation of liner type specified under § 257.105(f)(2).	3. Provide notification of the availability of the documentation of liner type specified under 335-13-15-.08(1)(f)2.	
(4) Provide notification of the availability of the initial and periodic hazard potential classification assessments specified under § 257.105(f)(5).	4. Provide notification of the availability of the initial and periodic hazard potential classification assessments specified under 335-13-15-.08(1)(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).	5. Provide notification of the availability of Emergency Action Plan (EAP), and any revisions of the EAP, specified under 335-13-15-.08(1)(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).	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 335-13-15-.08(1)(f)7.	
(7) Provide notification of	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).	documentation prepared by the owner or operator recording all activations of the Emergency Action Plan (EAP) specified under 335-13-15-.08(1)(f)8.	
(8) Provide notification of the availability of the history of construction, and any revision of it, specified under § 257.105(f)(9).	8. Provide notification of the availability of the history of construction, and any revision of it, specified under 335-13-15-.08(1)(f)9.	
(9) Provide notification of the availability of the initial and periodic structural stability assessments specified under § 257.105(f)(10).	9. Provide notification of the availability of the initial and periodic structural stability assessments specified under 335-13-15-.08(1)(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).	10. Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(f)11.	
(11) Provide notification of the availability of the initial and periodic safety factor assessments specified under § 257.105(f)(12).	11. Provide notification of the availability of the initial and periodic safety factor assessments specified under 335-13-15-.08(1)(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).	12. Provide notification of the availability of the design and construction plans, and any revision of them, specified under 335-13-15-.08(1)(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:	(g) Operating criteria. The owner or operator of a CCR unit subject to this chapter must notify the Director when information has been placed in the operating record. The owner or operator must:	Deleted reference to State and Tribal authorities. As protective.
(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).	1. Provide notification of the availability of the CCR fugitive dust control plan, or any subsequent amendment of the plan, specified under 335-13-15-.08(1)(g)1.	
(2) Provide notification of the availability of the annual CCR fugitive dust control report specified under § 257.105(g)(2).	2. Provide notification of the availability of the annual CCR fugitive dust control report specified under 335-13-15-.08(1)(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).	3. Provide notification of the availability of the initial and periodic run-on and run-off control system plans specified under 335-13-15-.08(1)(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).	4. Provide notification of the availability of the initial and periodic inflow design flood control system plans specified under 335-13-15-.08(1)(g)4.	
(5) Provide notification of the availability of the periodic inspection reports specified under § 257.105(g)(6).	5. Provide notification of the availability of the periodic inspection reports specified under 335-13-15-.08(1)(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).	6. Provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(g)7.	
(7) Provide notification of the availability of the periodic inspection reports specified under § 257.105(g)(9).	7. Provide notification of the availability of the periodic inspection reports specified under 335-13-15-.08(1)(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:	(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter must notify the Director when information has been placed in the operating record. The owner or operator must:	Deleted reference to State and Tribal authorities. As protective.
(1) Provide notification of the availability of the annual groundwater monitoring and corrective action report specified under § 257.105(h)(1).	1. Provide notification of the availability of the annual groundwater monitoring and corrective action report specified under 335-13-15-.08(1)(h)1.	
(2) Provide notification of the availability of the groundwater monitoring system certification specified under § 257.105(h)(3).	2. Provide notification of the availability of the groundwater monitoring system certification specified under 335-13-15-.08(1)(h)3.	
(3) Provide notification of the availability of the selection of a statistical method certification specified under § 257.105(h)(4).	3. Provide notification of the availability of the selection of a statistical method certification specified under 335-13-15-.08(1)(h)4.	
(4) Provide notification that an assessment monitoring programs has been established specified under § 257.105(h)(5).	4. Provide notification that an assessment monitoring programs has been established specified under 335-13-15-.08(1)(h)5.	
(5) Provide notification that the CCR unit is returning to a detection monitoring program specified under § 257.105(h)(7).	5. Provide notification that the CCR unit is returning to a detection monitoring program specified under 335-13-15-.08(1)(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).	6. Provide notification that one or more constituents in Appendix IV have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under 335-13-15-.08(1)(h)8.	
(7) Provide notification that an assessment of corrective measures has been initiated specified under § 257.105(h)(9).	7. Provide notification that an assessment of corrective measures has been initiated specified under 335-13-15-.08(1)(h)9.	
(8) Provide notification of the availability of assessment of corrective measures specified under § 257.105(h)(10).	8. Provide notification of the availability of assessment of corrective measures specified under 335-13-15-.08(1)(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).	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 335-13-15-.08(1)(h)12.	
(10) Provide notification of the completion of the remedy specified under § 257.105(h)(13).	10. Provide notification of the completion of the remedy specified under 335-13-15-.08(1)(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:	(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this chapter must notify the Director when information has been placed in the operating record. The owner or operator must:	Deleted reference to State and Tribal authorities. As protective.
(1) Provide notification of the intent to initiate closure of the CCR unit specified under § 257.105(i)(1).	1. Provide notification of the intent to initiate closure of the CCR unit specified under 335-13-15-.08(1)(i)1.	
(2) Provide notification of the availability of the annual progress reports of closure implementation specified under § 257.105(i)(2).	2. [Reserved]	Removed paragraph in accordance with the 8/16 vacatur rule.
(3) Provide notification of closure completion specified under § 257.105(i)(3).	3. [Reserved]	Removed paragraph in accordance with the 8/16 vacatur rule.
(4) Provide notification of the availability of the written closure plan, and any amendment of the plan, specified under § 257.105(i)(4).	4. Provide notification of the availability of the written closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)4.	
(5) Provide notification of the	5. Provide notification of the	

availability of the demonstration(s) for a time extension for initiating closure specified under § 257.105(i)(5).	availability of the demonstration(s) for a time extension for initiating closure specified under 335-13-15-.08(1)(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).	6. Provide notification of the availability of the demonstration(s) for a time extension for completing closure specified under 335-13-15-.08(1)(i)6.	
(7) Provide notification of intent to close a CCR unit specified under § 257.105(i)(7).	7. Provide notification of intent to close a CCR unit specified under 335-13-15-.08(1)(i)7.	
(8) Provide notification of completion of closure of a CCR unit specified under § 257.105(i)(8).	8. Provide notification of completion of closure of a CCR unit specified under 335-13-15-.08(1)(i)8.	
(9) Provide notification of the deed notation as required by § 257.105(i)(9).	9. Provide notification of the deed notation as required by 335-13-15-.08(1)(i)9.	
	10. Provide notification of the environmental covenant as required by 335-13-15-.08(1)(i)10.	Additional requirement to be consistent with Division 5. As protective.
(10) Provide notification of intent to comply with the alternative closure requirements specified under § 257.105(i)(10).	11. Provide notification of intent to comply with the alternative closure requirements specified under 335-13-15-.08(1)(i)11.	Renumbered
(11) The annual progress reports under the alternative closure requirements as required by § 257.105(i)(11).	12. The annual progress reports under the alternative closure requirements as required by 335-13-15-.08(1)(i)12.	Renumbered
(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 the availability of the written post-closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)13.	Renumbered
(13) Provide notification of completion of post-closure care specified under § 257.105(i)(13).	14. Provide notification of completion of post-closure care specified under 335-13-15-.08(1)(i)14.	Renumbered
(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:	(j) Retrofit criteria. The owner or operator of a CCR unit subject to this chapter must notify the Director when information has been placed in the operating record. The owner or operator must:	Deleted reference to State and Tribal authorities. As protective
(1) Provide notification of the availability of the written retrofit plan, and any amendment of the plan,	1. Provide notification of the availability of the written retrofit plan, and any amendment of the	

specified under § 257.105(j)(1).	plan, specified under 335-13-15-.08(1)(j)1.
(2) Provide notification of intent to comply with the alternative retrofit requirements specified under § 257.105(j)(2).	2. Provide notification of intent to comply with the alternative retrofit requirements specified under 335-13-15-.08(1)(j)2.
(3) The annual progress reports under the alternative retrofit requirements as required by § 257.105(j)(3).	3. The annual progress reports under the alternative retrofit requirements as required by 335-13-15-.08(1)(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).	4. Provide notification of the availability of the demonstration(s) for a time extension for completing retrofit activities specified under 335-13-15-.08(1)(j)4.
(5) Provide notification of intent to initiate retrofit of a CCR unit specified under § 257.105(j)(5).	5. Provide notification of intent to initiate retrofit of a CCR unit specified under 335-13-15-.08(1)(j)5.
(6) Provide notification of completion of retrofit activities specified under § 257.105(j)(6).	6. Provide notification of completion of retrofit activities specified under 335-13-15-.08(1)(j)6.
§ 257.107 Publicly accessible Internet site requirements.	(3) 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."	(a) Each owner or operator of a CCR unit subject to the requirements of this chapter 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.	(b) An owner or operator of more than one CCR unit subject to the provisions of this chapter 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.	(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.	(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 335-13-15-.08(1) 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.	(e) Location restrictions. The owner or operator of a CCR unit subject to this chapter must place each demonstration specified under 335-13-15-.08(1)(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:	(f) Design criteria. The owner or operator of a CCR unit subject to this chapter 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).	1. Within 60 days of commencing construction of a new unit, the design certification specified under 335-13-15-.08(1)(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).	2. No later than the date of initial receipt of CCR by a new CCR unit, the construction certification specified under 335-13-15-.08(1)(f)1. or 3.
(3) The documentation of liner type specified under § 257.105(f)(2).	3. The documentation of liner type specified under 335-13-15-.08(1)(f)2.
(4) The initial and periodic hazard potential classification assessments specified under § 257.105(f)(5).	4. The initial and periodic hazard potential classification assessments specified under 335-13-15-.08(1)(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.	5. The Emergency Action Plan (EAP) specified under 335-13-15-.08(1)(f)6., except that only the most recent EAP must be maintained on the CCR web site irrespective of the time requirement specified in 335-13-15-.08(3)(c).
(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).	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 335-13-15-.08(1)(f)7.
(7) Documentation prepared by the owner or operator recording any	7. Documentation prepared by the owner or operator recording

activation of the emergency action plan specified under § 257.105(f)(8).	any activation of the Emergency Action Plan (EAP) specified under 335-13-15-.08(1)(f)8.
(8) The history of construction, and any revisions of it, specified under § 257.105(f)(9).	8. The history of construction, and any revisions of it, specified under 335-13-15-.08(1)(f)9.
(9) The initial and periodic structural stability assessments specified under § 257.105(f)(10).	9. The initial and periodic structural stability assessments specified under 335-13-15-.08(1)(f)10.
(10) The documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.105(f)(11).	10. The documentation detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(f)11.
(11) The initial and periodic safety factor assessments specified under § 257.105(f)(12).	11. The initial and periodic safety factor assessments specified under 335-13-15-.08(1)(f)12.
(12) The design and construction plans, and any revisions of them, specified under § 257.105(f)(13).	12. The design and construction plans, and any revisions of them, specified under 335-13-15-.08(1)(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:	(g) Operating criteria. The owner or operator of a CCR unit subject to this chapter 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.	1. The CCR fugitive dust control plan, or any subsequent amendment of the plan, specified under 335-13-15-.08(1)(g)1. except that only the most recent plan must be maintained on the CCR web site irrespective of the time requirement specified in 335-13-15-.08(3)(c).
(2) The annual CCR fugitive dust control report specified under § 257.105(g)(2).	2. The annual CCR fugitive dust control report specified under 335-13-15-.08(1)(g)2.
(3) The initial and periodic run-on and run-off control system plans specified under § 257.105(g)(3).	3. The initial and periodic run-on and run-off control system plans specified under 335-13-15-.08(1)(g)3.
(4) The initial and periodic inflow design flood control system plans specified under § 257.105(g)(4).	4. The initial and periodic inflow design flood control system plans specified under 335-13-15-.08(1)(g)4.
(5) The periodic inspection reports specified under § 257.105(g)(6).	5. The periodic inspection reports specified under 335-13-15-.08(1)(g)6.
(6) The documentation detailing the	6. The documentation

corrective measures taken to remedy the deficiency or release specified under § 257.105(g)(7).	detailing the corrective measures taken to remedy the deficiency or release specified under 335-13-15-.08(1)(g)7.	
(7) The periodic inspection reports specified under § 257.105(g)(9).	7. The periodic inspection reports specified under 335-13-15-.08(1)(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:	(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to this chapter 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).	1. The annual groundwater monitoring and corrective action report specified under 335-13-15-.08(1)(h)1.	
(2) The groundwater monitoring system certification specified under § 257.105(h)(3).	2. The groundwater monitoring system certification specified under 335-13-15-.08(1)(h)3.	
(3) The selection of a statistical method certification specified under § 257.105(h)(4).	3. The selection of a statistical method certification specified under 335-13-15-.08(1)(h)4.	
(4) The notification that an assessment monitoring programs has been established specified under § 257.105(h)(5).	4. The notification that an assessment monitoring programs has been established specified under 335-13-15-.08(1)(h)5.	
(5) The notification that the CCR unit is returning to a detection monitoring program specified under § 257.105(h)(7).	5. The notification that the CCR unit is returning to a detection monitoring program specified under 335-13-15-.08(1)(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).	6. The notification that one or more constituents in Appendix IV have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under 335-13-15-.08(1)(h)8.	Deleted "to this part" for consistency. As protective.
(7) The notification that an assessment of corrective measures has been initiated specified under § 257.105(h)(9).	7. The notification that an assessment of corrective measures has been initiated specified under 335-13-15-.08(1)(h)9.	
(8) The assessment of corrective measures specified under § 257.105(h)(10).	8. The assessment of corrective measures specified under 335-13-15-.08(1)(h)10.	
(9) The semiannual reports describing the progress in selecting and designing remedy and the selection of remedy	9. The semiannual reports describing the progress in selecting and designing the remedy and the	Added "the" for clarity.

report specified under § 257.105(h)(12), except that the selection of the remedy report must be maintained until the remedy has been completed.	selection of remedy report specified under 335-13-15-.08(1)(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).	10. The notification that the remedy has been completed specified under 335-13-15-.08(1)(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:	(i) Closure and post-closure care. The owner or operator of a CCR unit subject to this chapter 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).	1. The notification of intent to initiate closure of the CCR unit specified under 335-13-15-.08(1)(i)1.	
(2) The annual progress reports of closure implementation specified under § 257.105(i)(2).	2. [Reserved]	Removed paragraph in accordance with the 8/16 vacatur rule.
(3) The notification of closure completion specified under § 257.105(i)(3).	3. [Reserved]	Removed paragraph in accordance with the 8/16 vacatur rule.
(4) The written closure plan, and any amendment of the plan, specified under § 257.105(i)(4).	4. The written closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)4.	
(5) The demonstration(s) for a time extension for initiating closure specified under § 257.105(i)(5).	5. The demonstration(s) for a time extension for initiating closure specified under 335-13-15-.08(1)(i)5.	
(6) The demonstration(s) for a time extension for completing closure specified under § 257.105(i)(6).	6. The demonstration(s) for a time extension for completing closure specified under 335-13-15-.08(1)(i)6.	
(7) The notification of intent to close a CCR unit specified under § 257.105(i)(7).	7. The notification of intent to close a CCR unit specified under 335-13-15-.08(1)(i)7.	
(8) The notification of completion of closure of a CCR unit specified under § 257.105(i)(8).	8. The notification of completion of closure of a CCR unit specified under 335-13-15-.08(1)(i)8.	
(9) The notification recording a notation on the deed as required by § 257.105(i)(9).	9. The notification recording a notation on the deed as required by 335-13-15-.08(1)(i)9.	
	10. The notification recording an environmental covenant as required by 335-13-15-.08(1)(i)10.	Additional requirement to be consistent with Division 5. As protective
(10) The notification of intent to	11. The notification of intent to	Renumbered

comply with the alternative closure requirements as required by § 257.105(i)(10).	comply with the alternative closure requirements as required by 335-13-15-.08(1)(i)11.	
(11) The annual progress reports under the alternative closure requirements as required by § 257.105(i)(11).	12. The annual progress reports under the alternative closure requirements as required by 335-13-15-.08(1)(i)12.	Renumbered
(12) The written post-closure plan, and any amendment of the plan, specified under § 257.105(i)(12).	13. The written post-closure plan, and any amendment of the plan, specified under 335-13-15-.08(1)(i)13.	Renumbered
(13) The notification of completion of post-closure care specified under § 257.105(i)(13).	14. The notification of completion of post-closure care specified under 335-13-15-.08(1)(i)14.	Renumbered
(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:	(j) Retrofit criteria. The owner or operator of a CCR unit subject to this chapter 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).	1. The written retrofit plan, and any amendment of the plan, specified under 335-13-15-.08(1)(j)1.	
(2) The notification of intent to comply with the alternative retrofit requirements as required by § 257.105(j)(2).	2. The notification of intent to comply with the alternative retrofit requirements as required by 335-13-15-.08(1)(j)2.	
(3) The annual progress reports under the alternative retrofit requirements as required by § 257.105(j)(3).	3. The annual progress reports under the alternative retrofit requirements as required by 335-13-15-.08(1)(j)3.	
(4) The demonstration(s) for a time extension for completing retrofit activities specified under § 257.105(j)(4).	4. The demonstration(s) for a time extension for completing retrofit activities specified under 335-13-15-.08(1)(j)4.	
(5) The notification of intent to retrofit a CCR unit specified under § 257.105(j)(5).	5. The notification of intent to retrofit a CCR unit specified under 335-13-15-.08(1)(j)5.	
(6) The notification of completion of retrofit activities specified under § 257.105(j)(6).	6. The notification of completion of retrofit activities specified under 335-13-15-.08(1)(j)6.	
	335-13-15-.09 Permit Application.	Added to mirror State's permitting program.
	335-13-15-.10 Public Notice.	Added to mirror State's permitting program.
	335-13-15-.11 Public Hearing.	Added to mirror State's permitting program.

	335-13-15-.12 Permit Denial, Suspension or Revocation.	Added to mirror State's permitting program.
	335-13-15-.13 Permit Modification.	Added to mirror State's permitting program.
	335-13-15-.14 Transfer of Permit.	Added to mirror State's permitting program.
	335-13-15-.15 Variances. The Department may grant individual variances only from specific provisions of this chapter that are in addition to or more stringent than the federal regulations. The individual variances must be granted based upon the procedures of 335-13-8-.02 through 335-13-8-.05 whenever it is found by the Department, upon presentation of adequate proof, that non-compliance with one or more of these provisions will not threaten the public health or unreasonably create environmental pollution.	Added to mirror State's permitting program. Revised language in this section to clarify that variances can only be given for State requirement that are more stringent than federal regulations.
Appendix III to Part 257—Constituents for Detection Monitoring Common name 1 Boron Calcium Chloride Fluoride pH Sulfate Total Dissolved Solids (TDS) 1 Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.	**335-13-4-Appendix III CCR Constituents for Detection Monitoring** Common name 1 Boron Calcium Chloride Fluoride pH Sulfate Total Dissolved Solids (TDS) 1 Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.	"CCR" added for clarification
Appendix IV to Part 257—Constituents for Assessment Monitoring Common name 1 Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Fluoride Lead Lithium Mercury Molybdenum	**335-13-4-Appendix IV CCR Constituents for Assessment Monitoring** Common name 1 Antimony Arsenic Barium Beryllium Boron Cadmium Chromium Cobalt Fluoride Lead Lithium	"CCR" added for clarification. Added Boron to be as stringent as federal requirements.

Selenium
Thallium
Radium 226 and 228 combined

1 Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228 combined

1 Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

Application to USEPA Region IV
for CCR Permit Program Approval
in Accordance with
Section 2301 of Subtitle C of the
Water Infrastructure Improvements for the Nation Act

Georgia Department of Natural Resources
Environmental Protection Division
March 29, 2018

Table of Contents

I. Introduction: Background and Scope	2
II. Jurisdiction and Responsibilities	4
III. State CCR Rule	4
IV. CCR Units in Georgia	7
V. Staff Resources for CCR Permit Program Implementation	7
VI. Permitting Requirements	9
VII. Public Participation	13
VIII. Inspection, Compliance Monitoring, and Enforcement	15
Appendices	18

ED_002047_00000122-00001

I. Introduction: Background and Scope

Background

Georgia began its efforts to effectively manage solid waste with the enactment of the Georgia Solid Waste Management Act of 1972. Responsibilities for implementing the solid waste requirements under this law were assigned to the Environmental Protection Division (EPD or "Division") of the Georgia Department of Natural Resources (DNR). The 1972 Act was replaced in 1990 by the Georgia Comprehensive Solid Waste Management Act ("Act", see Appendix A), Title 12, Chapter 8, Article 2 of the Official Code of Georgia Annotated (O.C.G.A.). In 1993, Georgia applied for a state Solid Waste Permit Program to implement Subtitle D of the Resource Conservation and Recovery Act (RCRA) and 40 CFR Part 258 Criteria for Municipal Solid Waste Landfills (MSWLs). That Program application was fully approved by the U.S. Environmental Protection Agency (EPA) through a Determination of Adequacy on September 21, 1993, and Georgia has been regulating MSWLs under this approval for over 24 years (see Appendix B).

Under the provisions of the 1990 Act, and prior to the EPA's Final Rule: Disposal of Coal Combustion Residuals from Electric Utilities, ("Federal Rule"), Georgia regulated a small subset of facilities that disposed Coal Combustion Residuals (CCR). The State has done so by regulating disposal of CCR in landfills at Electric Utilities ("EUs"). EPD took the position that CCR at an EU was an "industrial waste" at a "private industrial solid waste disposal facility" ("PISWDF")," under the 1990 Act, and as such, required a Solid Waste Handling Permit. PISWDFs are those facilities "that are operated exclusively by and for a private solid waste generator for the purpose of accepting solid waste generated exclusively by said private solid waste generator." During the time when specific federal regulations for disposal of CCR were not in place, the State moved toward applying design and operational standards at PISWDFs that were required at MSWLs. For example, the State's five currently operating CCR landfills at EUs have permits that require liners and leachate collection systems and groundwater monitoring requirements. Additionally, EPD's Water Branch permitted surface impoundments at EUs where CCR deposits collected within ponds that were permitted under the National Pollutant Discharge Elimination System (NPDES) program.

In 2015, the Federal Rule was published. EPD reviewed the Federal Rule and concluded that the best practice would be to adopt the Federal Rule by reference, with the exception of those portions that were not as strict as Georgia's intended policy. Additionally, Georgia EPD expanded its scope of CCR regulation to place some requirements of the Federal Rule upon units not regulated by the Federal Rule, but that accepted CCR. Such units included, but were not limited to, MSWLs that accept CCR and inactive CCR surface impoundments. These revisions to State rules were adopted by the Georgia Board of Natural Resources on October 26, 2016 and became effective November 22, 2016 ("2016 CCR Rule Revisions"). It is worth noting that Georgia's 2016 CCR Rule Revisions were effective prior to EPA's response to the partial vacatur of the Federal Rule. In response to the vacatur, EPD amended certain parts of the 2016 CCR Rule Revisions in its 2018 Georgia Solid Waste Rule Revisions ("Georgia CCR Rules", or, "State CCR Rules"), adopted February 28, 2018.

Scope

Georgia's CCR Rules expand EPD's authority over CCR disposal in two regulatory domains. PISWDFs receiving CCR are "CCR Units" and regulated under the State CCR Rules in 391-3-4-.10. The State CCR Rules govern the requirements for siting (i.e. location restrictions), design, operations,

ED_002047_00000122-00002

groundwater monitoring and corrective action, closure and post-closure care, recordkeeping, and permitting for CCR Units.

As stated earlier, Georgia was fully approved to permit Municipal Solid Waste Landfills in 1993. MSWLs disposing CCR are exempted from the requirements of 40 CFR Part 257, and are outside the scope of this application. Discussion of MSWLs and Commercial Industrial Landfills in this application is provided solely to give a more inclusive description of CCR disposal in Georgia, and to clarify which parts of 391-3-4 pertain to CCR disposal and to permitting of CCR units.

MSWLs and Commercial Industrial Landfills are not regulated under the State CCR Rules, and remain regulated under previous rule sections (see Table 1, below). Georgia classifies a "Commercial Industrial Landfill" or CIL, as a landfill that accepts exclusively industrial waste and is not a "private industrial solid waste disposal facility". CILs are considered a subset of MSWLs for State permitting purposes, and must follow the permitting procedures for MSWLs in 391-3-4-.02. Because CILs are permitted to accept more than one type of industrial waste and to accept waste from more than one industrial source, Georgia requires CILs to meet the design and operating standards of MSWLs (391-3-4-.07(4)(a)). CILs must meet the same siting criteria as MSWLs (391-3-4-.05(3)). CILs are required to meet the closure, post-closure care, and financial assurance requirements of MSWLs (see Table 1 for rule sections). By requiring the standards of all subparts of 40 CFR Part 258, Georgia regulates CILs in a manner which is as protective as its regulation of MSWLs.

A comparison of State regulations in the CCR Rule versus the regulations for MSWLs and CILs is given in Table 1.

Table 1: State Regulations for CCR Units versus MSWLs/CILs

Disposal Unit Regulation	CCR Rule	MSWL/CIL Rules
Siting / Location Restrictions	391-3-4-.10(3)	391-3-4-.05
Design Standards	391-3-4-.10(4)	391-3-4-.07
Operating Standards	391-3-4-.10(5)	391-3-4-.07
Groundwater Monitoring & Corrective Action	391-3-4-.10(6)	391-3-4-.14
Closure and Post-Closure Care	391-3-4-.10(7)	391-3-4-.11 391-3-4-.12
Recordkeeping and Notifications	391-3-4-.10(8) 391-3-4-.17	391-3-4-.17
Permits	391-3-4-.10(9) 391-3-4-.02	391-3-4-.02
Financial Assurance	391-3-4-.10(10)	391-3-4-.13

First, the State CCR Rules expand EPD's regulatory authority over those PISWDF operations at EUs that generate CCR by incorporating the Federal Rule by reference. The State CCR Rules incorporate the Federal Rule by reference almost in its entirety. State Rule 391-3-4-.10 is set aside to specifically incorporate the Federal Rule as part of a "stand alone" permitting program for CCR disposal. EPD broadened 391-3-4-.10 to include disposal at units that are not covered by the Federal Rule, including:

a. Inactive NPDES surface impoundments (or, those surface impoundments that had been regulated using the NPDES permits – see above)

ED_002047_00000122-00003

b. Inactive CCR landfills
c. Dewatered Surface Impoundments

EPD also did not exclude "inactive" EU facilities based on operation and/or closure time. By not excluding these facilities, Georgia's rule differs slightly from the Federal Rule of April 17, 2015, but is aligned with the current, post-vacatur Federal Rule.[1]

The second major aspect of the 2016 CCR Rule Revisions expanded EPD's regulatory authority for disposal of CCR at MSWLs and Commercial Industrial Landfills (CILs). The revisions created new requirements for those MSWLs or CILs that have accepted or will continue to accept CCR waste. Any MSWL or CIL that has accepted CCR waste must add Appendices III and IV to their groundwater monitoring plans. Per State Rule 391-3-4-.07(5), any MSWL or CIL taking CCR on or after May 21, 2017 must obtain EPD's approval for a site-specific CCR Management Plan. The CCR Management Plan requires the facility's Design and Operational Plan to be updated to account for the disposal of CCR at landfills that were designed to predominantly dispose of other types of waste. Georgia EPD published the 'Guidance Document for Coal Combustion Residuals (CCR) Management Plans' on December 22, 2016 (see Appendix A for link).

Between the State's adoption of the CCR Rules in 2016 and the Rule revisions of 2018, the Water Infrastructure Improvements for the Nation (WIIN) Act of 2016 provided additional justification for Georgia's permitting structure. In this narrative, we first demonstrate that Georgia has developed its regulations to meet or exceed the relevant federal standards, and then show that the State has both a plan and adequate personnel to administer a permit program for CCR disposal.

II. Jurisdiction and Responsibilities

The CCR Permit Program will be managed under the State's Solid Waste Management Program (SWMP). The O.C.G.A., Volume 10, Title 12, as amended, specifically O.C.G.A. 12-8-23.1, gives the Director of the Environmental Protection Division of the Department of Natural Resources the primary responsibility for implementation of the SWMP. The Director is also instructed to coordinate his or her activities with those of other State agencies and local political jurisdictions to achieve a unified and effective SWMP. Finally, under State law, it is the responsibility of the State Attorney General's office to represent all State agencies.

III. State CCR Rule

Definitions

Most definitions pertinent to Georgia's CCR Permitting Program can be found in Rule 391-3-4-.10. This is where Georgia has incorporated the Federal Rule by reference, including the majority of its

[1] The DC Circuit vacated some previous exemptions for CCR impoundments, which EPA incorporated through a direct final rule issued August 22, 2016. Georgia's 2016 CCR Rule Revisions, which were in the process of adoption in August 2016, referenced the Federal Rule before the vacatur of these exemptions. Georgia's rule revisions adopted February 28, 2018, realigned the State's rule with the Federal Rule, post-vacatur.

ED_002047_00000122-00004

definitions. However, there are exceptions where Georgia's definitions do not completely match Federal definitions; these are listed below:

- 391-3-4-.01
  - Aquifer: EPD holds that the State's use of "significant quantities" is more protective than the Federal "usable quantities". The State's concern is that some aquifers (e.g., saline aquifers) might be argued to be not "usable", but the State seeks to maintain protection for these aquifers. Any aquifer with usable drinking water is considered to have significant quantities.
  - CCR Landfill, CCR Unit, and CCR Surface Impoundment: these include active or inactive units, and go beyond the Federal Rule to include previously permitted and/or unregulated units, such as:
    - Dewatered surface impoundments
    - NPDES-CCR surface impoundments
  - Qualified Groundwater Scientists: EPD includes State-registered professional geologists as qualified groundwater scientists. (Note: Approved plans will require that all reports come under the seal of a professional engineer.)

- 391-3-4-.10
  - Dewatered Surface Impoundment, NPDES-CCR Surface Impoundment, and Inactive CCR Landfill: these definitions were added to meet the State's policy intent to regulate CCR impoundments of any type regardless of whether they accepted CCR prior to or after October 19, 2015.
  - Beneficial Reuse: EPD requires submittal of any project; there is no automatic approval based on tonnage limits.
  - Exemption of Commercial Industrial Landfills: MSWLs disposing of CCR are exempt from the requirements of 40 CFR Part 257. Georgia's CILs must meet the same criteria for siting, design, operations, environmental monitoring, closure, post-closure care, and financial assurance as MSWLs (see also Section I). Rule 391-3-4-.04(10) further ensures that no variance can be granted to a CIL or any other facility which would waive any requirement of the Federal Rule. Groundwater monitoring of CILs where CCR is being or has been disposed must add the CCR groundwater constituents (i.e., EPA Appendix III and IV constituents) to both detection and assessment monitoring parameters (391-3-4-.14(21) and 391-3-4-.14(25)). The requirement of a site-specific CCR management plan for CILs (391-3-4-.07(5)) ensures the facility design and operations are suitable for CCR disposal. Finally, by permitting CILs in the same manner as MSWLs, the State will hold CILs to more robust public participation requirements than will be required for the CCR Permits to be issued to PISWDFs. Therefore, the State feels it is appropriate and equally protective as the Federal Rule to exempt CILs from regulation under the State CCR Rule.

Applicability

State Rule 391-3-4-.10 has incorporated the Federal Rule with the exceptions as noted above and creates a stand-alone permitting program for CCR units. In addition to the requirements of 391-3-4-.10, CCR units must also comply with procedural permitting requirements of 391-3-4-.02; Financial Assurance requirements found in 391-3-4-.13 and reporting requirements found in 391-3-4-.17. The State CCR Rules specifically exclude CCR units from regulatory requirements for MSWLs and CILs (391-3-4-.05(6), 391-3-4-.07(4)(a), 391-3-4-.11(8), 391-3-4-.12(7), 391-3-4-.14(1)). Likewise, the State CCR

Rules exclude MSWLs and CILs from the regulatory requirements for CCR Units (391-3-4-.10(1)(b)(4)).

Operating Criteria

As stated in 391-3-4-.10(5)(c), CCR units will be subject to an individual permit. While the language used states a "solid waste handling permit," EPD has created a subset of solid waste handling permits for CCR Units, a CCR permit, that is based on the State CCR Rule.

Variances

Under state law, Georgia's Rules for Solid Waste Management may not be any less stringent than Federal regulations. As such, it is worth noting that any provisions for a variance in the 2016 CCR Rule Revisions must be read in the context of O.C.G.A. 50-13-9.1(h), which restricts EPD's authority to issue variances. O.C.G.A. 50-13-9.1(h)(1) states no variance or waiver shall be sought or authorized when any agency rule or regulation has been adopted or promulgated in order to implement or promote a federally delegated program. Furthermore, O.C.G.A. 50-13-9.1(h)(5) states that no variance or waiver shall be sought or authorized for any rules, regulations, standards, or procedures that are adopted or promulgated by the Department of Natural Resources for the protection of the natural resources, environment, or vital areas of this state.

To prohibit *de facto* rulemaking, variances may only be granted where explicitly allowed for by Rule. For example, in 391-3-4-.07(4), industrial waste landfills and construction/demolition landfills are explicitly allowed certain variances from requirements for MSWLs. For example, an industrial landfill may be granted a variance from methane gas monitoring requirements if it is only allowed to accept inorganic industrial wastes that do not produce methane. Finally, Rule 391-3-4-.04(10) further ensures that no variance can be granted to a facility that would waive any requirement of 40 CFR Part 257, but authorizes waivers exclusively for those units that are not regulated by Part 257. In EPD's most recent rule revisions, 391-3-4-.04(10) explicitly states that "variances, waivers, and alternative compliance schedules which may be granted under these Rules, Chapter 391-3- 4, may not allow for the waiver or modification of a requirement found in...80 Fed. Reg. 21468 (April 17, 2015); as amended at 80 Fed. Reg. 3799 (July 2, 2015) and 81 Fed. Reg. 51807 (August 5, 2016), except as provided in 391-3-4.10(11)." 391-3-4.10(11) in turn provides:

"(11) Variances.

(a) A compliance schedule variance for dewatered surface impoundments and inactive CCR landfills not meeting the minimum criteria in 391-3-4-.10 may be considered upon the following:

1. A demonstration that no alternative units meeting the minimum requirement either on-site or off-site can be used to dispose of the CCR or non-CCR wastewater;
2. A demonstration that the owner or operator is unable to use other public or private alternatives to manage the waste in the non-compliant unit; and
3. The schedule of compliance must specify remedial measures and an enforceable sequence of actions or operations leading to compliance within a reasonable time not to exceed time frames as specified in 40 CFR 257.102.

Variances may be granted under Rule 391-3-4-.10 which are not less stringent than those found in 40 CFR 257.60 through 257.107."

The last sentence of subparagraph 11 further restricts Georgia's authority to grant a variance by clarifying that any variance granted for a dewatered surface impoundment or an inactive CCR landfill cannot be less stringent than the requirements in 40 CFR 257.60 through 257.107.

IV. CCR Units in Georgia

Landfills

EPD has identified 41 disposal units that are currently used for CCR generated and disposed at EUs (11 landfills and 30 impoundments) in Georgia. Five CCR landfills are currently operating and subject to 40 CFR Part 257 requirements. Three CCR landfills closed before the current regulations were promulgated (one in 2008 and two in 2010). Three other landfills currently in-closure ceased receipt of CCR prior to the effective date of 40 CFR 257 Subpart D and are not subject to this subpart per §257.50(d). The active CCR landfills were previously issued State solid waste handling permits, but per 391-3-4-.10(9) these existing landfills must submit an application by November 22, 2018 to obtain a CCR permit. All of the operating landfills are currently conducting disposal operations in cells with composite liners that meet the requirements of §257.70. Three of these operating facilities also have pre-existing portions where CCR was deposited in cells that do not meet the requirements. These unlined cells that ceased receiving CCR prior to October 19, 2015 will be closed in accordance with existing Closure Plans (part of their solid waste handling permit). Under the State CCR Rules, all units either operating or that have not completed closure by November 22, 2018, must apply for a CCR permit.

Impoundments

There are 30 CCR impoundments in the State. The final tally of regulated CCR impoundment units will depend on whether some smaller impoundments will be treated independently or grouped together for regulatory purposes. Multiple units that are contiguous or in close proximity to one another and can be monitored under a single groundwater monitoring network may be combined into a single CCR permit.

New applications or facilities under construction

Currently, the State is not reviewing any permit applications for new CCR facilities, and there are not any permitted sites in the construction (pre-disposal) stage.

V. Staff Resources for CCR Permit Program Implementation

Georgia's Solid Waste Management Program (SWMP), part of EPD's Land Protection Branch, will be the lead program for permitting, compliance, and enforcement of CCR units. These functions will largely be carried out by staff from the SWMP's central location in Atlanta (Table 2, below). Seven EPD district offices throughout the State (see Table 3) and EPD's Emergency Response Team are available to quickly respond to reports of releases or complaints, but will not be involved in the routine regulation of CCR units.

Within the SWMP, the Solid Waste Permitting Unit is responsible for reviewing permit applications and issuing permits, reviewing plans and other demonstrations of compliance with 40 CFR Part 257, conducting construction inspections of cells and closure activities, and leading compliance inspections of CCR units. The Environmental Monitoring Unit of the SWMP is responsible for determining site

suitability, reviewing groundwater monitoring plans and reports, reviewing corrective action plans and reports, inspecting groundwater well construction, and assisting with compliance inspections. Also within the SWMP, the Recovered Materials Unit will conduct beneficial use determinations for CCR. The Surface Mining and Tire Management Units do not have duties related to CCR.

Georgia regulates dam safety through O.C.G.A. 12-5-370, The Georgia Safe Dams Act of 1978, and through Rules for Dam Safety, Chapter 391-3-8. The Safe Dams Unit, within EPD's Watershed Protection Branch, will assist the SWMP in regulating CCR impoundments. Specifically, the Safe Dams Unit will provide the technical assistance for reviews relevant to 40 CFR 257.73 and 257.74 (structural integrity criteria for impoundments) and 40 CFR 257.82 (impoundment capacity requirements). The Safe Dams Unit will provide technical assistance for reviews relevant to 40 CFR 257.83 (inspection requirements for impoundments).

Additional staff resources are available through the Attorney General's Office for assistance on any enforcement actions such as consent orders or administrative orders, or other legal matters such as permit appeals. Other specialized support, such as quantitative risk analysis or laboratory analyses of soil or water samples, is available within EPD.

Table 2: Solid Waste Management Program

Program Manager

Operations Analyst

Solid Waste Permitting Unit

- Unit Manager
- Six (6) Engineers

Environmental Monitoring Unit

- Unit Manager
- Nine (9) Geologists

Recovered Materials Unit

- Unit Manager
- Engineer
- Two (2) Environmental Specialists
- Comm. Outreach Specialist

Tire Management Unit

- Unit Manager
- Seven (7) Environmental Specialists
- Data Processor
- Licensing Technician

Surface Mining Unit

- Unit Manager
- Engineer
- Two (2) Geologists

Table 3: EPD District Offices

Coastal District (Brunswick)
East Central District (Augusta)
Mountain District (Atlanta)
Mountain District (Cartersville)
Northeast District (Athens)
Southwest District (Albany)
West Central District (Macon)

ED_002047_00000122-00008

VI. Permitting Requirements

O.C.G.A. 12-8-24(a) of the Georgia Comprehensive Solid Waste Management Act and Chapter 391-3-4-.02 of the Rules for Solid Waste Management both require that no person shall engage in solid waste handling or construct or operate a solid waste handling facility without first obtaining a permit from the Director of the Georgia Environmental Protection Division (EPD) authorizing such activity. Solid waste handling permits typically include but are not limited to the following:

- Limitations on the type of waste that may be accepted
- Incorporation of a site specific design and operational plan as part of the permit
- Siting restrictions, such as setbacks from wetlands and streams, and separation of waste from the water table
- Requirements for financial assurance
- Requirements to close in accordance with the facility closure plan
- Deadlines for construction to commence or be completed, with possible permit termination if these deadlines are missed.

After closure has been successfully completed, a closure permit is issued with conditions for post-closure care. Issuance of the closure permit officially marks the commencement of the post-closure care period.

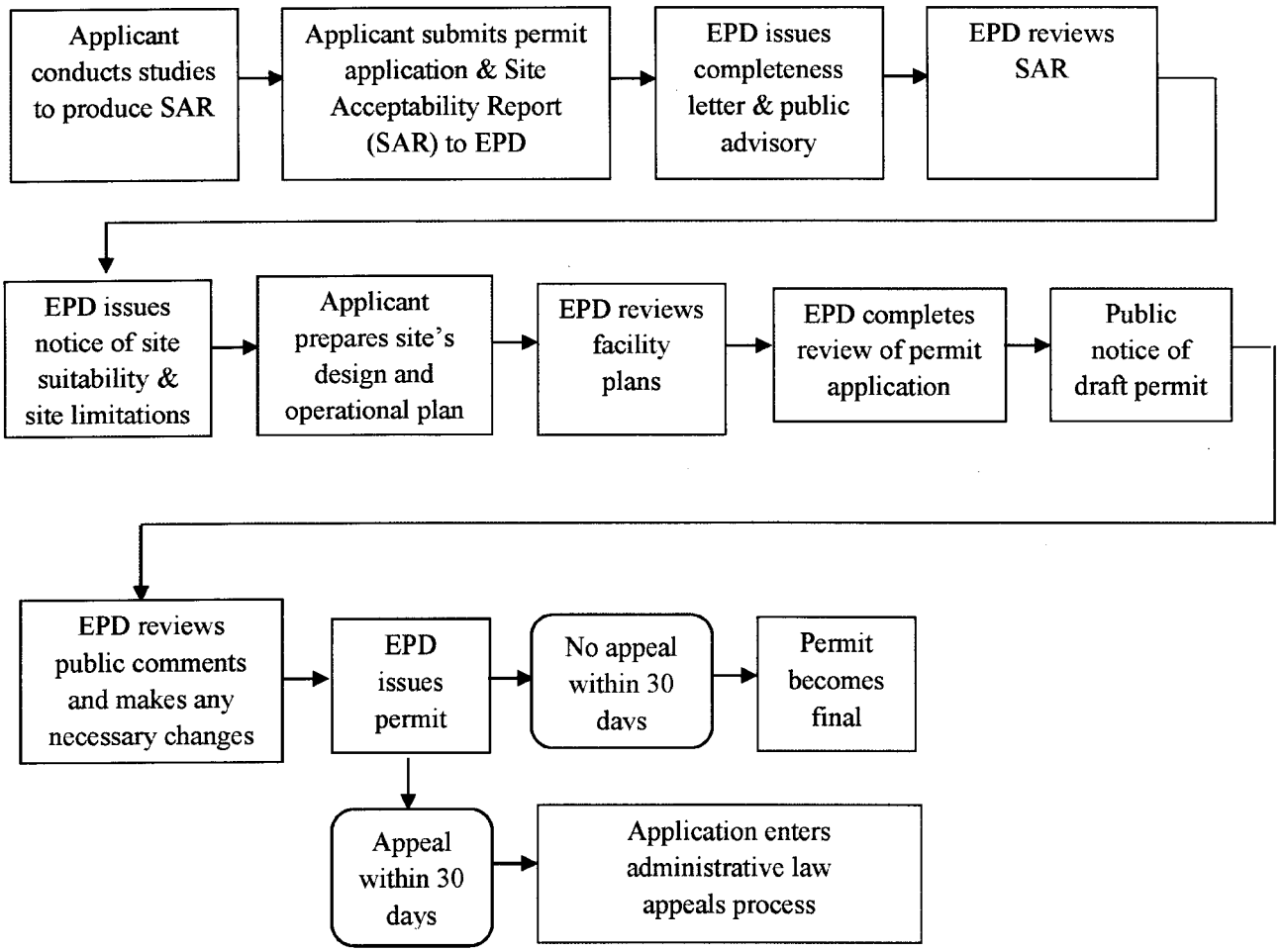
O.C.G.A. 12-8-23(1)(b) gives to the Board of Natural Resources the authority to adopt rules and regulations prescribing the procedures to be followed in applying for solid waste handling permits and requiring the submission of pertinent information deemed relevant in connection with the issuance of such permits.

Permitting Procedures for New CCR Units

The permitting procedures as required by O.C.G.A. 12-8-20 and the Rules for Solid Waste Management, Chapter 391-3-4, for a CCR unit are outlined in Figure 1.

ED_002047_00000122-00009

FIGURE 1: PERMITTING PROCEDURES FOR CCR UNITS



An applicant for a CCR permit must enlist a professional geologist or professional engineer registered in Georgia to prepare a Site Assessment Report (SAR) addressing both Rule 391-3-4-.10(3), which incorporates by reference all location restrictions of the Federal Rule, as well as additional State siting requirements in 391-3-4-.10(9). The completed SAR will be submitted to the Division along with the official permit application.

A "CCR Unit - Application For Solid Waste Handling Permit" must be submitted to the Division along with the SAR, and written verification of compliance with local zoning or land use ordinances as required by O.C.G.A. 12-8-24 (g). The permit application must be accompanied by a either a statement that the applicant owns the property on which the CCR unit is to be located or written permission of the owner to use the property for a CCR unit.

If EPD determines that a submitted application is complete, a letter of completeness is sent to the applicant and the host local government, and EPD issues a public advisory of receipt of the application under Program policy. The public advisory briefly describes the application that has been submitted. The public advisories are issued monthly and also directly distributed to concerned parties that have requested to be on the public advisory list.

ED_002047_00000122-00010

Next, EPD begins the site suitability determination phase of the application review. The Solid Waste Management Program reviews the SAR to demonstrate that it meets the criteria outlined in Rule 391-3-4-.10(3) and 391-3-4-.10(9). EPD will review the SAR and its supporting data, and make one or more visits to the proposed site. EPD will make a determination as to the suitability or unsuitability of the proposed site for a CCR unit, and notify in writing the applicant and the host local government of its determination.

If the proposed site is unsuitable, the Division will notify the applicant in writing and the permitting process will end. When the proposed site is suitable, the Director imposes Site Limitations in the Site Suitability Notice. Site Limitations typically delineate the boundaries approved for waste disposal, define the uppermost water table for the purpose of setting minimum vertical separation between waste and groundwater, and impose setbacks between land disturbances and certain waters of the State and/or wetlands.

The applicant will proceed with the design of the proposed CCR unit in accordance with the criteria outlined in Rule 391-3-4-.10 and to meet the Site Limitations. The proposed CCR unit's design and operational (D&O) plan and supporting documentation must be prepared by a professional engineer registered to practice in Georgia. The D&O plan for the proposed CCR unit, along with supporting data and design calculations, are submitted to EPD for review.

The Solid Waste Management Program reviews the D&O plan to ensure that all of the requirements of Rule 391-3-4-.10 are met. When the D&O plan and other portions of the permit application have been determined to meet the standards of 391-3-4-.10, EPD typically notifies the applicant that the plans are approvable and sends a reminder of any other final tasks (such as providing financial assurance) that must be completed prior to permit issuance. The SWMP drafts site-specific permit conditions for the proposed CCR unit. The draft permit will be posted on EPD's Land Protection Branch Public Announcements webpage (link in Appendix A) and made available for public comment (see also section VII).

Once the solid waste handling permit is issued, the Director notifies the legal organ and the chief elected official of the host local government in which the facility is to be located. For thirty days after issuance, the permit may be appealed. If no appeal is received, the permit becomes final. If an appeal is received within 30 days, no further construction or operations may take place under the permit and the permit enters into the appeals process as specified by the Georgia Administrative Procedures Act. CCR permits and all other solid waste handling permits are issued for the life of the site. However, all permits, including CCR permits, for actively operating facilities are reviewed every five years (391-3-4-.02(1)(d)).

Procedures for Permit Modifications

Permit modifications are classified as either major or minor under the requirements set forth in Rule 391-3-4-.02(3). Major modifications are changes which substantially alter the design of the facility, management practices, the types of wastes being handled, or the methods of waste handling, and due to the nature of the changes, would likely have an impact on the ability of the facility to adequately protect human health and the environment. Minor modifications are changes that do not substantially alter the permit conditions, reduce the capacity of the facility to protect human health or the environment, or that enable a permittee to respond in a timely manner to common variations in the type and quantities of

wastes managed, technological advancements, or changes necessary to comply with new rules where these changes can be implemented without substantially changing design specifications or management practices in the permit.

Major modifications may include, but are not limited to expansions of CCR units; the addition of a new solid waste handling process to the unit; a change of a site limitation; selection of a corrective action plan; and any other modification that the Director determines to meet the criteria in Rule 391-3-4-.02(3)(a). Major modifications are approved by the Director and therefore are subject to appeal through the same appeals process described above.

Major modifications of solid waste handling facilities go through an identical permitting process as that for new units. A completed application must be submitted, along with supporting documents that describe the requested changes and how they will be implemented. If the solid waste handling footprint is expanded, an amended SAR must be provided to cover the additional areas to be considered for solid waste handling. The applicant must provide written verification that the CCR unit as proposed to be modified conforms to all local zoning and land use ordinances, if any. The site suitability determination process will be repeated for expansions, and Site Limitations will be revised and reissued in a new Site Suitability Notice if the proposed site is found suitable. A revised D&O plan for the modified CCR unit will be submitted for review by EPD. A public hearing prior to the issuance of a major modification is required for MSWLs/CILs, but not at PISWDF CCR units.

Minor modifications do not substantially alter the CCR unit and public participation is not required by Rule. The permittee must submit a written request for the minor modification with accompanying supporting documents which describe the change to be made and explaining why the change is needed. If applicable, the permittee must submit a revised design for the requested change.

Effect of New Regulations on Existing CCR Units

Rule 391-3-4-.10 ensures that existing CCR landfills and impoundments will comply with 40 CFR 257 Subpart D. Rule 391-3-4-.10(9)(a)2 requires owners and operators of all CCR units to submit a complete permit application no later than two years from the effective date of the Rule (i.e. by November 22, 2018). The deadline to obtain a State CCR permit does not exempt a Georgia-based facility from meeting any earlier deadlines required by 40 CFR 257 Subpart D.

Rule 391-3-4-.02(2) allows the Director to modify or revoke any solid waste handling permit issued pursuant to O.C.G.A. 12-8-24 if the holder of the permit is found, among other things, to be performing any activity which creates a threat to human health or the environment. If the holder of the permit does not follow the new regulations it can be deemed that the activity creates a threat to human health or the environment.

Closure of Existing CCR Units

Three CCR landfill units are currently in-closure: two have not completed final construction of their final cover system and the third has removed CCR for disposal in a permitted lined landfill, but has not obtained final closure approval from Georgia EPD. All three, however, ceased receipt of CCR prior to October 19, 2015, and are therefore not subject to the Federal Rule. All must complete closure in accordance with a site-specific closure plan (a component of their existing solid waste handling permit)

ED_002047_00000122-00012

and obtain a closure permit from Georgia EPD, at which point the landfill units will enter post-closure care. Requirements for post-closure care will be stipulated within the closure permits.

The five CCR landfill units that continued receiving CCR after the effective date shall, as part of the process of obtaining a State CCR permit, develop closure plans and post-closure care plans that are in accordance with 40 CFR §257.101 – 104.

VII. Public Participation

EPA has three stated goals for CCR permit programs with regard to public participation: that the permit applications and supporting documents be made available for public review, that public comments be considered by the permitting program, and that final determinations on permit applications are made known to the public. Georgia EPD meets these requirements through State statutes and regulations and through policy on public advisories. A summary of public participation requirements for MSWLs, CILs, and CCR units is provided below and in Table 4. The public participation requirements include State regulations mandating coordination with local government and public hearings, as described in greater detail below. Further, EPD has prepared a public participation policy for CCR permits (and major modifications) in the form of a memorandum entitled "CCR Draft Permit Public Comment Process." This memorandum will be executed by the EPD Director, after which it will be binding on the agency. Any proposed future changes to this policy memorandum or to State regulations will be evaluated to ensure that they remain at least as protective as the Federal criteria for public participation.

Whenever a permit application is submitted, a notice of receipt of the application is publicly placed online. All materials submitted as part of the application are public record and contact information is given online. Actions of the Director (e.g., determination of site suitability, issuance or denial of a permit) are also noticed on the public announcements webpage. Actions of the Director on permitting solid waste handling facilities are provided to the legal organ and chief elected official of the local government in which the proposed or permitted facility is located.

Public advisories are most readily viewed at https://epd.georgia.gov/land-protection-branch-public-announcements . A page dedicated to final decisions related to CCR has been created within the Public Announcements webpage (see https://epd.georgia.gov/coal-ash-information). Members of the public may register on this webpage to receive updates on CCR-related announcements via email.

All permit applications must be accompanied by a letter from the host local government verifying the proposed facility complies with local zoning and land use ordinances (O.C.G.A. 12-8-24(g)). Except for PISWDFs, applications must also be accompanied by a letter providing verification that the proposed facility is consistent with the local or regional solid waste management plan (391-3-4-.02(10)).

The local government must hold a public hearing prior to the issuance of a solid waste handling permit (391-3-4-.03(4)). This is applicable to all facilities regardless of waste type or whether the facility is for disposal or processing (including CILs), with the exception of PISWDFs. Also, if a permitted facility seeks a major modification (again with the exception of PISWDFs), the local government shall hold a public hearing (391-3-4-.02).

Because all current CCR units that must apply for CCR permits are PISWDFs, which do not have a required public hearing, EPD's Land Protection Branch (LPB) is adopting a procedure for public comment on draft CCR Permits. The draft permit comment process is (see also Appendix D):

1. Notification to the applicant and public: After all documentation for a permit application has been reviewed and found to adequately demonstrate the requirements for siting, design standards, and operation standards, LPB will issue a draft CCR Permit to the CCR facility owner. (See the "Sample transmittal letter for CCR Draft Permit", Appendix D). Concurrently, anyone who has signed up to receive emails for coal ash related announcements will be notified that the draft permit has been posted online.

2. Availability of documents to review: LPB will post the draft permit on the Land Protection Branch Public Announcements page of the EPD website (Appendix A) as well as in hard copy at the LPB Tradeport Office. All information submitted as part of the CCR permit application can also be reviewed in person at the Branch's Tradeport office, and copies can be made for the standard fees.

3. Public Comment Period: Once the Public Notice has been published on LPB's Public Announcements page, the public comment period will officially begin. The draft permit will be available for public comment for 30 days.

4. Comment submittal: Written comments may be accepted via email or mail.

5. Comment review: After the comment period ends, LPB will review all comments received during this period and make any necessary changes before making a final permit recommendation to the Director.

6. Final Decision and Notification: When issuing a final permit, the facility owner and public will be notified in the same manner given in step 1 above. A response to comments on the draft permit will also be released. The final permit and response to comments will be available to review online on EPD's Coal Ash Information page (Appendix A).

CCR units are subject to all the electronic noticing requirements contained in the Federal Rule which have been incorporated by reference. Under the Georgia CCR Rule, there is an extra reporting requirement contained in 391-3-4-.17 for all CCR units that requires annual volume of CCR disposed and any CCR diverted for beneficial reuse.

Any MSWL that accepts CCR will be required to submit a CCR Management Plan. Approved plans are publicly available on EPD's CCR website (see https://epd.georgia.gov/coal-combustion-residuals-ccr-management-plans).

Table 4: Public Participation in Permitting Facilities for CCR Disposal

Type of Facility	Public Advisory issued for Applications	EPD Notice for Siting Decisions	Public hearing prior to permit issuance	Major modification public hearing	Draft permit notice process	Permit published on EPD's CCR website
MSWL or CIL disposing CCR	x	x	x	x		
CCR Unit	x	x			x	x

VIII. Inspections, Compliance Monitoring, and Enforcement

Georgia's inspection, compliance monitoring, and enforcement processes for solid waste handling facilities are described in the July 27, 1993 "Application to USEPA Region IV for Solid Waste Permit Program Approval in Accordance with Section 4005(c) of Subtitle D of the Resource Conservation and Recovery Act" (see Appendix B), and subsequently approved by EPA on September 21, 1993. The same inspection, compliance, and enforcement processes apply to all CCR units covered by 40 CFR Part 257 Subpart D.

A. Statutory Authority for Legal Actions and Emergency Orders

The Director is granted the power and duties under O.C.G.A. 12-8-23.1 to exercise general supervision over the administration and enforcement of all rules and regulations, orders or permits promulgated or issued under the Act. The provisions of O.C.G.A. 12-8-23.1(a)9 provides authority to the Director to institute, in the name of the Division, proceedings of mandamus, injunction, or other proper administrative, civil or criminal proceedings to enforce any violation of the code, the rules and regulations promulgated under the code or any orders or permits issued under the Act.

O.C.G.A. 12-8-30 provides authority to the Director to issue an order to obtain corrective action. Whenever the Director has reason to believe that a violation of any provision of the code or any rules and regulation has occurred, he shall attempt to obtain remedy with the violator or violators by conference, conciliation, or persuasion. In the event these efforts fail, the Director may issue an order directed to the violation or violators. The order shall specify the provisions of the code or rule or regulation alleged to have been violated and shall order necessary corrective action be taken within a reasonable time to be prescribed in the order. The order issued by the Director under this code section shall be signed by the Director and shall become final unless the person or persons named therein request in writing a hearing no later than 30 days after such order is served on such person or persons.

O.C.G.A. 12-8-30.1 specifies the power of the Director to issue an emergency order. Upon the receipt of evidence or finding that an emergency exists requiring immediate action to protect the public health, safety or well-being, the Director, with the concurrence of the Governor, may issue an order declaring the existence of such an emergency and requiring such action be taken to meet the emergency as the director specifies. Such orders shall be effective immediately. Any person to whom such an order is directed shall comply therewith immediately, but shall be afforded a hearing within 48 hours. The hearing and review of actions and orders is addressed in O.C.G.A. 12-8-30.2. All hearings on and review

of contested matters and orders and any other enforcement actions or orders under this code section shall be provided and conducted in accordance with subsection (c) of Code Section 12-2-2.

Under O.C.G.A. 12-8-30.4, whenever in the judgment of the Director any person has engaged in or is about to engage in any act or practice which constitutes or will constitute any violation of this code section, the Director may apply to the superior court of the county where such person resides, or, if such person is a nonresident of the state, to the superior court of the county where such person is engaged in or is about to engage in such act or practice, for an order restraining and enjoining such act or practice. Upon showing by the Director that such person has engaged in or is about to engage in any such act or practice, a temporary or permanent injunction, restraining order, or other order shall be granted without the necessity of showing lack of an adequate remedy by law.

Under O.C.G.A. 12-8-30.6, the Director can bring an administrative action for the assessment of civil penalties against any person provided that person is a public authority or city or county government located within the boundaries of Georgia violating any provisions of the code or rules or regulations adopted pursuant to this part or intentionally or negligently failing or refusing to comply with any final or emergency order of the director issued as provided in this code section shall be liable for a civil penalty not to exceed $1,000 for such violation and for an additional civil penalty not to exceed $500 for each day during which such violation continues. Any person other than a public authority or city or county government located within the boundaries of Georgia guilty of the same violation shall be liable for a civil penalty not to exceed $25,000 per day for each day during which such violations continue.

B. Authority for Inspections, Analysis, and Monitoring

The provisions of O.C.G.A. 12-8-29.1 and O.C.G.A. 12-8-24(e) grant authority to the Director or his duly authorized representative to enter property for inspection and investigation of conditions relating to solid waste handling. The provisions of O.C.G.A. 12-2-2(d)(l)-(7) specify conditions under which an inspection warrant may be issued as required by the constitution and laws of the United States or the State of Georgia. The Director or any person authorized to make inspections for the Division may require the issuance of a warrant to make an inspection under laws administered by the Director. This code section grants the Director or any authorized person the authority to gain access to any facility and/or premises where records are maintained and inspect the same, as required.

Under O.C.G.A. 12-8-23.1(a)(4), the Director is authorized to make investigations, analyses, and inspections to determine and ensure compliance. The Director has authority to conduct monitoring or testing under O.C.G.A. 12-8- 23.1(a)(4) which grants authority to make "analyses" to ensure compliance.

Chapter 391-3-4-.10(6)(d) of the Rules requires a permitted CCR unit to obtain concurrence from the Division for its groundwater monitoring system design, groundwater sampling and analysis plan, groundwater monitoring well installation, alternate source demonstrations, selection of a corrective remedy, and completion of a corrective remedy. The surface water monitoring plan shall be designed to determine the impact of the facility on all adjacent surface waters. The design of the groundwater monitoring plan shall be in accordance with the requirements of Groundwater Monitoring and Corrective Action, as provided in Rule 391-3-4-.10(6) This rule incorporates the standards for Groundwater Monitoring and Corrective Action contained in Subpart D of 40 CFR Part 257.

C. Enforcement

When compliance with the Act or State CCR Rules is not achieved, EPD will employ a variety of enforcement options. Enforcement can begin with the notification of a violation and carry through to the collection of civil penalties. Response to violations will occur as either a Notice of Violation (NOV), Order (Consent or Administrative), or Civil Action. In determining the appropriate action to be taken, the magnitude of the violation, and whether or not the owner/operator has made good faith efforts to comply are considered. When the appropriate action is decided upon, follow-through must be taken in accordance with the following guidance. The following enforcement actions may be taken as appropriate:

1. Compliance Status Letter: The official notification of a facility's compliance with the State CCR Rules. This letter should be mailed to the facility within 30 days of the inspection or record review. A compliance status letter may include deficiencies that must be addressed to remain in compliance.

2. Notice of Violation (NOV): When it is determined that a facility is in violation of a Rule, permit condition, or other legal requirement and that a NOV is the appropriate enforcement action, the facility will be promptly notified in writing, within 30 days by Certified Mail. The NOV letter should point out the violations related to specific Rules and require correction of the violations by certain dates (normally 30 days) or ask for submittal of a compliance schedule (for more complex problems).

3. Enforcement Orders: If the initial enforcement action was one or more NOV's, and this action did not bring the facility into compliance within an acceptable time frame, a consent or administrative order will be developed. In some cases, orders may be issued immediately with no preceding NOV if the violation is serious enough and prompt action is required. An Order should list instances of non-compliance and remedial actions required, plus any suggested monetary penalty or settlement. A copy of the final, signed Order is sent to the facility with a cover letter from the Director.

4. Civil Action: Injunctions in State Court may be sought to halt a dangerous situation or operation. The Director will be closely involved in these cases and will work closely with the Attorney General's office.

ED_002047_00000122-00017

Appendices of References and Documents Cited in Narrative

Appendix A. Links to Online References

1. 391-3-4 Georgia Rules for Solid Waste Management:
   http://rules.sos.ga.gov/gac/391-3-4

2. Official Code of Georgia Annotated (O.C.G.A.):
   http://www.lexisnexis.com/hottopics/gacode/Default.asp

3. Guidance Document for Coal Combustions Residuals (CCR) Management Plans:
   https://epd.georgia.gov/sites/epd.georgia.gov/files/CCR_Management_Plan_Guidance_122216.pdf

4. Georgia EPD Land Protection Branch Public Announcements website:
   https://epd.georgia.gov/land-protection-branch-public-announcements

5. Georgia EPD Coal Ash Information website:
   https://epd.georgia.gov/coal-ash-information

ED_002047_00000122-00019

Appendix B.

"Application to USEPA Region IV for Solid Waste Permit Program Approval in Accordance with Section 4005(c) of Subtitle D of the Resource Conservation and Recovery Act" Georgia Department of Natural Resources, Environmental Protection Division; July 27, 1993.

ED_002047_00000122-00020

Appendix C.

Rules for Solid Waste Management; revisions adopted February 28, 2018; effective March 28, 2018.

ED_002047_00000122-00021

Appendix D. Public Participation for Draft CCR Permits

1. Memorandum
2. Transmittal letter template
3. Public notice template

40 CFR Part 257 Checklist:

Alignment of 40 CFR 257, subpart D with Georgia Rule 391-3-4-.10

ED_002047_00000068-00001

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
1						**§ 257.53 Definitions**			
2						*The owner of operator of the CCR unit must include all definitions*			
3	all					Specify each definition that differs from those listed in section 257.53.	Definitions in 40 CFR 257.53 are incorporated by reference into this section and are applicable to CCR units with the following additions and revision: Rule 391-3-4-.10(2) 1. "Dewatered Surface Impoundment" means a CCR surface impoundment that no longer receives CCR on or after October 19, 2015 and does not contain liquids on or after October 19, 2015. 2. "NPDES -CCR Surface Impoundment" means a CCR surface impoundment that no longer receives CCR on or after October 19, 2015 which still contains both CCR and liquids and is located at an electric utility or independent power producer that has ceased producing electricity prior to October 19, 2015. 3. "Inactive CCR Landfill" means a CCR landfill that no longer receive s CCR and other wastes on or after October 19, 2015. 4. The following text shall be substituted for the fourth condition in the definition of Beneficial use of CCR "(4) For unencapsulated use of CCR, the user must demonstrate to the Division and provide documentation to the Division 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		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills: Existing	CCR Landfills: New & Lateral Expansions
								Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills	
							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."		
4						**§ 257.60 Placement Above the Uppermost Aquifer**			
5						*The owner of operator of the CCR unit must meet all the requirements (a) through (d).*			
6	(a)					The base of CCR unit should be at least 1.52 meters (5 ft.) above the upper limit of the uppermost aquifer, or, the owner must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection with uppermost aquifer during normal and seasonal water table fluctuations. 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.	Same		
7	(b)					Obtain a certificate from professional engineer, stating that the requirements meet comply with the recordkeeping requirements specified in § 257.105(e).	Same		
8	(c)	(1)				For an existing surface impoundment, the owner or operator of the CCR unit must complete the demonstration required by paragraph (a) no later than October 17, 2018 for an existing CCR surface impoundment.	Same		
9	(c)	(2)				For a new CCR landfill, new CCR impoundment, or any lateral expansion of a CCR unit, the owner or operator of the CCR unit must complete the demonstration required by paragraph (a) no later than the date of initial receipt of CCR in the CCR unit for a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit.	Same		
10	(c)	(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).	Same		
11	(c)	(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 is subject to the requirements of § 257.101(b)(1).	Same		NA
12	(c)	(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) is prohibited from placing CCR in the CCR unit.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
13	(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).	Same		
							Location Restrictions in 40 CFR (§§ 257.60 - 257.64) have been adopted by reference with the following additions for New and lateral Expansions of CCR landfills: Rule 391-3-4-.10(3) (c) For new and lateral expansions of CCR units, the hydrogeological evaluation for a specific site must be performed by a qualified groundwater scientist. (d) For new and lateral expansions of CCR units, when the geological and hydrogeological data so indicate, the Division may specify greater separation distances to protect groundwater. (e) Buffers: New CCR units and lateral expansions of CCR units must provide a 200- foot undisturbed buffer between the waste disposal boundary and the boundary of the permitted facility and a minimum 500-foot buffer between the waste disposal boundary and any occupied dwelling and the dwelling's operational private, domestic water supply well in existence on the date of the permit application. The 500-foot buffer may be reduced if the current owner of the dwelling provides a written waiver consenting to the waste disposal boundary being closer than 500 feet. No disposal or storage practices for waste shall take place in the buffer zones.		
14						**§ 257.61 Wetlands**			
15						*The owner or operator of the CCR unit must first meet requirements (a) or requirements (a)(1) through (5), in addition to meeting requirements (b) through (d) and all their components.*			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills: Existing	CCR Landfills: New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
16	(a)					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.	Same		
17	(a)	(1)				*The owner or operator of CCR unit must:* Provide a rebuttal of the presumption that an alternative to the CCR unit is reasonably available that does not involve wetlands where applicable under § 404 of the Clean Water Act or applicable state wetlands laws.	Same		
18	(a)	(2)				The construction and operation of the CCR unit will not cause or contribute to violations of the following applicable regulations:	Same		Applicable
19	(a)	(2)	(i)			State or federal water quality standard;	Same		
20	(a)	(2)	(ii)			Toxic effluent standard or prohibition under section 307 of the Clean Water Act;	Same		
21	(a)	(2)	(iii)			Endangered or threatened species, or a critical habitat protected under the Endangered Species Act of 1973;	Same		
22	(a)	(2)	(iv)			Marine Protection, Research, and Sanctuaries Act of 1972	Same		
23	(a)	(3)				*The CCR unit will not cause or contribute to significant degradation of wetlands by addressing all of the following factors:*	Same		Applicable
24	(a)	(3)	(i)			Erosion, stability and migration potential of native wetland soils used to support the CCR unit;	Same		
25	(a)	(3)	(ii)			Erosion, stability and migration potential of dredged and fill materials used to support the CCR unit;	Same		
26	(a)	(3)	(iii)			The volume and chemical nature of the CCR;	Same		
27	(a)	(3)	(iv)			Impacts on fish, wildlife, other aquatic resources and their habitat from release of CCR;	Same		
28	(a)	(3)	(v)			The potential effects of catastrophic release of CCR to the wetland and the resulting impacts on the environment; and	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
29	(a)	(3)	(vi)			Any additional factors, as necessary, to demonstrate sufficient protection of ecological resources in the wetland.	Same		
30	(a)	(4)				*The owner or operator of CCR unit must also:* Demonstrate that 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), then minimizing unavoidable impacts to the maximum extent reasonable, and 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) to the extent required under section 404 of the Clean Water Act or applicable state wetlands laws.	Same		
31	(a)	(5)				Sufficient information is available to make a reasoned determination with respect to the demonstrations in paragraphs (a)(1) through (4).	Same		
32	(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).	Same		
33	(c)	(1)				The owner or operator of the existing CCR surface impoundment must complete the demonstration by October 17, 2018.	Same		
34	(c)	(2)				The owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.	Same		
35	(c)	(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).	Same		
36	(c)	(4)				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) is prohibited from placing CCR in the CCR unit. Correction: An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (a) of	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills: Existing	CCR Landfills: New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
						this section by the date specified in paragraph (c)(1) of this section is subject to the requirements of §257.101(b)(1).			
37	(c)	(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) is prohibited from placing CCR in the CCR unit.	Same		
38	(d)					The owner or operator 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).	Same		
39						**§ 257.62 Fault Areas**			
40						*The owner of operator of the CCR unit must meet all the requirements (a) through (d).*			
41	(a)					CCR unit should 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 that an alternative setback distance of less than 60 meters will prevent damage to the structural integrity of the CCR unit.	Same		
42	(b)					The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the demonstration meets these requirements of paragraph (a).	Same		
43	(c)	(1)				The owner or operator of the existing CCR surface impoundment must complete the demonstration by October 17, 2018.	Same		
44	(c)	(2)				The owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.	Same		
45	(c)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
46	(c)	(4)				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) is prohibited from placing CCR in the CCR unit. Correction: 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)	Same		NA
47	(c)	(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) is prohibited from placing CCR in the CCR unit.	Same		
48	(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).	Same		
49						**§ 257.63 Seismic Impact Zones**			
50						*The owner of operator of the CCR unit must meet all the requirements (a) through (d).*			
51	(a)					CCR units and any expansions must not be located in seismic impact zones, unless the owner or operator demonstrates 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.	Same		
52	(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)	Same		
53	(c)	(1)				The owner or operator of the existing CCR surface impoundment must complete the demonstration by October 17, 2018.	Same		
54	(c)	(2)				The owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
55	(c)	(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).	Same		
56	(c)	(4)				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) is prohibited from placing CCR in the CCR unit. Correction: 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).	Same		NA
57	(c)	(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) is prohibited from placing CCR in the CCR unit.	Same		
58	(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).	Same		
59						**§ 257.64 Unstable Areas**			
60						*The owner of operator of the CCR unit must meet all the requirements (a) through (e) and all their components.*			
61	(a)					A CCR unit must not be located in an unstable area, unless the owner or operator demonstrates 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.	Same		
62	(b)	(1)				*When determining whether an area is unstable or not, the owner or operator must consider, at a minimum, all of the following:* On-site or local soil conditions that may result in significant differential settling;	Same		
64	(b)	(2)				On-site or local geologic or geomorphologic features; and	Same		
65	(b)	(3)				On-site or local human-made features or events (both surface and subsurface).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
								Existing	**New & Lateral Expansions**
66	(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 in paragraph (a).	Same		
67	(d)	(1)				The owner or operator of the CCR unit must complete the demonstration required in paragraph (a) no later than October 17, 2018 for existing CCR surface impoundments and existing CCR landfills.	Same		
68	(d)	(2)				The owner or operator of the CCR unit must complete the demonstration required in paragraph (a) no later than the date of initial receipt of CCR in the CCR unit for a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit.	Same		
69	(d)	(3)				The owner or operator has completed the demonstration required by paragraph (a) when the demonstration is placed in the facility's operating record as required by § 257.105(e).	Same		
70	(d)	(4)				An owner or operator of an existing CCR unit who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified is subject to the requirements of § 257.101(b)(1) or (d), respectively.	Same		NA
71	(d)	(5)				An owner or operator of a new CCR unit, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) is prohibited from placing CCR in the CCR unit.	Same	NA	
72	(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).	Same		
73						**§ 257.70 Design Criteria for New CCR Landfills and Any Lateral Expansion of a CCR Landfill**			
74						*The owner of operator of the CCR unit must meet all the requirements (a) through (g) and all their components.* **These requirements do not apply to existing CCR surface impoundments that are inclised CCR units, unless inclised CCR surface impoundment is subsequen*			
75	(a)	(1)				CCR landfills 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.	Same	NA	

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
76	(a)	(2)				Prior to construction of an overfill the underlying surface impoundment must meet the requirements of § 257.102(d).	Same	NA	
77	(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 twofoot 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.	Same	NA	
78	(b)	(1)				*The composite liner must be:* 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;	Same	NA	
79	(b)	(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;	Same	NA	
80	(b)	(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	Same	NA	
81	(b)	(4)				Installed to cover all surrounding earth likely to be in contact with the CCR or leachate.	Same	NA	
82	(c)	(1)				*If the owner or operator elects to install an alternative composite liner, all of the following requirements must be met:*	Same	NA	

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						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.			
83	(c)	(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. 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).	Same	NA	
84	(c)	(3)				The alternative composite liner must meet the requirements specified in paragraphs (b)(1) through (4) of this section.	Same	NA	
85	(d)	(1)				*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:*	Same	NA	
						Designed and operated to maintain less than a 30-centimeter depth of leachate over the composite liner or alternative composite liner;			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills: Existing	CCR Landfills: New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
86	(d)	(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	Same	NA	
87	(d)	(3)				Designed and operated to minimize clogging during the active life and post-closure care period.	Same	NA	
88	(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.	Same	NA	
89	(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.	Same	NA	
90	(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).	Same	NA	
91 92						**§ 257.80 Air Criteria** *The owner of operator of the CCR unit must meet all the requirements (a) through (d) and all their components.*			
93	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
94	(b)					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.	Same		
95	(b)	(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.	Same		
96	(b)	(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.	Same		
97	(b)	(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.	Same		
98	(b)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
99	(b)	(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).	Same		
100	(b)	(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.	Same		
101	(b)	(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.	Same		
102	(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).	Same		
103	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
							Operating Criteria in 40 CFR (§§ 257.80 - 257.84) have been adopted by reference with the following additions: Rule 391-3-4-.10(5) (c) The operation and use of the CCR unit shall be as stipulated in the solid waste handling permit.		
104						**§ 257.81 Run-on and Run-off Controls for CCR Landfills**			
105						*The owner of operator of the CCR unit must meet all the requirements (a) through (d) and all their components.*			
106	(a)	(1)				*The owner or operator of a CCR landfill or lateral extension must construct, operate, and maintain:* 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	Same		
107	(a)	(2)				A run-off control system from the active portion of the CCR to collect and control at least to collect and control at least the water volume resulting from a 24-hour, 25-year storm.	Same		
108	(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.	Same		
109	(c)	(1)				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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
110	(c)	(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 runoff control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.	Same		NA
111	(c)	(3)	(i)			The owner or operator of an existing CCR unit must prepare the initial run-on and runoff control system plan no later than October 17, 2016, for new units and any lateral expansion of a CCR landfill.(DELETE)	Same		
112	(c)	(3)	(ii)			For a new CCR landfil or any lateral expansion of a 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.	Same	NA	
113	(c)	(4)				Frequency for revising the plan. The owner or operator of the CCR unit must prepare periodic run-on and runoff 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).	Same		
114	(c)	(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.	Same		
115	(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).	Same		
116						§ 257.84 Inspection Requirements for CCR Landfills			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
117						*The owner of operator of the CCR unit must meet all the requirements (a) through (c) and all their components.*			
118	(a)	(1)	(i)			*All CCR landfills and any lateral expansion of a CCR landfill must be examined by a qualified person as follows:* 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	Same		
119	(a)	(1)	(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).	Same		
120	(a)	(2)	(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.	Same		NA
121	(a)	(2)	(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.	Same	NA	
122	(b)	(1)	(i)Delete			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:	Same		
123	(b)	(1)	(ii)(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	Same		
124	(b)	(1)	(ii)			A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.	Same		
125	(b)	(2)	(i)			The qualified professional engineer must prepare a report following each inspection that addresses the following: Any changes in geometry of the structure since the previous annual inspection;	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
126	(b)	(2)	(ii)			The approximate volume of CCR contained in the unit at the time of the inspection;	Same		
127	(b)	(2)	(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	Same		
128	(b)	(2)	(iv)			Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.	Same		
129	(b)	(3)	(i)			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 18, 2016. January 19, 2016	Same		NA
130	(b)	(3)	(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.	Same	NA	
131	(b)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
132	(b)	(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.	Same		
133	(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).	Same		
134						**§ 257.90 Applicability**			
135						*The owner of operator of the CCR unit must meet all the requirements (a) through (f), and all their components.*			
136	(a)					All CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under §§257.90 through 257.98.	Same		
137	(b)	(1)	(i)			*The owner or operator of an existing CCR landfill and existing CCR surface impoundment must be in compliance with the following groundwater monitoring requirements no later than October 17, 2017:* Install the groundwater monitoring system as required by § 257.91;	Same		
138	(b)	(1)	(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;	Same		
139	(b)	(1)	(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	Same		
140	(b)	(1)	(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.	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
141	(b)	(2)				Prior to initial receipt of CCR by the CCR unit, the owner or operator of a new CCR landfill, new CCR surface impoundment, and all lateral expansions of CCR units, 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).	Same		
142	(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.	Same		
143	(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.	Same		
144	(e)					The owner or operator of an existing CCR landfill and existing CCR surface impoundment, must prepare an annual groundwater monitoring and corrective action report no later than January 31, 2018, and annually thereafter. 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).	Same		
145	(e)	(1)				*At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
						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;	Same		
146	(e)	(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;	Same		
147	(e)	(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;	Same		
148	(e)	(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	Same		
149	(e)	(5)				Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.	Same		
150	(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).	Same		
							Groundwater Monitoring and Corrective Action in 40 CFR (§§ 257.90 - 257.98) have been adopted by reference with the following additions: Rule 391-3-4-10(6) (b) When referenced in this Rule, Appendix III and Appendix IV constituents shall refer to those constituents as listed in Appendix III and IV of 40 CFR Part 257, Subpart D, 80 FR 21468, (Apr. 17, 2015), which are hereby incorporated by reference. (c) The owner or operator of a CCR unit must		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
							submit a semi-annual report to the Division to coincide with the semi-annual sampling event. A qualified groundwater scientist must certify the report. (d) The Division must provide concurrence with the following actions in order for them to be complete: 1. Groundwater monitoring system design 2. Groundwater sampling and analysis plan 3. Groundwater monitoring well installation 4. Alternate source demonstration 5. Selection of remedy 6. Completion of remedy (e) The Director may require the analysis of additional parameters based on waste descriptions. (f) An owner or operator of a CCR unit shall continue to monitor for Appendix I or II constituents if these constituents have previously been detected at statistically significant levels above background concentrations. (g) Monitoring wells require replacement after two dry sampling events, unless an alternate schedule has been approved by the Division. A minor modification shall be submitted in accordance with subparagraph (4)(b)7 of Rule 391-3-4-.02 prior to the installation or decommissioning of monitoring wells. Well installation must be directed by a qualified groundwater scientist.		
151 152						**§ 257.91 Groundwater monitoring systems** *The owner of operator of the CCR unit must meet all the requirements (a) through (g) and all their components.*			
153	(a)	(1)				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 accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
154	(a)	(1)	(i)			*A determination of background quality may include sampling of wells that are not hydraulically upgradient of the CCR management area where:* Hydrogeologic conditions do not allow the owner or operator of the CCR unit to determine what wells are hydraulically upgradient; or	Same		
155	(a)	(1)	(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	Same		
156	(a)	(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.	Same		
157	(b)	(1)				The number, spacing, and depths of monitoring systems shall be determined based upon site-specific technical information that must include thorough characterization of: Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and	Same		
158	(b)	(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.	Same		
159	(c)	(1)				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: A minimum of one upgradient and three downgradient monitoring wells; and	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
160	(c)	(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.	Same		
161	(d)	(1)				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.	Same		
162	(d)	(1)	(i)			*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:* Number, spacing, and orientation of each CCR unit;	Same		
163	(d)	(1)	(ii)			Hydrogeologic setting;	Same		
164	(d)	(1)	(iii)			Site history;	Same		
165	(d)	(1)	(iv)			Engineering design of the CCR unit.	Same		
166	(d)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
167	(e)	(1)				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. 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.	Same		
168	(e)	(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.	Same		
169	(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.	Same		
170	(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).	Same		
171						**§ 257.93 Groundwater Sampling and Analysis Requirements**			
172						*The owner of operator of the CCR unit must meet all the requirements (a) through (j) and all their components.*			
173	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
174	(a)	(1)				*The owner or operator of the CCR unit must develop a sampling and analysis program that includes procedures and techniques for:* Sample collection;	Same		
175	(a)	(2)				Sample preservation and shipment;	Same		
176	(a)	(3)				Analytical procedures;	Same		
177	(a)	(4)				Chain of custody control; and	Same		
178	(a)	(5)				Quality assurance and quality control.	Same		
179	(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.	Same		
180	(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.	Same		
181	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
182	(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.	Same		
183	(f)	(1)				*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.* 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.	Same		
184	(f)	(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.	Same		
185	(f)	(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.	Same		
186	(f)	(4)				A control chart approach that gives control limits for each constituent.	Same		
187	(f)	(5)				Another statistical test method that meets the performance standards of paragraph (g) of this section.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
188	(f)	(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.	Same		
						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:	Same		
189	(g)	(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.	Same		
190	(g)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
191	(g)	(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.	Same		
192	(g)	(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.	Same		
193	(g)	(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.	Same		
194	(g)	(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.	Same		
195	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
196	(h)	(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.	Same		
197	(h)	(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.	Same		
198	(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 fieldfiltered prior to analysis.	Same		
199	(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).	Same		
200						**§ 257.94 Detection Monitoring Program**			
201						*The owner of operator of the CCR unit must meet all the requirements (a) through (f) and all their components.*			
202	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
203	(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.	Same		
204	(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.	Same		
205	(d)	(1)				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.	Same		
206	(d)	(1)	(i)			*The alternative frequency must be based on consideration of the following factors:* Lithology of the aquifer and unsaturated zone;	Same		
207	(d)	(1)	(ii)			Hydraulic conductivity of the aquifer and unsaturated zone; and	Same		
208	(d)	(1)	(iii)			Groundwater flow rates.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
209	(d)	(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.	Same		
210	(d)	(3)				The owner or operator must obtain a certification from a qualified 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).	Same		
211	(e)	(1)				*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:* 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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
212	(e)	(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.	Same		
213	(e)	(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).	Same		
214	(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).	Same		
215						**§ 257.95 Assessment Monitoring Program**			
216						*The owner of operator of the CCR unit must meet all the requirements (a) through (h) and all their components.*			
217	(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.	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
218	(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.	Same		
219	(c)	(1)				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. Information documenting that the need for less frequent sampling.	Same		
220	(c)	(1)	(i)			*The alternative frequency must be based on consideration of the following factors:*	Same		
						Lithology of the aquifer and unsaturated zone;			
221	(c)	(1)	(ii)			Hydraulic conductivity of the aquifer and unsaturated zone; and	Same		
222	(c)	(1)	(iii)			Groundwater flow rates.	Same		
223	(c)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
224	(c)	(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).	Same		
222	(d)	(1)				*After obtaining the results from the initial and subsequent sampling events required in paragraph (b) of this section, the owner or operator must:* 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;	Same		
223	(d)	(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	Same		
224	(d)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
225	(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).	Same		
226	(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.	Same		
227	(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).	Same		
						The owner or operator of the CCR unit also must:			
228	(g)	(1)	(i)			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: Install additional monitoring wells necessary to define the contaminant plume(s);	Same		
230	(g)	(1)	(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;	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
231	(g)	(1)	(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	Same		
232	(g)	(1)	(iv)			Sample all wells in accordance with paragraph (d)(1) of this section to characterize the nature and extent of the release.	Same		
233	(g)	(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.	Same		
234	(g)	(2)	(i)			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).	Same		
235	(g)	(3)	(i)			*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:* Initiate an assessment of corrective measures as required by § 257.96; or	Same		
236	(g)	(3)	(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.	Same		
237	(g)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
238	(g)	(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.	Same		
239	(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.	Same		
240	(h)	(1)				*The groundwater protection standard shall be:* 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: 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;	Same		
241	(h)	(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	Same		
242	(h)	(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).	Same		
243						**§ 257.96 Assessment of Corrective Measures**			
244						*The owner of operator of the CCR unit must meet all the requirements (a) through (f) and all their components.*			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
245	(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.	Same		
246	(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.	Same		
247	(c)	(1)				*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:*	Same		
						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;			
248	(c)	(2)				The time required to begin and complete the remedy;	Same		
249	(c)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
250	(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).	Same		
251	(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.	Same		
252	(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).	Same		
253						**§ 257.97 Selection of Remedy**			
254						*The owner of operator of the CCR unit must meet all the requirements (a) through (e) and all their components.*			
255	(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).	Same		
256	(b)	(1)				*Remedies must:*	Same		
257	(b)	(2)				Be protective of human health and the environment;	Same		
258	(b)	(3)				Attain the groundwater protection standard as specified pursuant to § 257.95(h);	Same		
						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;			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
259	(b)	(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;	Same		
260	(b)	(5)				Comply with standards for management of wastes as specified in § 257.98(d).	Same		
261	(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:* 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.	Same		
262	(c)	(1)	(i)			*The remedy will prove successful based on consideration of the following:* Magnitude of reduction of existing risks;	Same		
263	(c)	(1)	(ii)			Magnitude of residual risks in terms of likelihood of further releases due to CCR remaining following implementation of a remedy;	Same		
264	(c)	(1)	(iii)			The type and degree of long-term management required, including monitoring, operation, and maintenance;	Same		
265	(c)	(1)	(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 redisposal of contaminant;	Same		
266	(c)	(1)	(v)			Time until full protection is achieved;	Same		
267	(c)	(1)	(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;	Same		
268	(c)	(1)	(vii)			Long-term reliability of the engineering and institutional controls; and (viii) Potential need for replacement of the remedy.	Same		
269	(c)	(2)	(i)			*The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
						The extent to which containment practices will reduce further releases; and			
270	(c)	(2)	(ii)			The extent to which treatment technologies may be used.	Same		
271	(c)	(3)	(i)			*The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:*	Same		
						Degree of difficulty associated with constructing the technology;			
272	(c)	(3)	(ii)			Expected operational reliability of the technologies;	Same		
273	(c)	(3)	(iii)			Need to coordinate with and obtain necessary approvals and permits from other agencies;	Same		
274	(c)	(3)	(iv)			Availability of necessary equipment and specialists; and	Same		
275	(c)	(3)	(v)			Available capacity and location of needed treatment, storage, and disposal services.	Same		
276	(c)	(4)				The degree to which community concerns are addressed by a potential remedy(s).	Same		
277	(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.	Same		
278	(d)	(1)				*The owner or operator of the CCR unit must consider the following factors in determining the schedule of remedial activities:*	Same		
						Extent and nature of contamination, as determined by the characterization required under § 257.95(g);			
279	(d)	(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;	Same		
280	(d)	(3)				Availability of treatment or disposal capacity for CCR managed during implementation of the remedy;	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
281	(d)	(4)				Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;	Same		
282	(d)	(5)	(i)			Resource value of the aquifer including: Current and future uses;	Same		
283	(d)	(5)	(ii)			Proximity and withdrawal rate of users;	Same		
284	(d)	(5)	(iii)			Groundwater quantity and quality;	Same		
285	(d)	(5)	(iv)			The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to CCR constituents;	Same		
286	(d)	(5)	(v)			The hydrogeologic characteristic of the facility and surrounding land; and (vi) The availability of alternative water supplies; and	Same		
287	(d)	(6)				Other relevant factors.	Same		
288	(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).	Same		
289						**§ 257.98 Implementation of the Corrective Action Program**			
290						*The owner of operator of the CCR unit must meet all the requirements (a) through (f) and all their components.*			
291	(a)					Within 90 days of selecting a remedy under § 257.97, the owner or operator must initiate remedial activities.	Same		
292	(a)	(1)				*Based on the schedule established under § 257.97(d) for implementation and completion of remedial activities the owner or operator must:* Establish and implement a corrective action groundwater monitoring program.	Same		
293	(a)	(1)	(i)			*The corrective action groundwater monitoring program must:* At a minimum, meets the requirements of an assessment monitoring program under § 257.95;	Same		
294	(a)	(1)	(ii)			Documents the effectiveness of the corrective action remedy; and	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
295	(a)	(1)	(iii)			Demonstrates compliance with the groundwater protection standard pursuant to paragraph (c) of this section.	Same		
296	(a)	(2)				Implement the corrective action remedy selected under § 257.97; and	Same		
297	(a)	(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.	Same		
298	(a)	(3)	(i)			*The following factors must be considered by an owner or operator in determining whether interim measures are necessary:* Time required to develop and implement a final remedy;	Same		
299	(a)	(3)	(ii)			Actual or potential exposure of nearby populations or environmental receptors to any of the constituents listed in appendix IV of this part;	Same		
300	(a)	(3)	(iii)			Actual or potential contamination of drinking water supplies or sensitive ecosystems;	Same		
301	(a)	(3)	(iv)			Further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;	Same		
302	(a)	(3)	(v)			Weather conditions that may cause any of the constituents listed in appendix IV to this part to migrate or be released;	Same		
303	(a)	(3)	(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	Same		
304	(a)	(3)	(vii)			Other situations that may pose threats to human health and the environment.	Same		
305	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
306	(c)	(1)				*Remedies selected pursuant to § 257.97 shall be considered complete when:* 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.	Same		
307	(c)	(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).	Same		
308	(c)	(3)				All actions required to complete the remedy have been satisfied.	Same		
309	(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.	Same		
310	(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).	Same		
311	(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).	Same		
312						**§ 257.101 Closure or Retrofit of CCR Units**			
313						*The owner of operator of the CCR unit must meet all the requirements (a) through (d) and all their components.*			

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
314	(a)	(1)				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. 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.	Same	NA	NA
315	(a)	(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.	Same	NA	NA
316	(a)	(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.	Same	NA	NA
317	(a)	(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).	Same	NA	NA
318	(b)	(1)				The owner or operator of an existing CCR surface impoundment is subject to the requirements of paragraph (b)(1) of this section. 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.	Same	NA	NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
319	(b)	(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.	Same	NA	NA
320	(b)	(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.	Same	NA	NA
321	(b)	(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.	Same	NA	NA
322	(c)	(1)				The owner or operator of a new CCR surface impoundment is subject to the requirements of paragraph (c)(1) of this section. 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.	Same	NA	NA
323	(c)	(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.	Same	NA	NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
								Existing	New & Lateral Expansions
324	(d)	(1)				The owner or operator of an existing CCR landfill is subject to the requirements of paragraph (d)(1) of this section. 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.	Same		NA
325	(d)	(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.	Same		NA
326	(d)	(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.	Same		NA
327						**§ 257.102 Criteria for Conducting the Closure or Retrofit of CCR Units**			
328						*The owner of operator of the CCR unit must meet all the requirements (a) through (k) and all their components.*			
329	(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.	Same		
330	(b)	(1)				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.	Same		
331	(b)	(1)	(i)			*The written closure plan must include, at a minimum, the information specified in paragraphs (b)(1)(i) through (vi) of this section:* A narrative description of how the CCR unit will be closed in accordance with this section.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
332	(b)	(1)	(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.	Same		
333	(b)	(1)	(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.	Same		
334	(b)	(1)	(iv)			An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.	Same		
335	(b)	(1)	(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.	Same		
336	(b)	(1)	(v) (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.	Same		
337	(b)	(2)	(i)			The owner or operator ofan existing CCR landfill and existing CCR surface impoundment must prepare an initial written closure plan consistent with the requirements specified in paragraph (b)(1) of this section, no later than October 17, 2016.	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
338	(b)	(2)	(ii)			For new CCR landfills and new CCR surface impoundments, and any lateral expansion of a 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, no later than the date of the initial receipt of CCR in the CCR unit.	Same	NA	
339	(b)	(2)	(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).	Same		
340	(b)	(3)	(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.	Same		
341	(b)	(3)	(ii)	(A)		*The owner or operator must amend the written closure plan whenever:* There is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; or	Same		
342	(b)	(3)	(ii)	(B)		Before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan.	Same		
343	(b)	(3)	(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.	Same		
344	(b)	(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 requirements of this section.	Same		
345	(c)					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.	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
346	(d)	(1)	(i)			*The owner or operator of a CCR unit must ensure that, at a minimum, the CCR unit is closed in a manner that will:* Control, minimize or eliminate, to the maximum extent feasible, postclosure 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;	Same		
347	(d)	(1)	(ii)			Preclude the probability of future impoundment of water, sediment, or slurry;	Same		
348	(d)	(1)	(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;	Same		
349	(d)	(1)	(iv)			Minimize the need for further maintenance of the CCR unit; and	Same		
350	(d)	(1)	(v)			Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.	Same		
351	(d)	(2)	(i)			*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.* Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.	Same	NA	NA
352	(d)	(2)	(ii)			Remaining wastes must be stabilized sufficient to support the final cover system.	Same	NA	NA
353	(d)	(3)				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.	Same		
354	(d)	(3)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
355	(d)	(3)	(i)	(A)		*The design of the final cover system must be included in the written closure plan required by paragraph (b) of this section.* 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.	Same		
356	(d)	(3)	(i)	(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.	Same		
357	(d)	(3)	(i)	(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.	Same		
358	(d)	(3)	(i)	(D)		The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.	Same		
359	(d)	(3)	(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.	Same		
360	(d)	(3)	(ii)	(A)		*The design of the final cover system must be included in the written closure plan required by paragraph (b) of this section.* 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.	Same		
361	(d)	(3)	(ii)	(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.	Same		
362	(d)	(3)	(ii)	(C)		The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.	Same		
363	(d)	(3)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
364	(e)					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.	Same		
365	(e)	(1)	(i)			*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:* Receives the known final receipt of waste, either CCR or any non-CCR waste stream; or	Same		
366	(e)	(1)	(ii)			Removes the known final volume of CCR from the CCR unit for the purpose of beneficial use of CCR.	Same		
367	(e)	(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.	Same		
368	(e)	(2)	(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.	Same		
369	(e)	(2)	(ii)	(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	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
370	(e)	(2)	(ii)	(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.	Same		
371	(e)	(2)	(ii)	(B)	(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.	Same		
372	(e)	(2)	(ii)	(B)	(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.	Same		
373	(e)	(2)	(ii)	(B)	(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.	Same		
374	(e)	(2)	(ii)	(B)	(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.	Same		
375	(e)	(2)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
376	(e)	(3)	(i)			*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.* Taken any steps necessary to implement the written closure plan required by paragraph (b) of this section;	Same		
377	(e)	(3)	(ii)			Submitted a completed application for any required state or agency permit or permit modification; or	Same		
378	(e)	(3)	(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.	Same		
379	(e)	(4)	(ii)			An owner or operator of an existing unlined CCR surface impoundment closing the CCR unit as required by § 257.101(a);	Same	NA	NA
380	(e)	(4)	(iii)			An owner or operator of an existing CCR surface impoundment closing the CCR unit as required by § 257.101(b);	Same	NA	NA
381	(e)	(4)	(iv)			An owner or operator of a new CCR surface impoundment closing the CCR unit as required by § 257.101(c); or	Same	NA	NA
382	(f)					An owner or operator of an existing CCR landfill closing the CCR unit as required by § 257.101(d). (f) Completion of closure activities.	Same		
383	(f)	(1)	(i)			*Except as provided for in paragraph (f)(2) of this section, the owner or operator must complete closure of the CCR unit:* For existing and new CCR landfills and any lateral expansion of a CCR landfill, within six months of commencing closure activities.	Same		
384	(f)	(1)	(ii)			For existing and new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, within five years of commencing closure activities.	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
385	(f)	(2)	(i)			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.	Same		
386	(f)	(2)	(i)	(A)		*Factors that may support such a demonstration include:* Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;	Same		
387	(f)	(2)	(i)	(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;	Same	NA	NA
388	(f)	(2)	(i)	(C)		The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or	Same		
389	(f)	(2)	(i)	(D)		Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.	Same		
390	(f)	(2)	(ii)	(A)		CCR surface impoundments of 40 acres or smaller may extend the time to complete closure by no longer than two years.	Same	NA	NA
391	(f)	(2)	(ii)	(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.	Same	NA	NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
392	(f)	(2)	(ii)	(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.	Same		
393	(f)	(2)	(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:*	Same		
						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.	Same		
394	(f)	(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.	Same		
395	(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).	Same		
396	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
397	(i)	(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.	Same		
398	(i)	(2)	(i)			*The notation on the deed must in perpetuity notify any potential purchaser of the property that:* The land has been used as a CCR unit; and	Same		
399	(i)	(2)	(ii)			Its use is restricted under the postclosure care requirements as provided by § 257.104(d)(1)(iii).	Same		
400	(i)	(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).	Same		
401	(i)	(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.	Same		
402	(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).	Same		
403	(k)	(1)	(i)			*To retrofit an existing CCR surface impoundment, the owner or operator must:* First remove all CCR, including any contaminated soils and sediments from the CCR unit; and	Same	NA	NA
404	(k)	(1)	(ii)			Comply with the requirements in § 257.72.	Same	NA	NA
405	(k)	(1)	(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.	Same	NA	NA
406	(k)	(2)	(i)			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.	Same	NA	NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
407	(k)	(2)	(i)	(A)		*The written retrofit plan must include, at a minimum, all of the following information:* A narrative description of the specific measures that will be taken to retrofit the CCR unit in accordance with this section.	Same	NA	NA
408	(k)	(2)	(i)	(B)		A description of the procedures to remove all CCR and contaminated soils and sediments from the CCR unit.	Same	NA	NA
409	(k)	(2)	(i)	(C)		An estimate of the maximum amount of CCR that will be removed as part of the retrofit operation.	Same	NA	NA
410	(k)	(2)	(i)	(D)		An estimate of the largest area of the CCR unit that will be affected by the retrofit operation.	Same	NA	NA
411	(k)	(2)	(i)	(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.	Same	NA	NA
412	(k)	(2)	(ii)	(A)		Timeframes for preparing the initial written retrofit plan. 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.	Same	NA	NA
413	(k)	(2)	(ii)	(A)	(1)	*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:* Taken any steps necessary to implement the written retrofit plan;	Same	NA	NA
414	(k)	(2)	(ii)	(A)	(2)	Submitted a completed application for any required state or agency permit or permit modification; or	Same	NA	NA
415	(k)	(2)	(ii)	(A)	(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.	Same	NA	NA
416	(k)	(2)	(ii)	(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).	Same	NA	NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
417	(k)	(2)	(iii)	(A)		The owner or operator may amend the initial or any subsequent written retrofit plan at any time.		NA	NA
418	(k)	(2)	(iii)	(B)	(1)	*The owner or operator must amend the written retrofit plan whenever:* There is a change in the operation of the CCR unit that would substantially affect the written retrofit plan in effect; or	Same	NA	NA
419	(k)	(2)	(iii)	(B)	(2)	Before or after retrofit activities have commenced, unanticipated events necessitate a revision of the written retrofit plan.	Same	NA	NA
420	(k)	(2)	(iii)	(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.	Same	NA	NA
421	(k)	(2)	(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.	Same	NA	NA
422	(k)	(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.	Same	NA	NA
423	(k)	(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.	Same	NA	NA
424	(k)	(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).	Same	NA	NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills: Existing	CCR Landfills: New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
425	(k)	(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).	Same	NA	NA
426	(k)	(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.	Same	NA	NA
427	(k)	(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).	Same	NA	NA
428						**§ 257.103 Alternative Closure Requirements**			
429						*The owner of operator of the CCR unit must meet either requirement (a) and all its components or (b) and all its components, in addition to requirements (c) through (d).*			
430	(a)	(1)				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. 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.	Same		
431	(a)	(1)	(i)			*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:* 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;	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
432	(a)	(1)	(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;	Same		
433	(a)	(1)	(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	Same		
434	(a)	(1)	(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.	Same		
435	(a)	(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).	Same		
436	(a)	(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).	Same		
437	(b)	(1)				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 coalfired 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 onsite and off-site of the facility.	Same		
438	(b)	(1)	(i)			*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:* 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.	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
439	(b)	(1)	(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	Same		
440	(b)	(1)	(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.	Same		
441	(b)	(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.	Same	NA	NA
442	(b)	(3)				For a CCR surface impoundment that is larger than 40 acres, the coalfired boiler must cease operation, and the CCR surface impoundment must complete closure no later than October 17, 2028.	Same	NA	NA
443	(b)	(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.	Same		
444	(c)	(1)				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. 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.	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
445	(c)	(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.	Same		
446	(c)	(2)	(i)			*The annual progress reports must be completed according to the following schedule:* 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.	Same		
447	(c)	(2)	(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.	Same		
448	(c)	(2)	(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).	Same		
449	(c)	(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).	Same		
450	(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).	Same		
							Closure Requirements: Rule 391-3-4-.10(7) (c) The owner or operator must close the CCR unit in accordance with the written closure plan.		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
							(d) A notice of intent to close must be provided to the Director after receipt of the final load of waste. (e) Upon completion of closure activities, a professional engineer registered in Georgia shall prepare and submit a closure report to the Director. The closure report must be completed on forms provided by the Division. If the Director concurs with the closure report, closure will be deemed complete and the facility may begin the post-closure care period. (f) Concurrent with the submission of this closure report to the Director, the owner or operator must submit confirmation to the Director that a notation on the property deed has been recorded. This recording must in perpetuity notify any potential purchaser of the property that the land has been used as a CCR unit and that its use is restricted under the post closure care requirements of this Rule.		
451						**§ 257.104 Post-Closure Care Requirements**			
452						*The owner of operator of the CCR unit must meet all the requirements (a) through (f) and all their components.*			
453	(a)	(1)				Except as provided by paragraph (a)(2) of this section, §257.104 applies to the owners or operators of CCR landfills, CCR surface impoundments, and all lateral expansions of CCR units that are subject to the closure criteria under §257.102.	Same		
454	(a)	(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 postclosure care criteria under this section.	Same		
455	(b)	(1)				*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:*	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						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;			
456	(b)	(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	Same		
457	(b)	(3)				Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of §§ 257.90 through 257.98.	Same		
458	(c)	(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.	Same		
459	(c)	(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.	Same		
460	(d)	(1)	(i)			*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.* 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;	Same		
461	(d)	(1)	(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	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
462	(d)	(1)	(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.	Same		
463	(d)	(2)	(i)			The owner or operator of an existing CCR landfill and existing CCR surface impoundment must prepare an initial written post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section no later than October 17, 2016.	Same		
464	(d)	(2)	(ii)			The owner or operator of a new CCR landfill, new CCR surface impoundment, and any lateral expansion of a CCR unit must prepare an initial written postclosure plan consistent with the requirements specified in paragraph (d)(1) of this section no later than the date of the initial receipt of CCR in the CCR unit.	Same		
465	(d)	(2)	(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).	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
466	(d)	(3)	(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.	Same		
467	(d)	(3)	(ii)	(A)		*The owner or operator must amend the written closure plan whenever:* There is a change in the operation of the CCR unit that would substantially affect the written post-closure plan in effect; or	Same		
468	(d)	(3)	(ii)	(B)		After post-closure activities have commenced, unanticipated events necessitate a revision of the written post-closure plan.	Same		
469	(d)	(3)	(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.	Same		
470	(d)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
471	(e)					Notification of completion of postclosure 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).	Same		
472	(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).	Same		
							Rule 391-3-4-.10(7) (g) Post-Closure care for existing, new, and lateral expansions of CCR units shall be conducted in accordance with 40 CFR 257.104 with the following exception and additions: 1. An owner or operator of an inactive surface impoundment that elects to close a CCR unit pursuant to the requirements under 40 CFR 257.100(b) is subject to the post- closure care criteria in 40 CFR 257.104. 2. CCR units must comply with the conditions of the solid waste handling permit. 3. The release of CCR units from post-closure care must be approved by the Division.		
473						**§ 257.105 Recordkeeping Requirements**			
474						*The owner of operator of the CCR unit must meet all the requirements (a) through (j) and all their components.*			

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
475	(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.	Same		
476	(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.	Same		
477	(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.	Same		
478	(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.	Same		
479	(e)					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.	Same		
480	(f)	(1)				*The owner or operator of a CCR unit subject to this subpart must place the following the facility's operating record:* The design and construction certifications as required by § 257.70(e) and (f).	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
481	(f)	(2)				The documentation of liner type as required by § 257.71(a).	Same		
482	(f)	(3)				The design and construction certifications as required by § 257.72(c) and (d).	Same		
483	(f)	(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).	Same		
484	(f)	(5)				The initial and periodic hazard potential classification assessments as required by §§ 257.73(a)(2) and 257.74(a)(2).	Same		
485	(f)	(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.	Same		
486	(f)	(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).	Same		
487	(f)	(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).	Same		
488	(f)	(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.	Same		
489	(f)	(10)				The initial and periodic structural stability assessments as required by §§ 257.73(d) and 257.74(d).	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
490	(f)	(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).	Same		
491	(f)	(12)				The initial and periodic safety factor assessments as required by §§ 257.73(e) and 257.74(e).	Same		
492	(f)	(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.	Same		
493	(g)	(1)				*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.* 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.	Same		
494	(g)	(2)				The annual CCR fugitive dust control report required by § 257.80(c).	Same		
495	(g)	(3)				The initial and periodic run-on and run-off control system plans as required by § 257.81(c).	Same		
496	(g)	(4)				The initial and periodic inflow design flood control system plan as required by § 257.82(c).	Same		
497	(g)	(5)				Documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by § 257.83(a).	Same		
498	(g)	(6)				The periodic inspection report as required by § 257.83(b)(2).	Same		
499	(g)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
500	(g)	(8)				Documentation recording the results of the weekly inspection by a qualified person as required by § 257.84(a).	Same		
501	(g)	(9)				The periodic inspection report as required by § 257.84(b)(2).	Same		
502	(h)	(1)				*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:* The annual groundwater monitoring and corrective action report as required by § 257.90(e).	Same		
503	(h)	(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).	Same		
504	(h)	(3)				The groundwater monitoring system certification as required by § 257.91(f).	Same		
505	(h)	(4)				The selection of a statistical method certification as required by § 257.93(f)(6).	Same		
506	(h)	(5)				Within 30 days of establishing an assessment monitoring program, the notification as required by § 257.94(e)(3).	Same		
507	(h)	(6)				The results of appendices III and IV to this part constituent concentrations as required by § 257.95(d)(1).	Same		
508	(h)	(7)				Within 30 days of returning to a detection monitoring program, the notification as required by § 257.95(e).	Same		
509	(h)	(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).	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
510	(h)	(9)				Within 30 days of initiating the assessment of corrective measures requirements, the notification as required by § 257.95(g)(5).	Same		
511	(h)	(10)				The completed assessment of corrective measures as required by § 257.96(d).	Same		
512	(h)	(11)				Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by § 257.96(e).	Same		
513	(h)	(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.	Same		
514	(h)	(13)				Within 30 days of completing the remedy, the notification as required by § 257.98(e).	Same		
515	(i)	(1)				*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.* The notification of intent to initiate closure of the CCR unit as required by § 257.100(c)(1).	Same		
516	(i)	(2)				The annual progress reports of closure implementation as required by § 257.100(c)(2)(i) and (ii).	Same		
517	(i)	(3)				The notification of closure completion as required by § 257.100(c)(3).	Same		
518	(i)	(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.	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
519	(i)	(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).	Same		
520	(i)	(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).	Same		
521	(i)	(7)				The notification of intent to close a CCR unit as required by § 257.102(g).	Same		
522	(i)	(8)				The notification of completion of closure of a CCR unit as required by § 257.102(h).	Same		
523	(i)	(9)				The notification recording a notation on the deed as required by § 257.102(i).	Same		
524	(i)	(10)				The notification of intent to comply with the alternative closure requirements as required by § 257.103(c)(1).	Same		
525	(i)	(11)				The annual progress reports under the alternative closure requirements as required by § 257.103(c)(2).	Same		
526	(i)	(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.	Same		
527	(i)	(13)				The notification of completion of post-closure care period as required by § 257.104(e).	Same		
528	(j)	(1)				*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:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						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.			
529	(j)	(2)				The notification of intent that the retrofit activities will proceed in accordance with the alternative procedures in § 257.103.	Same		
530	(j)	(3)				The annual progress reports required under the alternative requirements as required by § 257.103.	Same		
531	(j)	(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).	Same		
532	(j)	(5)				The notification of intent to initiate retrofit of a CCR unit as required by § 257.102(k)(5).	Same		
533	(j)	(6)				The notification of completion of retrofit activities as required by § 257.102(k)(6).	Same		
							Rule 391-3-4-.10(8) (a) The requirements of 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107 are incorporated by reference with the following addition: 1. Electronic mail sent to a designated EPD recipient is an authorized form of notification when approved by EPD.		
534						**§ 257.106 Notification Requirements**			
535						*The owner or operator of the CCR unit must meet all the requirements (a) through (j) and all their components.*			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
536	(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.	Same		
537	(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.	Same		
538	(c)					Notifications may be combined as long as the deadline requirement for each notification is met.	Same		
539	(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.	Same		
540	(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.	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
541	(f)					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.	Same		
542	(f)	(1)				*The owner or operator must:* 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.	Same		
543	(f)	(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).	Same		
544	(f)	(3)				Provide notification of the availability of the documentation of liner type specified under § 257.105(f)(2).	Same		
545	(f)	(4)				Provide notification of the availability of the initial and periodic hazard potential classification assessments specified under § 257.105(f)(5).	Same		
546	(f)	(5)				Provide notification of the availability of emergency action plan (EAP), and any revisions of the EAP, specified under § 257.105(f)(6).	Same		
547	(f)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
548	(f)	(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).	Same		
549	(f)	(8)				Provide notification of the availability of the history of construction, and any revision of it, specified under § 257.105(f)(9).	Same		
550	(f)	(9)				Provide notification of the availability of the initial and periodic structural stability assessments specified under § 257.105(f)(10).	Same		
551	(f)	(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).	Same		
552	(f)	(11)				Provide notification of the availability of the initial and periodic safety factor assessments specified under § 257.105(f)(12).	Same		
553	(f)	(12)				Provide notification of the availability of the design and construction plans, and any revision of them, specified under § 257.105(f)(13).	Same		
554	(g)					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.	Same		
555	(g)	(1)				*The owner or operator must:* 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).	Same		
556	(g)	(2)				Provide notification of the availability of the annual CCR fugitive dust control report specified under § 257.105(g)(2).	Same		
557	(g)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
558	(g)	(4)				Provide notification of the availability of the initial and periodic inflow design flood control system plans specified under § 257.105(g)(4).	Same		
559	(g)	(5)				Provide notification of the availability of the periodic inspection reports specified under § 257.105(g)(6).	Same		
560	(g)	(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).	Same		
561	(g)	(7)				Provide notification of the availability of the periodic inspection reports specified under § 257.105(g)(9).	Same		
562	(h)					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.	Same		
563	(h)	(1)				*The owner or operator must:* Provide notification of the availability of the annual groundwater specified under § 257.105(h)(1).	Same		
564	(h)	(2)				Provide notification of the availability of the groundwater monitoring system certification specified under § 257.105(h)(3).	Same		
565	(h)	(3)				Provide notification of the availability of the selection of a statistical method certification specified under § 257.105(h)(4).	Same		
566	(h)	(4)				Provide notification that an assessment monitoring programs has been established specified under § 257.105(h)(5).	Same		
567	(h)	(5)				Provide notification that the CCR unit is returning to a detection monitoring program specified under § 257.105(h)(7).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
568	(h)	(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).	Same		
569	(h)	(7)				Provide notification that an assessment of corrective measures has been initiated specified under § 257.105(h)(9).	Same		
570	(h)	(8)				Provide notification of the availability of assessment of corrective measures specified under § 257.105(h)(10).	Same		
571	(h)	(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).	Same		
572	(h)	(10)				Provide notification of the completion of the remedy specified under § 257.105(h)(13).	Same		
573	(i)					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.	Same		
574	(i)	(1)				*The owner or operator must:* Provide notification of the intent to initiate closure of the CCR unit specified under § 257.105(i)(1).	Same		
575	(i)	(2)				Provide notification of the availability of the annual progress reports of closure implementation specified under § 257.105(i)(2).	Same		
576	(i)	(3)				Provide notification of closure completion specified under § 257.105(i)(3).	Same		
577	(i)	(4)				Provide notification of the availability of the written closure plan, and any amendment of the plan, specified under § 257.105(i)(4).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
578	(i)	(5)				Provide notification of the availability of the demonstration(s) for a time extension for initiating closure specified under § 257.105(i)(5).	Same		
579	(i)	(6)				Provide notification of the availability of the demonstration(s) for a time extension for completing closure specified under § 257.105(i)(6).	Same		
580	(i)	(7)				Provide notification of intent to close a CCR unit specified under § 257.105(i)(7).	Same		
581	(i)	(8)				Provide notification of completion of closure of a CCR unit specified under § 257.105(i)(8).	Same		
582	(i)	(9)				Provide notification of the deed notation as required by § 257.105(i)(9).	Same		
583	(i)	(10)				Provide notification of intent to comply with the alternative closure requirements specified under § 257.105(i)(10).	Same		
584	(i)	(11)				The annual progress reports under the alternative closure requirements as required by § 257.105(i)(11).	Same		
585	(i)	(12)				Provide notification of the availability of the written post-closure plan, and any amendment of the plan, specified under § 257.105(i)(12).	Same		
586	(i)	(13)				Provide notification of completion of post-closure care specified under § 257.105(i)(13).	Same		
587	(j)					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.	Same		
588	(j)	(1)				*The owner or operator must:* Provide notification of the availability of the written retrofit plan, and any amendment of the plan, specified under § 257.105(j)(1).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
589	(j)	(2)				Provide notification of intent to comply with the alternative retrofit requirements specified under § 257.105(j)(2).	Same		
590	(j)	(3)				The annual progress reports under the alternative retrofit requirements as required by § 257.105(j)(3).	Same		
591	(j)	(4)				Provide notification of the availability of the demonstration(s) for a time extension for completing retrofit activities specified under § 257.105(j)(4).	Same		
592	(j)	(5)				Provide notification of intent to initiate retrofit of a CCR unit specified under § 257.105(j)(5).	Same		
593	(j)	(6)				Provide notification of completion of retrofit activities specified under § 257.105(j)(6).	Same		
594						**§ 257.107 Publicly Accessible Internet Site Requirements**			
595						*The owner of operator of the CCR unit must meet all the requirements (a) through (j) and all their components.*			
596	(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."	Same		
597	(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.	Same		
598	(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.	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
599	(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.	Same		
600	(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.	Same		
601	(f)	(1)				*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:* Within 60 days of commencing construction of a new unit, the design certification specified under § 257.105(f)(1) or (3).	Same		
602	(f)	(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).	Same		
603	(f)	(3)				The documentation of liner type specified under § 257.105(f)(2).	Same		
604	(f)	(4)				The initial and periodic hazard potential classification assessments specified under § 257.105(f)(5).	Same		
605	(f)	(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.	Same		
606	(f)	(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).	Same		
607	(f)	(7)				Documentation prepared by the owner or operator recording any activation of the emergency action plan specified under § 257.105(f)(8).	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
608	(f)	(8)				The history of construction, and any revisions of it, specified under § 257.105(f)(9).	Same		
609	(f)	(9)				The initial and periodic structural stability assessments specified under § 257.105(f)(10).	Same		
610	(f)	(10)				The documentation detailing the corrective measures taken to remedy the § 257.105(f)(11).	Same		
611	(f)	(11)				The initial and periodic safety factor assessments specified under § 257.105(f)(12).	Same		
612	(f)	(12)				The design and construction plans, and any revisions of them, specified under § 257.105(f)(13).	Same		
613	(g)	(1)				*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:* 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.	Same		
614	(g)	(2)				The annual CCR fugitive dust control report specified under § 257.105(g)(2).	Same		
615	(g)	(3)				The initial and periodic run-on and run-off control system plans specified under § 257.105(g)(3).	Same		
616	(g)	(4)				The initial and periodic inflow design flood control system plans specified under § 257.105(g)(4).	Same		
617	(g)	(5)				The periodic inspection reports specified under § 257.105(g)(6).	Same		
618	(g)	(6)				The documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.105(g)(7).	Same		

						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
619	(g)	(7)				The periodic inspection reports specified under § 257.105(g)(9).	Same		
620	(h)	(1)				*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:* The annual groundwater monitoring and corrective action report specified under § 257.105(h)(1).	Same		
621	(h)	(2)				The groundwater monitoring system certification specified under § 257.105(h)(3).	Same		
622	(h)	(3)				The selection of a statistical method certification specified under § 257.105(h)(4).	Same		
623	(h)	(4)				The notification that an assessment monitoring programs has been established specified under § 257.105(h)(5).	Same		
624	(h)	(5)				The notification that the CCR unit is returning to a detection monitoring program specified under § 257.105(h)(7).	Same		
625	(h)	(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).	Same		
626	(h)	(7)				The notification that an assessment of corrective measures has been initiated specified under § 257.105(h)(9).	Same		
627	(h)	(8)				The assessment of corrective measures specified under § 257.105(h)(10).	Same		
628	(h)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills		Existing	New & Lateral Expansions
629	(h)	(10)				The notification that the remedy has been completed specified under § 257.105(h)(13).	Same		
630	(i)	(1)				*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:* The notification of intent to initiate closure of the CCR unit specified under § 257.105(i)(1).	Same		
631	(i)	(2)				The annual progress reports of closure implementation specified under § 257.105(i)(2).	Same		
632	(i)	(3)				The notification of closure completion specified under § 257.105(i)(3).	Same		
633	(i)	(4)				The written closure plan, and any amendment of the plan, specified under § 257.105(i)(4).	Same		
634	(i)	(5)				The demonstration(s) for a time extension for initiating closure specified under § 257.105(i)(5).	Same		
635	(i)	(6)				The demonstration(s) for a time extension for completing closure specified under § 257.105(i)(6).	Same		
636	(i)	(7)				The notification of intent to close a CCR unit specified under § 257.105(i)(7).	Same		
637	(i)	(8)				The notification of completion of closure of a CCR unit specified under § 257.105(i)(8).	Same		
638	(i)	(9)				The notification recording a notation on the deed as required by § 257.105(i)(9).	Same		
639	(i)	(10)				The notification of intent to comply with the alternative closure requirements as required by § 257.105(i)(10).	Same		
640	(i)	(11)				The annual progress reports under the alternative closure requirements as required by § 257.105(i)(11).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR Landfills	
								Existing	New & Lateral Expansions
						Existing and New CCR Landfills and All Lateral Expansions of CCR Landfills			
641	(i)	(12)				The written post-closure plan, and any amendment of the plan, specified under § 257.105(i)(12).	Same		
642	(i)	(13)				The notification of completion of post-closure care specified under § 257.105(i)(13).	Same		
643	(j)	(1)				*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:* The written retrofit plan, and any amendment of the plan, specified under § 257.105(j)(1).	Same		
644	(j)	(2)				The notification of intent to comply with the alternative retrofit requirements as required by § 257.105(j)(2).	Same		
645	(j)	(3)				The annual progress reports under the alternative retrofit requirements as required by § 257.105(j)(3).	Same		
646	(j)	(4)				The demonstration(s) for a time extension for completing retrofit activities specified under § 257.105(j)(4).	Same		
647	(j)	(5)				The notification of intent to retrofit a CCR unit specified under § 257.105(j)(5).	Same		
648	(j)	(6)				The notification of completion of retrofit activities specified under § 257.105(j)(6).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
						Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
1						**§ 257.53 Definitions**			
2						*The owner of operator of the CCR unit must include all definitions*			
3	all					Specify each definition that differs from those listed in section 257.53.	Definitions in 40 CFR 257.53 are incorporated by reference into this section and are applicable to CCR units with the following additions and revision: Rule 391-3-4-.10(2) (a) Definitions in 40 CFR 257.53 are incorporated by reference into this section and are applicable to CCR units with the following additions and revision: 1. "Dewatered Surface Impoundment" means a CCR surface impoundment that no longer receives CCR on or after October 19, 2015 and does not contain liquids on or after October 19, 2015. 2. "NPDES -CCR Surface Impoundment" means a CCR surface impoundment that no longer receives CCR on or after October 19, 2015 which still contains both CCR and liquids and is located at an electric utility or independent power producer that has ceased producing electricity prior to October 19, 2015. 3. "Inactive CCR Landfill" means a CCR landfill that no longer receives CCR and other wastes on or after October 19, 2015. 4. The following text shall be substituted for the fourth condition in the definition of Beneficial use of CCR "(4) For unencapsulated use of CCR, the user must demonstrate to the Division and provide documentation to the Division 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		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
								Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments	
							and ecological receptors during use."		
1						**§ 257.60 Placement Above the Uppermost Aquifer**			
2						*The owner of operator of the CCR unit must meet all the requirements (a) through (d).*			
3	(a)					The base of CCR unit should be at least 1.52 meters (5 ft.) above the upper limit of the uppermost aquifer, or, the owner must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection with uppermost aquifer during normal and seasonal water table fluctuations. 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.	Same		
4	(b)					Obtain a certificate from professional engineer, stating that the requirements meet comply with the recordkeeping requirements specified in § 257.105(e).	Same		
5	(c)	(1)				For an existing surface impoundment, the owner or operator of the CCR unit must complete the demonstration required by paragraph (a) no later than October 17, 2018 for an existing CCR surface impoundment.	Same		
6	(c)	(2)				For a new CCR landfill, new CCR impoundment, or any lateral expansion of a CCR unit, the owner or operator of the CCR unit must complete the demonstration required by paragraph (a) no later than the date of initial receipt of CCR in the CCR unit for a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit.	Same		
7	(c)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
						Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
8	(c)	(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 is subject to the requirements of § 257.101(b)(1).	Same		NA
9	(c)	(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) is prohibited from placing CCR in the CCR unit.	Same	NA	
10	(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).	Same		
							Location Restrictions in 40 CFR (§§ 257.60 - 257.64) have been adopted by reference with the following additions for New and lateral Expansions of CCR landfills: Rule 391-3-4-.10(3) (c) For new and lateral expansions of CCR units, the hydrogeological evaluation for a specific site must be performed by a qualified groundwater scientist. (d) For new and lateral expansions of CCR units, when the geological and hydrogeological data so indicate, the Division may specify greater separation distances to protect groundwater. (e) Buffers: New CCR units and lateral expansions of CCR units must provide a 200- foot undisturbed buffer between the waste disposal boundary and the boundary of the permitted facility and a minimum 500-foot buffer between the waste disposal boundary and any occupied dwelling and the dwelling's operational private, domestic water supply well in existence on the date of the permit application. The 500-foot buffer may be reduced if the current owner		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
							of the dwelling provides a written waiver consenting to the waste disposal boundary being closer than 500 feet. No disposal or storage practices for waste shall take place in the buffer zones.		
11 12						**§ 257.61 Wetlands** *The owner of operator of the CCR unit must first meet requirements (a) or requirements (a)(1) through (5), in addition to meeting requirements (b) through (d) and all their components.*			
13	(a)					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.	Same	NA	
14	(a)	(1)				*The owner or operator of CCR unit must:* Provide a rebuttal of the presumption that an alternative to the CCR unit is reasonably available that does not involve wetlands where applicable under § 404 of the Clean Water Act or applicable state wetlands laws.	Same	NA	
15	(a)	(2)				*The construction and operation of the CCR unit will not cause or contribute to violations of the following applicable regulations:*	Same		Applicable
16	(a)	(2)	(i)			State or federal water quality standard;	Same	NA	
17	(a)	(2)	(ii)			Toxic effluent standard or prohibition under section 307 of the Clean Water Act;	Same	NA	
18	(a)	(2)	(iii)			Endangered or threatened species, or a critical habitat protected under the Endangered Species Act of 1973;	Same	NA	
19	(a)	(2)	(iv)			Marine Protection, Research, and Sanctuaries Act of 1972	Same	NA	
20	(a)	(3)				The CCR unit will not cause or contribute to significant degradation of wetlands by addressing all of the following factors:	Same	NA	
21	(a)	(3)	(i)			Erosion, stability and migration potential of native wetland soils used to support the CCR unit;	Same	NA	

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
22	(a)	(3)	(ii)			Erosion, stability and migration potential of dredged and fill materials used to support the CCR unit;	Same	NA	
23	(a)	(3)	(iii)			The volume and chemical nature of the CCR;	Same	NA	
24	(a)	(3)	(iv)			Impacts on fish, wildlife, other aquatic resources and their habitat from release of CCR;	Same	NA	
25	(a)	(3)	(v)			The potential effects of catastrophic release of CCR to the wetland and the resulting impacts on the environment; and	Same	NA	
26	(a)	(3)	(vi)			Any additional factors, as necessary, to demonstrate sufficient protection of ecological resources in the wetland.	Same	NA	
27	(a)	(4)				*The owner or operator of CCR unit must also:* Demonstrate that 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), then minimizing unavoidable impacts to the maximum extent reasonable, and 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) to the extent required under section 404 of the Clean Water Act or applicable state wetlands laws.	Same	NA	
28	(a)	(5)				Sufficient information is available to make a reasoned determination with respect to the demonstrations in paragraphs (a)(1) through (4).	Same	NA	
29	(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).	Same	NA	
30	(c)	(1)				The owner or operator of the existing CCR surface impoundment must complete the demonstration by October 17, 2018.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
								Existing	New & Lateral Expansions
31	(c)	(2)				The owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.	Same		
32	(c)	(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).	Same	NA	
33	(c)	(4)				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) is prohibited from placing CCR in the CCR unit. Correction: 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).	Same		NA
34	(c)	(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) is prohibited from placing CCR in the CCR unit.	Same	NA	
35	(d)					The owner or operator 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).	Same		
36 37						**§ 257.62 Fault Areas** *The owner of operator of the CCR unit must meet all the requirements (a) through (d).*			
38	(a)					CCR unit should 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 that an alternative setback distance of less than 60 meters will prevent damage to the structural integrity of the CCR unit.	Same	NA	

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
39	(b)					The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the demonstration meets these requirements of paragraph (a).	Same	NA	
40	(c)	(1)				The owner or operator of the existing CCR surface impoundment must complete the demonstration by October 17, 2018.	Same		
41	(c)	(2)				The owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.	Same		
42	(c)	(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).	Same	NA	
43	(c)	(4)				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) is prohibited from placing CCR in the CCR unit. Correction: 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).	Same		NA
44	(c)	(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) is prohibited from placing CCR in the CCR unit.	Same	NA	
45	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments: Existing	CCR surface impoundments: New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
46						**§ 257.63 Seismic Impact Zones**			
47						*The owner of operator of the CCR unit must meet all the requirements (a) through (d).*			
48	(a)					CCR units and any expansions must not be located in seismic impact zones, unless the owner or operator demonstrates 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.	Same	NA	
49	(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)	Same	NA	
50	(c)	(1)				The owner or operator of the existing CCR surface impoundment must complete the demonstration by October 17, 2018.	Same		
51	(c)	(2)				The owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit must complete the demonstration no later than the date of initial receipt of CCR in the CCR unit.	Same		
52	(c)	(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).	Same	NA	
53	(c)	(4)				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) is prohibited from placing CCR in the CCR unit. Correction: 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).	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
54	(c)	(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) is prohibited from placing CCR in the CCR unit.	Same	NA	
55	(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).	Same		
56						**§ 257.64 Unstable Areas**			
57						*The owner of operator of the CCR unit must meet all the requirements (a) through (e) and all their components.*			
58	(a)					A CCR unit must not be located in an unstable area, unless the owner or operator demonstrates 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.	Same		
59	(b)	(1)				*When determining whether an area is unstable or not, the owner or operator must consider, at a minimum, all of the following:* On-site or local soil conditions that may result in significant differential settling;	Same		
60	(b)	(2)				On-site or local geologic or geomorphologic features; and	Same		
61	(b)	(3)				On-site or local human-made features or events (both surface and subsurface).	Same		
62	(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 in paragraph (a).	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
63	(d)	(1)				The owner or operator of the CCR unit must complete the demonstration required in paragraph (a) no later than October 17, 2018 for existing CCR surface impoundments and existing CCR landfills.	Same		
64	(d)	(2)				The owner or operator of the CCR unit must complete the demonstration required in paragraph (a) no later than the date of initial receipt of CCR in the CCR unit for a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit.	Same		
65	(d)	(3)				The owner or operator has completed the demonstration required by paragraph (a) when the demonstration is placed in the facility's operating record as required by § 257.105(e).	Same		
66	(d)	(4)				An owner or operator of an existing CCR unit who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified is subject to the requirements of § 257.101(b)(1) or (d), respectively.	Same		NA
67	(d)	(5)				An owner or operator of a new CCR unit, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) is prohibited from placing CCR in the CCR unit.	Same	NA	
68	(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).	Same		
69						**§ 257.71 Liner Design Criteria for Existing CCR Surface Impoundments**			
70						*The owner of operator of the CCR unit must meet all the requirements (a) through (c) and all their components.*			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
						Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
71	(a)	(1)	(i)			*By 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:* 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;	Same		
72	(a)	(1)	(ii)			A composite liner that meets the requirements of § 257.70(b);	Same		
73	(a)	(1)	(iii)			An alternative composite liner that meets the requirements of § 257.70(c).	Same		
74	(a)	(2)				The hydraulic conductivity of the compacted soil must be determined using recognized and generally accepted methods.	Same		
75	(a)	(3)	(i)			*An existing CCR surface impoundment is considered to be an existing unlined CCR surface impoundment if either 3(i) or 3(ii):* 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	Same		
76	(a)	(3)	(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.	Same		
77	(a)	(4)				All existing unlined CCR surface impoundments are subject to the requirements of § 257.101(a).	Same		
78	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
								Existing	New & Lateral Expansions
79	(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).	Same		
80						**§ 257.72 Liner Design Criteria for New CCR Surface Impoundments and Any Lateral Expansion of a CCR Surface Impoundment**			
81						*The owner of operator of the CCR unit must meet all the requirements (a) through (e).*			
82	(a)					CCR impoundments and lateral expansions 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).	Same		
83	(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.	Same		
84	(c)					Prior to construction of the impoundment or expansion, 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.	Same		
85	(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; 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). (Not in 40 CFR 257.72(d))	Same		
86	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
87 88						**§ 257.73 Structural Integrity Criteria for Existing CCR Surface Impoundments** *The owner of operator of the CCR unit must meet all the requirements (a) through (g) and all their components.* **These requirements do not apply to existing CCR surface impoundments that are inoised CCR units, unless inoised CCR surface impoundment is subsequently modified (e.g., a dike is constructed) such that the CCR unit no longer meets the definition of an inoised CCR unit.*			
89	(a)	(1)				By 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.	Same		
90	(a)	(2)	(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.	Same		
91	(a)	(2)	(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.	Same		
92	(a)	(3)	(i)			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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
						At a minimum, the EAP must:	Same		
93	(a)	(3)	(i)	(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;			
94	(a)	(3)	(i)	(B)		Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;	Same		
95	(a)	(3)	(i)	(C)		Provide contact information of emergency responders;	Same		
96	(a)	(3)	(i)	(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	Same		
97	(a)	(3)	(i)	(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.	Same		
98	(a)	(3)	(ii)	(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.	Same		
99	(a)	(3)	(ii)	(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).	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
100	(a)	(3)	(iii)	(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).	Same		
101	(a)	(3)	(iii)	(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.	Same		
102	(a)	(3)	(iv)			(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
103	(a)	(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.	Same		
104	(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: has a height of five feet or more and a storage volume of 20 acre-feet or more; or has a height of 20 feet or more.	Same		
105	(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.	Same		
106	(c)	(1)	(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.	Same		
107	(c)	(1)	(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.	Same		
108	(c)	(1)	(iii)			A statement of the purpose for which the CCR unit is being used.	Same		
109	(c)	(1)	(iv)			The name and size in acres of the watershed within which the CCR unit is located.	Same		
110	(c)	(1)	(v)			A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
111	(c)	(1)	(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.	Same		
112	(c)	(1)	(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.	Same		
113	(c)	(1)	(viii)			A description of the type, purpose, and location of existing instrumentation. (ix) Area-capacity curves for the CCR unit. (Should be included as 40 CFR 257.73(c) (1)(ix))	Same		
114	(c)	(1)	(ix)			A description of each spillway and diversion design features and capacities and calculations used in their determination. (Should be included as 40 CFR 257.73(c) (1) (x))	Same		
115	(c)	(1)	(x)			The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit. (Should be included as 40 CFR 257.73(c) (1) (xi))	Same		
116	(c)	(1)	(xi)			Any record or knowledge of structural instability of the CCR unit. (Should be included as 40 CFR 257.73(c) (1) (xii))	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
117	(c)	(2)				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).	Same		
118	(d)	(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.	Same		
119	(d)	(1)	(i)			*The assessment must, at a minimum, document whether the CCR unit has been designed, constructed, operated, and maintained with:* Stable foundations and abutments;	Same		
120	(d)	(1)	(iii)			Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;	Same		
121	(d)	(1)	(iii)			Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;	Same		
122	(d)	(1)	(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;	Same		
123	(d)	(1)	(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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
124	(d)	(1)	(v)	(A)		All spillways must be either of non-erodible construction and designed to carry sustained flows; or earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.	Same		
125	(d)	(1)	(v)	(B)		The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a: probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or 1000-year flood for a significant hazard potential CCR surface impoundment; or 100-year flood for a low hazard potential CCR surface impoundment.	Same		
126	(d)	(1)	(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	Same		
127	(d)	(1)	(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.	Same		
128	(d)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
129	(d)	(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.	Same		
130	(e)	(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.	Same		
131	(e)	(1)	(i)			The calculated static factor of safety under the long-term, maximum storage pool loading condition must equal or exceed 1.50.	Same		
132	(e)	(1)	(ii)			The calculated static factor of safety under the maximum surcharge pool loading condition must equal or exceed 1.40.	Same		
133	(e)	(1)	(iii)			The calculated seismic factor of safety must equal or exceed 1.00.	Same		
134	(e)	(1)	(iv)			For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety must equal or exceed 1.20.	Same		
135	(e)	(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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
136	(f)	(1)				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).	Same		
137	(f)	(2)				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):	Same		
138	(f)	(2)	(i)			Was completed no earlier than 42 months prior to October 17, 2016; and	Same		
139	(f)	(2)	(ii)			Meets the applicable requirements of paragraphs (a)(2), (d), and (e) of this section.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
140	(f)	(3)				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).	Same		
141	(f)	(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).	Same		
142	(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).	Same		
143						**§ 257.74 Structural Integrity Criteria for New CCR Surface Impoundments and Any Lateral Expansion of a CCR Surface Impoundment**			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
144						*The owner of operator of the CCR unit must meet all the requirements (a) through (g) and all their components.* **These requirements do not apply to existing CCR surface impoundments that are incised CCR units, unless incised CCR surface impoundment is subsequen*			
145	(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.	Same	NA	
146	(a)	(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.	Same	NA	
147	(a)	(2)	(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.	Same	NA	

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
148	(a)	(2)	(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.	Same	NA	
149	(a)	(3)	(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:	Same	NA	
150	(a)	(3)	(i)	(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;	Same	NA	
151	(a)	(3)	(i)	(B)		Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;	Same	NA	
152	(a)	(3)	(i)	(C)		Provide contact information of emergency responders;	Same	NA	
153	(a)	(3)	(i)	(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	Same	NA	
154	(a)	(3)	(i)	(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.	Same	NA	

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
155	(a)	(3)	(ii)	(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.	Same	NA	
156	(a)	(3)	(ii)	(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).	Same	NA	
157	(a)	(3)	(iii)	(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).	Same	NA	
158	(a)	(3)	(iii)	(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.	Same	NA	

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
159	(a)	(3)	(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.	Same	NA	
160	(a)	(3)	(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.	Same	NA	
161	(a)	(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.	Same	NA	
162	(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.	Same	NA	
163	(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.	Same	NA	
164	(c)	(1)	(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.	Same	NA	

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
165	(c)	(1)	(ii)			The location of the CCR unit identified on the most recent U.S. Geological Survey (USGS) 71/2 minute or 15 minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available.	Same	NA	
166	(c)	(1)	(iii)			A statement of the purpose for which the CCR unit is being used.	Same	NA	
167	(c)	(1)	(iv)			The name and size in acres of the watershed within which the CCR unit is located.	Same	NA	
168	(c)	(1)	(v)			A description of the physical and engineering properties of the foundation and abutment materials on which the CCR unit is constructed.	Same	NA	
169	(c)	(1)	(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.	Same	NA	
170	(c)	(1)	(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.	Same	NA	
171	(c)	(1)	(viii)			A description of the type, purpose, and location of existing instrumentation.	Same	NA	

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
172	(c)	(1)	(ix)			Area-capacity curves for the CCR unit.	Same	NA	
173	(c)	(1)	(x)			A description of each spillway and diversion design features and capacities and calculations used in their determination.	Same	NA	
174	(c)	(1)	(xi)			The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.	Same	NA	
175	(c)	(1)	(xii)			Any record or knowledge of structural instability of the CCR unit.	Same	NA	
178	(c)	(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).	Same	NA	
179	(d)	(1)				Periodic structural stability assessments. 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:	Same	NA	
180	(d)	(1)	(i)			Stable foundations and abutments;	Same	NA	
181	(d)	(1)	(ii)			Adequate slope protection to protect against surface erosion, wave action, and adverse effects of sudden drawdown;	Same	NA	
182	(d)	(1)	(iii)			Dikes mechanically compacted to a density sufficient to withstand the range of loading conditions in the CCR unit;	Same	NA	
183	(d)	(1)	(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;	Same	NA	

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
184	(d)	(1)	(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.	Same	NA	
185	(d)	(1)	(v)	(A)		All spillways must be either of non-erodible construction and designed to carry sustained flows; or earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.	Same	NA	
186	(d)	(1)	(v)	(B)		The combined capacity of all spillways must adequately manage flow during and following the peak discharge from a: probable maximum flood (PMF) for a high hazard potential CCR surface impoundment; or 1000-year flood for a significant hazard potential CCR surface impoundment; or 100-year flood for a low hazard potential CCR surface impoundment.	Same	NA	
187	(d)	(1)	(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	Same	NA	
188	(d)	(1)	(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.	Same	NA	

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
189	(d)	(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.	Same	NA	
190	(d)	(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.	Same	NA	
191	(e)	(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.	Same	NA	
192	(e)	(1)	(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.	Same	NA	
193	(e)	(1)	(ii)			The calculated static factor of safety under the long-term, maximum storage pool loading condition must equal or exceed 1.50.	Same	NA	

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
194	(e)	(1)	(iii)			The calculated static factor of safety under the maximum surcharge pool loading condition must equal or exceed 1.40.	Same	NA	
195	(e)	(1)	(iv)			The calculated seismic factor of safety must equal or exceed 1.00.	Same	NA	
196	(e)	(1)	(v)			For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety must equal or exceed 1.20.	Same	NA	
197	(e)	(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.	Same	NA	
198	(f)	(1)				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).	Same	NA	

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
199	(f)	(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).	Same	NA	
200	(f)	(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.	Same	NA	
201	(f)	(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).	Same	NA	

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
202	(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).	Same		
203 204						**§ 257.80 Air Criteria** *The owner of operator of the CCR unit must meet all the requirements (a) through (d) and all their components.*			
205	(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.	Same		
206	(b)					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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
207	(b)	(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.	Same		
208	(b)	(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.	Same		
209	(b)	(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.	Same		
210	(b)	(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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
211	(b)	(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).	Same		
212	(b)	(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.	Same		
213	(b)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
214	(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).	Same		
215	(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).	Same		
							Operating Criteria in 40 CFR (§§ 257.80 - 257.84) have been adopted by reference with the following additions: Rule 391-3-4-.10(5) (c) The operation and use of the CCR unit shall be as stipulated in the solid waste handling permit.		
216						**§ 257.82 Hydrologic and Hydraulic Capacity Requirements for CCR Surface Impoundments**			
217						*The owner of operator of the CCR unit must meet all the requirements (a) through (d) and all their components.*			

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
218	(a)	(1)				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. 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.	Same		
219	(a)	(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.	Same		
220	(a)	(3)	(i)			The inflow design flood is for a high hazard potential CCR surface impoundment, as determined under § 257.73(a)(2) or § 257.74(a)(2), the probable maximum flood;	Same		
221	(a)	(3)	(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;	Same		
222	(a)	(3)	(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	Same		
223	(a)	(3)	(iv)			For an incised CCR surface impoundment, the 25-year flood.	Same		
224	(b)					Discharge from the CCR unit must be handled in accordance with the surface water requirements under § 257.3–3.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
225	(c)	(1)				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).	Same		
226	(c)	(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.	Same		
227	(c)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
228	(c)	(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).	Same		
229	(c)	(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.	Same		
230	(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).	Same		
231 232						**§ 257.83 Inspection Requirements for CCR Surface Impoundments** *The owner of operator of the CCR unit must meet all the requirements (a) through (c) and all their components.*			
233	(a)	(1)	(i)			*All CCR surface impoundments and any lateral expansion of a CCR surface impoundment must be examined by a qualified person as follows:* 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;	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
234	(a)	(1)	(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	Same		
235	(a)	(1)	(iii)			At intervals not exceeding 30 days, monitor all CCR unit instrumentation.	Same		
236	(a)	(1)	(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).	Same		
237	(a)	(2)	(i)			For existing 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.	Same		NA
238	(a)	(2)	(ii)			The owner or operator of a new CCR surface impoundment and any lateral expansion of a CCR surface impoundment must initiate the inspections required under paragraph (a) of this section upon initial receipt of CCR by the CCR unit.	Same	NA	
239	(b)	(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.	Same		
240	(b)	(1)	(i)			*The inspection must, at a minimum, include:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
						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);			
241	(b)	(1)	(ii)			A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures; and	Same		
242	(b)	(1)	(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.	Same		
243	(b)	(2)	(i)			*The qualified professional engineer must prepare a report following each inspection that addresses the following:* Any changes in geometry of the impounding structure since the previous annual inspection;	Same		
244	(b)	(2)	(ii)			The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection;	Same		
245	(b)	(2)	(iii)			The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;	Same		
246	(b)	(2)	(iv)			The storage capacity of the impounding structure at the time of the inspection;	Same		
247	(b)	(2)	(v)			The approximate volume of the impounded water and CCR at the time of the inspection;	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
248	(b)	(2)	(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	Same		
249	(b)	(2)	(vii)			Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.	Same		
250	(b)	(3)	(i)			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 18, 2016. January 19, 2016	Same		NA
251	(b)	(3)	(ii)			The owner or operator of a new CCR surface impoundments and any lateral expansion of a CCR surface impoundment 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.	Same	NA	

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
252	(b)	(4)	(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).	Same		
253	(b)	(4)	(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.	Same		
254	(b)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
255	(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).	Same		
256 257						**§ 257.90 Applicability** *The owner of operator of the CCR unit must meet all the requirements (a) through (f), and all their components.*			
258	(a)					All CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under §§257.90 through 257.98.	Same		
259	(b)	(1)	(i)			*The owner or operator of an existing CCR landfill and existing CCR surface impoundment must be in compliance with the following groundwater monitoring requirements no later than October 17, 2017:* Install the groundwater monitoring system as required by § 257.91;	Same		
260	(b)	(1)	(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;	Same		
261	(b)	(1)	(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	Same		
262	(b)	(1)	(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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
263	(b)	(2)				Prior to initial receipt of CCR by the CCR unit, the owner or operator of a new CCR landfill, new CCR surface impoundment, and all lateral expansions of CCR units, 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).	Same		
264	(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.	Same		
265	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
266	(e)					The owner or operator of an existing CCR landfill and existing CCR surface impoundment, must prepare an annual groundwater monitoring and corrective action report no later than January 31, 2018, and annually thereafter. 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).	Same		
267	(e)	(1)				*At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:*	Same		
						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;	Same		
268	(e)	(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;	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
269	(e)	(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;	Same		
270	(e)	(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	Same		
271	(e)	(5)				Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.	Same		
272	(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).	Same		
							Groundwater Monitoring and Corrective Action in 40 CFR (§§ 257.90 - 257.98) have been adopted by reference with the following additions: Rule 391-3-4-10(6) (b) When referenced in this Rule, Appendix III and Appendix IV constituents shall refer to those constituents as listed in Appendix III and IV of 40 CFR Part 257, Subpart D, 80 FR 21468, (Apr. 17, 2015), which are hereby incorporated by reference. (c) The owner or operator of a CCR unit must submit a semi-annual report to the Division to coincide with the semi-annual sampling event. A qualified groundwater scientist must certify the report.		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
							(d) The Division must provide concurrence with the following actions in order for them to be complete: 1. Groundwater monitoring system design 2. Groundwater sampling and analysis plan 3. Groundwater monitoring well installation 4. Alternate source demonstration 5. Selection of remedy 6. Completion of remedy (e) The Director may require the analysis of additional parameters based on waste descriptions. (f) An owner or operator of a CCR unit shall continue to monitor for Appendix I or II constituents if these constituents have previously been detected at statistically significant levels above background concentrations. (g) Monitoring wells require replacement after two dry sampling events, unless an alternate schedule has been approved by the Division. A minor modification shall be submitted in accordance with subparagraph (4)(b)7 of Rule 391-3-4-.02 prior to the installation or decommissioning of monitoring wells. Well installation must be directed by a qualified groundwater scientist.		
273						**§ 257.91 Groundwater monitoring systems**			
274						*The owner of operator of the CCR unit must meet all the requirements (a) through (g) and all their components.*			
275	(a)	(1)				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 accurately represent the quality of background groundwater that has not been affected by leakage from a CCR unit.	Same		
276	(a)	(1)	(i)			*A determination of background quality may include sampling of wells that are not hydraulically upgradient of the CCR management area where:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
						Hydrogeologic conditions do not allow the owner or operator of the CCR unit to determine what wells are hydraulically upgradient; or			
277	(a)	(1)	(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	Same		
278	(a)	(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.	Same		
279	(b)	(1)				The number, spacing, and depths of monitoring systems shall be determined based upon site-specific technical information that must include thorough characterization of: Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and	Same		
280	(b)	(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.	Same		
281	(c)	(1)				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: A minimum of one upgradient and three downgradient monitoring wells; and	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
282	(c)	(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.	Same		
283	(d)	(1)				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.	Same		
284	(d)	(1)	(i)			*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:* Number, spacing, and orientation of each CCR unit;	Same		
285	(d)	(1)	(ii)			Hydrogeologic setting;	Same		
286	(d)	(1)	(iii)			Site history;	Same		
287	(d)	(1)	(iv)			Engineering design of the CCR unit.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
288	(d)	(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.	Same		
289	(e)	(1)				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. 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.	Same		
290	(e)	(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.	Same		

Row #	Paragraph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
291	(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.	Same		
292	(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).	Same		
293						**§ 257.93 Groundwater Sampling and Analysis Requirements**			
294						*The owner of operator of the CCR unit must meet all the requirements (a) through (j) and all their components.*			
295	(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.	Same		
296	(a)	(1)				*The owner or operator of the CCR unit must develop a sampling and analysis program that includes procedures and techniques for:* Sample collection;	Same		
297	(a)	(2)				Sample preservation and shipment;	Same		
298	(a)	(3)				Analytical procedures;	Same		
299	(a)	(4)				Chain of custody control; and	Same		
300	(a)	(5)				Quality assurance and quality control.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
301	(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.	Same		
302	(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.	Same		
303	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
304	(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.	Same		
305	(f)	(1)				*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.* 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.	Same		
306	(f)	(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.	Same		
307	(f)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
308	(f)	(4)				A control chart approach that gives control limits for each constituent.	Same		
309	(f)	(5)				Another statistical test method that meets the performance standards of paragraph (g) of this section.	Same		
310	(f)	(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.	Same		
311	(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.*	Same		
		(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
312	(g)	(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.	Same		
313	(g)	(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.	Same		
314	(g)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
315	(g)	(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.	Same		
316	(g)	(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.	Same		
317	(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).	Same		
318	(h)	(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.	Same		
319	(h)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
320	(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 fieldfiltered prior to analysis.	Same		
321	(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).	Same		
322						**§ 257.94 Detection Monitoring Program**			
323						*The owner of operator of the CCR unit must meet all the requirements (a) through (f) and all their components.*			
324	(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.	Same		
325	(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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
326	(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.	Same		
327	(d)	(1)				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.	Same		
328	(d)	(1)	(i)			*The alternative frequency must be based on consideration of the following factors:* Lithology of the aquifer and unsaturated zone;	Same		
329	(d)	(1)	(ii)			Hydraulic conductivity of the aquifer and unsaturated zone; and	Same		
330	(d)	(1)	(iii)			Groundwater flow rates.	Same		
331	(d)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
332	(d)	(3)				The owner or operator must obtain a certification from a qualified 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).	Same		
333	(e)	(1)				*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:* 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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
334	(e)	(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.	Same		
335	(e)	(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).	Same		
336	(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).	Same		
337						**§ 257.95 Assessment Monitoring Program**			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
338						*The owner of operator of the CCR unit must meet all the requirements (a) through (h) and all their components.*			
339	(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.	Same		
340	(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.	Same		
341	(c)	(1)				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. Information documenting that the need for less frequent sampling.	Same		
342	(c)	(1)	(i)			*The alternative frequency must be based on consideration of the following factors:* Lithology of the aquifer and unsaturated zone;	Same		
343	(c)	(1)	(ii)			Hydraulic conductivity of the aquifer and unsaturated zone; and	Same		
344	(c)	(1)	(iii)			Groundwater flow rates.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
345	(c)	(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.	Same		
346	(c)	(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).	Same		
347	(d)	(1)				*After obtaining the results from the initial and subsequent sampling events required in paragraph (b) of this section, the owner or operator must:* 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;	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
348	(d)	(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	Same		
349	(d)	(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).	Same		
350	(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).	Same		
351	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
352	(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).	Same		
353	(g)	(1)	(i)			*The owner or operator of the CCR unit also must:*	Same		
						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: Install additional monitoring wells necessary to define the contaminant plume(s);	Same		
354	(g)	(1)	(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;	Same		
355	(g)	(1)	(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	Same		
356	(g)	(1)	(iv)			Sample all wells in accordance with paragraph (d)(1) of this section to characterize the nature and extent of the release.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
357	(g)	(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.	Same		
358	(g)	(2)	(i)			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).	Same		
359	(g)	(3)	(i)			*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:* Initiate an assessment of corrective measures as required by § 257.96; or	Same		
360	(g)	(3)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
361	(g)	(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.	Same		
362	(g)	(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.	Same		
363	(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.	Same		
364	(h)	(1)				*The groundwater protection standard shall be:* 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: 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;	Same		
365	(h)	(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	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
366	(h)	(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).	Same		
367						**§ 257.96 Assessment of Corrective Measures**			
368						*The owner of operator of the CCR unit must meet all the requirements (a) through (f) and all their components.*			
369	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
370	(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.	Same		
371	(c)	(1)				*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:* 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;	Same		
372	(c)	(2)				The time required to begin and complete the remedy;	Same		
373	(c)	(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).	Same		
374	(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).	Same		
375	(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.	Same		
376	(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).	Same		
377						**§ 257.97 Selection of Remedy**			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
378						*The owner of operator of the CCR unit must meet all the requirements (a) through (e) and all their components.*			
379	(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).	Same		
380	(b)	(1)				*Remedies must:* Be protective of human health and the environment;	Same		
381	(b)	(2)				Attain the groundwater protection standard as specified pursuant to § 257.95(h);	Same		
382	(b)	(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;	Same		
383	(b)	(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;	Same		
384	(b)	(5)				Comply with standards for management of wastes as specified in § 257.98(d).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
385	(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:* 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.	Same		
386	(c)	(1)	(i)			*The remedy will prove successful based on consideration of the following:* Magnitude of reduction of existing risks;	Same		
387	(c)	(1)	(ii)			Magnitude of residual risks in terms of likelihood of further releases due to CCR remaining following implementation of a remedy;	Same		
388	(c)	(1)	(iii)			The type and degree of long-term management required, including monitoring, operation, and maintenance;	Same		
389	(c)	(1)	(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 redisposal of contaminant;	Same		
390	(c)	(1)	(v)			Time until full protection is achieved;	Same		
391	(c)	(1)	(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;	Same		
392	(c)	(1)	(vii)			Long-term reliability of the engineering and institutional controls; and (viii) Potential need for replacement of the remedy.	Same		
393	(c)	(2)	(i)			*The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
						The extent to which containment practices will reduce further releases; and			
394	(c)	(2)	(ii)			The extent to which treatment technologies may be used.	Same		
395	(c)	(3)	(i)			*The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:*	Same		
396	(c)	(3)	(ii)			Degree of difficulty associated with constructing the technology;	Same		
397	(c)	(3)	(iii)			Expected operational reliability of the technologies;	Same		
398	(c)	(3)	(iv)			Need to coordinate with and obtain necessary approvals and permits from other agencies;	Same		
399	(c)	(3)	(v)			Availability of necessary equipment and specialists; and	Same		
400	(c)	(4)				Available capacity and location of needed treatment, storage, and disposal services.	Same		
401	(d)					The degree to which community concerns are addressed by a potential remedy(s).	Same		
402	(d)	(1)				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.	Same		
403	(d)	(2)				*The owner or operator of the CCR unit must consider the following factors in determining the schedule of remedial activities:*	Same		
						Extent and nature of contamination, as determined by the characterization required under § 257.95(g);			
						Reasonable probabilities of remedial technologies in achieving compliance with the groundwater protection standards established under § 257.95(h) and other objectives of the remedy;	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
404	(d)	(3)				Availability of treatment or disposal capacity for CCR managed during implementation of the remedy;	Same		
405	(d)	(4)				Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;	Same		
406	(d)	(5)	(i)			Resource value of the aquifer including: Current and future uses;	Same		
407	(d)	(5)	(ii)			Proximity and withdrawal rate of users;	Same		
408	(d)	(5)	(iii)			Groundwater quantity and quality;	Same		
409	(d)	(5)	(iv)			The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to CCR constituents;	Same		
410	(d)	(5)	(v)			The hydrogeologic characteristic of the facility and surrounding land; and (vi) The availability of alternative water supplies; and	Same		
411	(d)	(6)				Other relevant factors.	Same		
412	(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).	Same		
413						**§ 257.98 Implementation of the Corrective Action Program**			
414						*The owner of operator of the CCR unit must meet all the requirements (a) through (f) and all their components.*			
415	(a)					Within 90 days of selecting a remedy under § 257.97, the owner or operator must initiate remedial activities.	Same		
416	(a)	(1)				*Based on the schedule established under § 257.97(d) for implementation and completion of remedial activities the owner or operator must:* Establish and implement a corrective action groundwater monitoring program.	Same		
417	(a)	(1)	(i)			*The corrective action groundwater monitoring program must:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
						At a minimum, meets the requirements of an assessment monitoring program under § 257.95;			
418	(a)	(1)	(ii)			Documents the effectiveness of the corrective action remedy; and	Same		
419	(a)	(1)	(iii)			Demonstrates compliance with the groundwater protection standard pursuant to paragraph (c) of this section.	Same		
420	(a)	(2)				Implement the corrective action remedy selected under § 257.97; and	Same		
421	(a)	(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.	Same		
422	(a)	(3)	(i)			*The following factors must be considered by an owner or operator in determining whether interim measures are necessary:* Time required to develop and implement a final remedy;	Same		
423	(a)	(3)	(ii)			Actual or potential exposure of nearby populations or environmental receptors to any of the constituents listed in appendix IV of this part;	Same		
424	(a)	(3)	(iii)			Actual or potential contamination of drinking water supplies or sensitive ecosystems;	Same		
425	(a)	(3)	(iv)			Further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;	Same		
426	(a)	(3)	(v)			Weather conditions that may cause any of the constituents listed in appendix IV to this part to migrate or be released;	Same		
427	(a)	(3)	(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	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
428	(a)	(3)	(vii)			Other situations that may pose threats to human health and the environment.	Same		
429	(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.	Same		
430	(c)	(1)				*Remedies selected pursuant to § 257.97 shall be considered complete when:* 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.	Same		
431	(c)	(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).	Same		
432	(c)	(3)				All actions required to complete the remedy have been satisfied.	Same		
433	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
434	(c)					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).	Same		
435	(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).	Same		
436						**§ 257.100 Inactive CCR Surface Impoundments**			
437						*The owner of operator of the CCR unit must meet all the requirements (a) through (d) and all their components.*			
438	(a)					Inactive CCR surface impoundments are subject to all of the requirements of this subpart applicable to existing CCR surface impoundments.	Same		NA
439	(e)	(1)				Timeframes for certain inactive CCR surface impoundments. (1) An inactive CCR surface impoundment for which the owner or operator has completed the actions by the deadlines specified in paragraphs (e)(1)(i) through (iii) of this section is eligible for the alternative timeframes specified in paragraphs (e)(2) through (6) of this section. The owner or operator of the CCR unit must comply with the applicable recordkeeping, notification, and internet requirements associated with these provisions. For the inactive CCR surface impoundment:	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
440	(e)	(1)	(i)			The owner or operator must have prepared and placed in the facility's operating record by December 17, 2015, a notification of intent to initiate closure of the inactive CCR surface impoundment pursuant to §257.105(i)(1);	Same		NA
441	(e)	(1)	(ii)			The owner or operator must have provided notification to the State Director and/or appropriate Tribal authority by January 19, 2016, of the intent to initiate closure of the inactive CCR surface impoundment pursuant to §257.106(i)(1); and	Same		NA
442	(e)	(1)	(iii)			The owner or operator must have placed on its CCR Web site by January 19, 2016, the notification of intent to initiate closure of the inactive CCR surface impoundment pursuant to §257.107(i)(1).	Same		NA
443	(e)	(2)	(i)			Location restrictions. (i) No later than April 16, 2020, the owner or operator of the inactive CCR surface impoundment must:	Same		NA
444	(e)	(2)	(i)	(A)		Complete the demonstration for placement above the uppermost aquifer as set forth by §257.60(a), (b), and (c)(3);	Same		NA
445	(e)	(2)	(i)	(B)		Complete the demonstration for wetlands as set forth by §257.61(a), (b), and (c)(3);	Same		NA
446	(e)	(2)	(i)	(C)		Complete the demonstration for fault areas as set forth by §257.62(a), (b), and (c)(3);	Same		NA
447	(e)	(2)	(i)	(D)		Complete the demonstration for seismic impact zones as set forth by §257.63(a), (b), and (c)(3); and	Same		NA
448	(e)	(2)	(i)	(E)		Complete the demonstration for unstable areas as set forth by §257.64(a), (b), (c), and (d)(3).	Same		NA
449	(e)	(2)	(ii)			An owner or operator of an inactive CCR surface impoundment who fails to demonstrate compliance with the requirements of paragraph (e)(2)(i) of this section is subject to the closure requirements of §257.101(b)(1).	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
450	(e)	(3)				*Design criteria. The owner or operator of the inactive CCR surface impoundment must:*	Same		NA
451	(e)	(3)	(i)			No later than April 17, 2018, complete the documentation of liner type as set forth by §257.71(a) and (b).	Same		NA
452	(e)	(3)	(ii)			No later than June 16, 2017, place on or immediately adjacent to the CCR unit the permanent identification marker as set forth by §257.73(a)(1).	Same		NA
453	(e)	(3)	(iii)			No later than October 16, 2018, prepare and maintain an Emergency Action Plan as set forth by §257.73(a)(3).	Same		NA
454	(e)	(3)	(iv)			No later than April 17, 2018, compile a history of construction as set forth by §257.73(b) and (c).	Same		NA
455	(e)	(3)	(v)			No later than April 17, 2018, complete the initial hazard potential classification, structural stability, and safety factor assessments as set forth by §257.73(a)(2), (b), (d), (e), and (f).	Same		NA
456	(e)	(4)				Operating criteria. The owner or operator of the inactive CCR surface impoundment must:	Same		NA
457	(e)	(4)	(i)			No later than April 18, 2017, prepare the initial CCR fugitive dust control plan as set forth in §257.80(b).	Same		NA
458	(e)	(4)	(ii)			No later than April 17, 2018, prepare the initial inflow design flood control system plan as set forth in §257.82(c).	Same		NA
459	(e)	(4)	(iii)			No later than April 18, 2017, initiate the inspections by a qualified person as set forth by §257.83(a).	Same		NA
460	(e)	(4)	(iv)			No later than July 19, 2017, complete the initial annual inspection by a qualified professional engineer as set forth by §257.83(b).	Same		NA
461	(e)	(5)				Groundwater monitoring and corrective action. The owner or operator of the inactive CCR surface impoundment must:	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		**Existing**	**New & Lateral Expansions**
462	(e)	(5)	(i)			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).	Same		NA
463	(e)	(5)	(ii)			No later than August 1, 2019, prepare the initial groundwater monitoring and corrective action report as set forth in §257.90(e).	Same		NA
464	(e)	(6)				Closure and post-closure care. The owner or operator of the inactive CCR surface impoundment must:	Same		NA
465	(e)	(6)	(i)			No later than April 17, 2018, prepare an initial written closure plan as set forth in §257.102(b); and	Same		NA
466	(e)	(6)	(ii)			No later than April 17, 2018, prepare an initial written post-closure care plan as set forth in §257.104(d).	Same		
							Rule 391-3-4-.10(7) (a) Inactive surface impoundments are subject to the requirements in 40 CFR 257.100. 1. The following additional requirements apply to inactive surface impoundments that complete closure requirements in 40 CFR 257.100(e)(1) through (e)(4) no later than April 17, 2018: (i) Permitting requirements in Rule 391-3-4-.10(9) (ii) Groundwater monitoring and corrective action requirements in Rule 391-3-4-.10(6) 2. CCR surface impoundments that complete closure through removal of CCR and meet all of the requirements of 40 CFR 257.100(e)(5) no later than April 17, 2018 are subject only to the requirements in subparagraph (9)(c)6(v)(I) of Rule 391-3-4-.10.		
467						**§ 257.101 Closure or Retrofit of CCR Units**			
468						*The owner of operator of the CCR unit must meet all the requirements (a) through (d) and all their components.*			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
469	(a)	(1)				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. 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.	Same		NA
470	(a)	(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.	Same		NA
471	(a)	(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.	Same		NA
472	(a)	(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).	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
473	(b)	(1)				The owner or operator of an existing CCR surface impoundment is subject to the requirements of paragraph (b)(1) of this section. 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.	Same		NA
474	(b)	(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.	Same		NA
475	(b)	(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.	Same		NA
476	(b)	(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.	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
477	(c)	(1)				The owner or operator of a new CCR surface impoundment is subject to the requirements of paragraph (c)(1) of this section. 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.	Same	NA	
478	(c)	(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.	Same	NA	
479	(d)	(1)				The owner or operator of an existing CCR landfill is subject to the requirements of paragraph (d)(1) of this section. 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.	Same	NA	NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments: Existing	CCR surface impoundments: New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
480	(d)	(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.	Same	NA	NA
481	(d)	(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.	Same	NA	NA
482						**§ 257.102 Criteria for Conducting the Closure or Retrofit of CCR Units**			
483						*The owner of operator of the CCR unit must meet all the requirements (a) through (k) and all their components.*			
484	(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.	Same		
485	(b)	(1)				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.	Same		
486	(b)	(1)	(i)			*The written closure plan must include, at a minimum, the information specified in paragraphs (b)(1)(i) through (vi) of this section:* A narrative description of how the CCR unit will be closed in accordance with this section.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
487	(b)	(1)	(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.	Same		
488	(b)	(1)	(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.	Same		
489	(b)	(1)	(iv)			An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.	Same		
490	(b)	(1)	(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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
								CCR surface Impoundments	
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	Existing	New & Lateral Expansions
491	(b)	(1)	(v) (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.	Same		
492	(b)	(2)	(i)			The owner or operator of an existing CCR landfill and existing CCR surface impoundment must prepare an initial written closure plan consistent with the requirements specified in paragraph (b)(1) of this section, no later than October 17, 2016.	Same		NA
493	(b)	(2)	(ii)			For new CCR landfills and new CCR surface impoundments, and any lateral expansion of a 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, no later than the date of the initial receipt of CCR in the CCR unit.	Same	NA	

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
494	(b)	(2)	(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).	Same		
495	(b)	(3)	(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.	Same		
496	(b)	(3)	(ii)	(A)		*The owner or operator must amend the written closure plan whenever:* There is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; or	Same		
497	(b)	(3)	(ii)	(B)		Before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan.	Same		
498	(b)	(3)	(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.	Same		
499	(b)	(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 requirements of this section.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
500	(c)					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.	Same		
501	(d)	(1)	(i)			*The owner or operator of a CCR unit must ensure that, at a minimum, the CCR unit is closed in a manner that will:* Control, minimize or eliminate, to the maximum extent feasible, postclosure 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;	Same		
502	(d)	(1)	(ii)			Preclude the probability of future impoundment of water, sediment, or slurry;	Same		
503	(d)	(1)	(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;	Same		
504	(d)	(1)	(iv)			Minimize the need for further maintenance of the CCR unit; and	Same		
505	(d)	(1)	(v)			Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.	Same		
506	(d)	(2)	(i)			*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.*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
						Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
						Free liquids must be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.			
507	(d)	(2)	(ii)			Remaining wastes must be stabilized sufficient to support the final cover system.	Same		
508	(d)	(3)				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.	Same		
509	(d)	(3)	(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.	Same		
510	(d)	(3)	(i)	(A)		*The design of the final cover system must be included in the written closure plan required by paragraph (b) of this section.* 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.	Same		
511	(d)	(3)	(i)	(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.	Same		
512	(d)	(3)	(i)	(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.	Same		
513	(d)	(3)	(i)	(D)		The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
514	(d)	(3)	(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.	Same		
515	(d)	(3)	(ii)	(A)		*The design of the final cover system must be included in the written closure plan required by paragraph (b) of this section.* 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.	Same		
516	(d)	(3)	(ii)	(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.	Same		
517	(d)	(3)	(ii)	(C)		The disruption of the integrity of the final cover system must be minimized through a design that accommodates settling and subsidence.	Same		
518	(d)	(3)	(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.	Same		
519	(e)					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.	Same		
520	(e)	(1)	(i)			*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:* Receives the known final receipt of waste, either CCR or any non-CCR waste stream; or	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
521	(e)	(1)	(ii)			Removes the known final volume of CCR from the CCR unit for the purpose of beneficial use of CCR.	Same		
522	(e)	(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.	Same		
523	(e)	(2)	(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.	Same		
524	(e)	(2)	(ii)	(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	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
525	(e)	(2)	(ii)	(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.	Same		
526	(e)	(2)	(ii)	(B)	(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.	Same		
527	(e)	(2)	(ii)	(B)	(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.	Same		
528	(e)	(2)	(ii)	(B)	(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.	Same		
529	(e)	(2)	(ii)	(B)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
530	(e)	(2)	(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.	Same		
531	(e)	(3)	(i)			*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:* Taken any steps necessary to implement the written closure plan required by paragraph (b) of this section;	Same		
532	(e)	(3)	(ii)			Submitted a completed application for any required state or agency permit or permit modification; or	Same		
533	(e)	(3)	(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.	Same		
534	(e)	(4)				The timeframes specified in paragraphs (e)(1) and (2) of this section do not apply to any of the following owners or operators:	Same		
535	(e)	(4)	(ii)			An owner or operator of an existing unlined CCR surface impoundment closing the CCR unit as required by § 257.101(a);	Same		NA

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
536	(e)	(4)	(iii)			An owner or operator of an existing CCR surface impoundment closing the CCR unit as required by § 257.101(b);	Same		NA
537	(e)	(4)	(iv)			An owner or operator of a new CCR surface impoundment closing the CCR unit as required by § 257.101(c); or	Same	NA	
538	(f) (e)	(4)	(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. (DELETE)	Same	NA	NA
539	(f)	(1)	(i)			*Except as provided for in paragraph (f)(2) of this section, the owner or operator must complete closure of the CCR unit:* For existing and new CCR landfills and any lateral expansion of a CCR landfill, within six months of commencing closure activities.	Same		
540	(f)	(1)	(ii)			For existing and new CCR surface impoundments and any lateral expansion of a CCR surface impoundment, within five years of commencing closure activities.	Same		
541	(f)	(2)	(i)			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.	Same		
542	(f)	(2)	(i)	(A)		*Factors that may support such a demonstration include:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
						Complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;			
543	(f)	(2)	(i)	(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;	Same		
544	(f)	(2)	(i)	(C)		The geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or	Same		
545	(f)	(2)	(i)	(D)		Time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.	Same		
546	(f)	(2)	(ii)	(A)		CCR surface impoundments of 40 acres or smaller may extend the time to complete closure by no longer than two years.	Same		
547	(f)	(2)	(ii)	(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.	Same		
548	(f)	(2)	(ii)	(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.	Same	NA	NA
549	(f)	(2)	(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:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
						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.	Same		
550	(f)	(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.	Same		
551	(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).	Same		
552	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
553	(i)	(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.	Same		
554	(i)	(2)	(i)			*The notation on the deed must in perpetuity notify any potential purchaser of the property that:* The land has been used as a CCR unit; and	Same		
555	(i)	(2)	(ii)			Its use is restricted under the postclosure care requirements as provided by § 257.104(d)(1)(iii).	Same		
556	(i)	(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).	Same		
557	(i)	(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.	Same		
558	(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).	Same		
559	(k)	(1)	(i)			*To retrofit an existing CCR surface impoundment, the owner or operator must:* First remove all CCR, including any contaminated soils and sediments from the CCR unit; and	Same		NA

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
560	(k)	(1)	(ii)			Comply with the requirements in § 257.72.	Same		NA
561	(k)	(1)	(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.	Same		NA
562	(k)	(2)	(i)			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.	Same		NA
563	(k)	(2)	(i)	(A)		*The written retrofit plan must include, at a minimum, all of the following information:* A narrative description of the specific measures that will be taken to retrofit the CCR unit in accordance with this section.	Same		NA
564	(k)	(2)	(i)	(B)		A description of the procedures to remove all CCR and contaminated soils and sediments from the CCR unit.	Same		NA
565	(k)	(2)	(i)	(C)		An estimate of the maximum amount of CCR that will be removed as part of the retrofit operation.	Same		NA
566	(k)	(2)	(i)	(D)		An estimate of the largest area of the CCR unit that will be affected by the retrofit operation.	Same		NA
567	(k)	(2)	(i)	(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.	Same		NA
568	(k)	(2)	(ii)	(A)		Timeframes for preparing the initial written retrofit plan. 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.	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
569	(k)	(2)	(ii)	(A)	(1)	*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:* Taken any steps necessary to implement the written retrofit plan;	Same		NA
570	(k)	(2)	(ii)	(A)	(2)	Submitted a completed application for any required state or agency permit or permit modification; or	Same		NA
571	(k)	(2)	(ii)	(A)	(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.	Same		NA
572	(k)	(2)	(ii)	(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).	Same		NA
573	(k)	(2)	(iii)	(A)		The owner or operator may amend the initial or any subsequent written retrofit plan at any time.	Same		NA
574	(k)	(2)	(iii)	(B)	(1)	*The owner or operator must amend the written retrofit plan whenever:* There is a change in the operation of the CCR unit that would substantially affect the written retrofit plan in effect; or	Same		NA
575	(k)	(2)	(iii)	(B)	(2)	Before or after retrofit activities have commenced, unanticipated events necessitate a revision of the written retrofit plan.	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
576	(k)	(2)	(iii)	(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.	Same		NA
577	(k)	(2)	(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.	Same		NA
578	(k)	(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.	Same		NA
579	(k)	(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.	Same		NA
580	(k)	(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).	Same		NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
581	(k)	(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).	Same		NA
582	(k)	(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.	Same		NA
583	(k)	(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).	Same		NA
584						**§ 257.103 Alternative Closure Requirements**			
585						*The owner of operator of the CCR unit must meet either requirement (a) and all its components or (b) and all its components, in addition to requirements (c) through (d).*			
586	(a)	(1)				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. 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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
587	(a)	(1)	(i)			*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.* 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;	Same		
588	(a)	(1)	(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;	Same		
589	(a)	(1)	(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	Same		
590	(a)	(1)	(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.	Same		
591	(a)	(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).	Same		
592	(a)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
593	(b)	(1)				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 coalfired 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 onsite and off-site of the facility.	Same		
594	(b)	(1)	(i)			*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:* 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.	Same		
595	(b)	(1)	(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	Same		
596	(b)	(1)	(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.	Same		
597	(b)	(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.	Same		
598	(b)	(3)				For a CCR surface impoundment that is larger than 40 acres, the coalfired boiler must cease operation, and the CCR surface impoundment must complete closure no later than October 17, 2028.	Same		
599	(b)	(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.	Same	NA	NA

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
600	(c)	(1)				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. 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.	Same		
601	(c)	(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.	Same		
602	(c)	(2)	(i)			*The annual progress reports must be completed according to the following schedule:* 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.	Same		
603	(c)	(2)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
604	(c)	(2)	(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).	Same		
605	(c)	(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).	Same		
606	(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).	Same		
							Rule 391-3-4-.10(7) (c) The owner or operator must close the CCR unit in accordance with the written closure plan. (d) A notice of intent to close must be provided to the Director after receipt of the final load of waste. (e) Upon completion of closure activities, a professional engineer registered in Georgia shall prepare and submit a closure report to the Director. The closure report must be completed on forms provided by the Division. If the Director concurs with the closure report, closure will be deemed complete and the facility may begin the post-closure care period. (f) Concurrent with the submission of this closure report to the Director, the owner or operator must submit confirmation to the Director that a notation on the property deed has been recorded. This recording must in perpetuity notify any potential purchaser of the property that the land has been used as a CCR unit and that its use is restricted under the post closure care requirements of this Rule.		
607						**§ 257.104 Post-Closure Care Requirements**			

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments: CCR surface impoundments: Existing	New & Lateral Expansions
608						*The owner of operator of the CCR unit must meet all the requirements (a) through (j) and all their components.*			
609	(a)	(1)				Except as provided by paragraph (a)(2) of this section, §257.104 applies to the owners or operators of CCR landfills, CCR surface impoundments, and all lateral expansions of CCR units that are subject to the closure criteria under §257.102.	Same		
610	(a)	(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 postclosure care criteria under this section.	Same		
611	(b)	(1)				*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:* 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;	Same		
612	(b)	(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	Same		
613	(b)	(3)				Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of §§ 257.90 through 257.98.	Same		
614	(c)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
615	(c)	(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.	Same		
616	(d)	(1)	(i)			*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.* 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;	Same		
617	(d)	(1)	(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	Same		
618	(d)	(1)	(iii)			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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
								CCR surface impoundments	
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	Existing	New & Lateral Expansions
619	(d)	(2)	(i)			The owner or operator of an existing CCR landfill and existing CCR surface impoundment must prepare an initial written post-closure plan consistent with the requirements specified in paragraph (d)(1) of this section no later than October 17, 2016.	Same		
620	(d)	(2)	(ii)			The owner or operator of a new CCR landfill, new CCR surface impoundment, and any lateral expansion of a CCR unit must prepare an initial written postclosure plan consistent with the requirements specified in paragraph (d)(1) of this section no later than the date of the initial receipt of CCR in the CCR unit.	Same		
621	(d)	(2)	(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).	Same		
622	(d)	(3)	(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.	Same		
623	(d)	(3)	(ii)	(A)		*The owner or operator must amend the written closure plan whenever:* There is a change in the operation of the CCR unit that would substantially affect the written post-closure plan in effect; or	Same		
624	(d)	(3)	(ii)	(B)		After post-closure activities have commenced, unanticipated events necessitate a revision of the written post-closure plan.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
625	(d)	(3)	(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.	Same		
626	(d)	(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.	Same		
627	(e)					Notification of completion of postclosure 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).	Same		
628	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
							Rule 391-3-4-.10(7) (g) Post-Closure care for existing, new, and lateral expansions of CCR units shall be conducted in accordance with 40 CFR 257.104 with the following exception and additions: 1. An owner or operator of an inactive surface impoundment that elects to close a CCR unit pursuant to the requirements under 40 CFR 257.100(b) is subject to the post- closure care criteria in 40 CFR 257.104. 2. CCR units must comply with the conditions of the solid waste handling permit. 3. The release of CCR units from post-closure care must be approved by the Division.		
629 630						**§ 257.105 Recordkeeping Requirements** *The owner of operator of the CCR unit must meet all the requirements (a) through (j) and all their components.*			
631	(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.	Same		
632	(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.	Same		
633	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
634	(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.	Same		
635	(e)					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.	Same		
636	(f)	(1)				*The owner or operator of a CCR unit subject to this subpart must place the following the facility's operating record:* The design and construction certifications as required by § 257.70(e) and (f).	Same		
637	(f)	(2)				The documentation of liner type as required by § 257.71(a).	Same		
638	(f)	(3)				The design and construction certifications as required by § 257.72(c) and (d).	Same		
639	(f)	(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).	Same		
640	(f)	(5)				The initial and periodic hazard potential classification assessments as required by §§ 257.73(a)(2) and 257.74(a)(2).	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
641	(f)	(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.	Same		
642	(f)	(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).	Same		
643	(f)	(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).	Same		
644	(f)	(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.	Same		
645	(f)	(10)				The initial and periodic structural stability assessments as required by §§ 257.73(d) and 257.74(d).	Same		
646	(f)	(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).	Same		
647	(f)	(12)				The initial and periodic safety factor assessments as required by §§ 257.73(e) and 257.74(e).	Same		
648	(f)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
649	(g)	(1)				*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:* 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.	Same		
650	(g)	(2)				The annual CCR fugitive dust control report required by § 257.80(c).	Same		
651	(g)	(3)				The initial and periodic run-on and run-off control system plans as required by § 257.81(c).	Same		
652	(g)	(4)				The initial and periodic inflow design flood control system plan as required by § 257.82(c).	Same		
653	(g)	(5)				Documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by § 257.83(a).	Same		
654	(g)	(6)				The periodic inspection report as required by § 257.83(b)(2).	Same		
655	(g)	(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).	Same		
656	(g)	(8)				Documentation recording the results of the weekly inspection by a qualified person as required by § 257.84(a).	Same		
657	(g)	(9)				The periodic inspection report as required by § 257.84(b)(2).	Same		
658	(h)	(1)				*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:*	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
						The annual groundwater monitoring and corrective action report as required by § 257.90(e).			
659	(h)	(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).	Same		
660	(h)	(3)				The groundwater monitoring system certification as required by § 257.91(f).	Same		
661	(h)	(4)				The selection of a statistical method certification as required by § 257.93(f)(6).	Same		
662	(h)	(5)				Within 30 days of establishing an assessment monitoring program. the notification as required by § 257.94(e)(3).	Same		
663	(h)	(6)				The results of appendices III and IV to this part constituent concentrations as required by § 257.95(d)(1).	Same		
664	(h)	(7)				Within 30 days of returning to a detection monitoring program, the notification as required by § 257.95(e).	Same		
665	(h)	(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).	Same		
666	(h)	(9)				Within 30 days of initiating the assessment of corrective measures requirements, the notification as required by § 257.95(g)(5).	Same		
667	(h)	(10)				The completed assessment of corrective measures as required by § 257.96(d).	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
668	(h)	(11)				Documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by § 257.96(e).	Same		
669	(h)	(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.	Same		
670	(h)	(13)				Within 30 days of completing the remedy, the notification as required by § 257.98(e).	Same		
671	(i)	(1)				*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:* The notification of intent to initiate closure of the CCR unit as required by § 257.100(c)(1).	Same		
672	(i)	(2)				The annual progress reports of closure implementation as required by § 257.100(c)(2)(i) and (ii).	Same		
673	(i)	(3)				The notification of closure completion as required by § 257.100(c)(3).	Same		
674	(i)	(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.	Same		
675	(i)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
676	(i)	(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).	Same		
677	(i)	(7)				The notification of intent to close a CCR unit as required by § 257.102(g).	Same		
678	(i)	(8)				The notification of completion of closure of a CCR unit as required by § 257.102(h).	Same		
679	(i)	(9)				The notification recording a notation on the deed as required by § 257.102(i).	Same		
680	(i)	(10)				The notification of intent to comply with the alternative closure requirements as required by § 257.103(c)(1).	Same		
681	(i)	(11)				The annual progress reports under the alternative closure requirements as required by § 257.103(c)(2).	Same		
682	(i)	(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.	Same		
683	(i)	(13)				The notification of completion of post-closure care period as required by § 257.104(e).	Same		
684	(j)	(1)				*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:* 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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
685	(j)	(2)				The notification of intent that the retrofit activities will proceed in accordance with the alternative procedures in § 257.103.	Same		
686	(j)	(3)				The annual progress reports required under the alternative requirements as required by § 257.103.	Same		
687	(j)	(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).	Same		
688	(j)	(5)				The notification of intent to initiate retrofit of a CCR unit as required by § 257.102(k)(5).	Same		
689	(j)	(6)				The notification of completion of retrofit activities as required by § 257.102(k)(6).	Same		
							Rule 391-3-4-.10(8) (a) The requirements of 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107 are incorporated by reference with the following addition: 1. Electronic mail sent to a designated EPD recipient is an authorized form of notification when approved by EPD.		
690						**§ 257.106 Notification Requirements**			
691						*The owner of operator of the CCR unit must meet all the requirements (a) through (j) and all their components.*			

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
692	(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.	Same		
693	(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.	Same		
694	(c)					Notifications may be combined as long as the deadline requirement for each notification is met.	Same		
695	(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.	Same		
696	(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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
697	(f)					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.	Same		
698	(f)	(1)				*The owner or operator must:* 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.	Same		
699	(f)	(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).	Same		
700	(f)	(3)				Provide notification of the availability of the documentation of liner type specified under § 257.105(f)(2).	Same		
701	(f)	(4)				Provide notification of the availability of the initial and periodic hazard potential classification assessments specified under § 257.105(f)(5).	Same		
702	(f)	(5)				Provide notification of the availability of emergency action plan (EAP), and any revisions of the EAP, specified under § 257.105(f)(6).	Same		
703	(f)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
704	(f)	(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).	Same		
705	(f)	(8)				Provide notification of the availability of the history of construction, and any revision of it, specified under § 257.105(f)(9).	Same		
706	(f)	(9)				Provide notification of the availability of the initial and periodic structural stability assessments specified under § 257.105(f)(10).	Same		
707	(f)	(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).	Same		
708	(f)	(11)				Provide notification of the availability of the initial and periodic safety factor assessments specified under § 257.105(f)(12).	Same		
709	(f)	(12)				Provide notification of the availability of the design and construction plans, and any revision of them, specified under § 257.105(f)(13).	Same		
710	(g)					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.	Same		
711	(g)	(1)				*The owner or operator must:* 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).	Same		
712	(g)	(2)				Provide notification of the availability of the annual CCR fugitive dust control report specified under § 257.105(g)(2).	Same		
713	(g)	(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).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
714	(g)	(4)				Provide notification of the availability of the initial and periodic inflow design flood control system plans specified under § 257.105(g)(4).	Same		
715	(g)	(5)				Provide notification of the availability of the periodic inspection reports specified under § 257.105(g)(6).	Same		
716	(g)	(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).	Same		
717	(g)	(7)				Provide notification of the availability of the periodic inspection reports specified under § 257.105(g)(9).	Same		
718	(h)					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.	Same		
719	(h)	(1)				*The owner or operator must:* Provide notification of the availability of the annual groundwater specified under § 257.105(h)(1).	Same		
720	(h)	(2)				Provide notification of the availability of the groundwater monitoring system certification specified under § 257.105(h)(3).	Same		
721	(h)	(3)				Provide notification of the availability of the selection of a statistical method certification specified under § 257.105(h)(4).	Same		
722	(h)	(4)				Provide notification that an assessment monitoring programs has been established specified under § 257.105(h)(5).	Same		
723	(h)	(5)				Provide notification that the CCR unit is returning to a detection monitoring program specified under § 257.105(h)(7).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
724	(h)	(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).	Same		
725	(h)	(7)				Provide notification that an assessment of corrective measures has been initiated specified under § 257.105(h)(9).	Same		
726	(h)	(8)				Provide notification of the availability of assessment of corrective measures specified under § 257.105(h)(10).	Same		
727	(h)	(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).	Same		
728	(h)	(10)				Provide notification of the completion of the remedy specified under § 257.105(h)(13).	Same		
729	(i)					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.	Same		
730	(i)	(1)				*The owner or operator must:* Provide notification of the intent to initiate closure of the CCR unit specified under § 257.105(i)(1).	Same		
731	(i)	(2)				Provide notification of the availability of the annual progress reports of closure implementation specified under § 257.105(i)(2).	Same		
732	(i)	(3)				Provide notification of closure completion specified under § 257.105(i)(3).	Same		
733	(i)	(4)				Provide notification of the availability of the written closure plan, and any amendment of the plan, specified under § 257.105(i)(4).	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
734	(i)	(5)				Provide notification of the availability of the demonstration(s) for a time extension for initiating closure specified under § 257.105(i)(5).	Same		
735	(i)	(6)				Provide notification of the availability of the demonstration(s) for a time extension for completing closure specified under § 257.105(i)(6).	Same		
736	(i)	(7)				Provide notification of intent to close a CCR unit specified under § 257.105(i)(7).	Same		
737	(i)	(8)				Provide notification of completion of closure of a CCR unit specified under § 257.105(i)(8).	Same		
738	(i)	(9)				Provide notification of the deed notation as required by § 257.105(i)(9).	Same		
739	(i)	(10)				Provide notification of intent to comply with the alternative closure requirements specified under § 257.105(i)(10).	Same		
740	(i)	(11)				The annual progress reports under the alternative closure requirements as required by § 257.105(i)(11).	Same		
741	(i)	(12)				Provide notification of the availability of the written post-closure plan, and any amendment of the plan, specified under § 257.105(i)(12).	Same		
742	(i)	(13)				Provide notification of completion of post-closure care specified under § 257.105(i)(13).	Same		
743	(j)					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.	Same		
744	(j)	(1)				*The owner or operator must:* Provide notification of the availability of the written retrofit plan, and any amendment of the plan, specified under § 257.105(j)(1).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
745	(j)	(2)				Provide notification of intent to comply with the alternative retrofit requirements specified under § 257.105(j)(2).	Same		
746	(j)	(3)				The annual progress reports under the alternative retrofit requirements as required by § 257.105(j)(3).	Same		
747	(j)	(4)				Provide notification of the availability of the demonstration(s) for a time extension for completing retrofit activities specified under § 257.105(j)(4).	Same		
748	(j)	(5)				Provide notification of intent to initiate retrofit of a CCR unit specified under § 257.105(j)(5).	Same		
749	(j)	(6)				Provide notification of completion of retrofit activities specified under § 257.105(j)(6).	Same		
750						**§ 257.107 Publicly Accessible Internet Site Requirements**			
751						*The owner of operator of the CCR unit must meet all the requirements (a) through (j) and all their components.*			
752	(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."	Same		
753	(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.	Same		
754	(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.	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
755	(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.	Same		
756	(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.	Same		
757	(f)	(1)				*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:* Within 60 days of commencing construction of a new unit, the design certification specified under § 257.105(f)(1) or (3).	Same		
758	(f)	(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).	Same		
759	(f)	(3)				The documentation of liner type specified under § 257.105(f)(2).	Same		
760	(f)	(4)				The initial and periodic hazard potential classification assessments specified under § 257.105(f)(5).	Same		
761	(f)	(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.	Same		
762	(f)	(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).	Same		
763	(f)	(7)				Documentation prepared by the owner or operator recording any activation of the emergency action plan specified under § 257.105(f)(8).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface Impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
764	(f)	(8)				The history of construction, and any revisions of it, specified under § 257.105(f)(9).	Same		
765	(f)	(9)				The initial and periodic structural stability assessments specified under § 257.105(f)(10).	Same		
766	(f)	(10)				The documentation detailing the corrective measures taken to remedy the § 257.105(f)(11).	Same		
767	(f)	(11)				The initial and periodic safety factor assessments specified under § 257.105(f)(12).	Same		
768	(f)	(12)				The design and construction plans, and any revisions of them, specified under § 257.105(f)(13).	Same		
769	(g)	(1)				*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:* 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.	Same		
770	(g)	(2)				The annual CCR fugitive dust control report specified under § 257.105(g)(2).	Same		
771	(g)	(3)				The initial and periodic run-on and run-off control system plans specified under § 257.105(g)(3).	Same		
772	(g)	(4)				The initial and periodic inflow design flood control system plans specified under § 257.105(g)(4).	Same		
773	(g)	(5)				The periodic inspection reports specified under § 257.105(g)(6).	Same		
774	(g)	(6)				The documentation detailing the corrective measures taken to remedy the deficiency or release specified under § 257.105(g)(7).	Same		

						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
775	(g)	(7)				The periodic inspection reports specified under § 257.105(g)(9).	Same		
776	(h)	(1)				*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:* The annual groundwater monitoring and corrective action report specified under § 257.105(h)(1).	Same		
777	(h)	(2)				The groundwater monitoring system certification specified under § 257.105(h)(3).	Same		
778	(h)	(3)				The selection of a statistical method certification specified under § 257.105(h)(4).	Same		
779	(h)	(4)				The notification that an assessment monitoring programs has been established specified under § 257.105(h)(5).	Same		
780	(h)	(5)				The notification that the CCR unit is returning to a detection monitoring program specified under § 257.105(h)(7).	Same		
781	(h)	(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).	Same		
782	(h)	(7)				The notification that an assessment of corrective measures has been initiated specified under § 257.105(h)(9).	Same		
783	(h)	(8)				The assessment of corrective measures specified under § 257.105(h)(10).	Same		
784	(h)	(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.	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments		Existing	New & Lateral Expansions
785	(h)	(10)				The notification that the remedy has been completed specified under § 257.105(h)(13).	Same		
786	(i)	(1)				*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:* The notification of intent to initiate closure of the CCR unit specified under § 257.105(i)(1).	Same		
787	(i)	(2)				The annual progress reports of closure implementation specified under § 257.105(i)(2).	Same		
788	(i)	(3)				The notification of closure completion specified under § 257.105(i)(3).	Same		
789	(i)	(4)				The written closure plan, and any amendment of the plan, specified under § 257.105(i)(4).	Same		
790	(i)	(5)				The demonstration(s) for a time extension for initiating closure specified under § 257.105(i)(5).	Same		
791	(i)	(6)				The demonstration(s) for a time extension for completing closure specified under § 257.105(i)(6).	Same		
792	(i)	(7)				The notification of intent to close a CCR unit specified under § 257.105(i)(7).	Same		
793	(i)	(8)				The notification of completion of closure of a CCR unit specified under § 257.105(i)(8).	Same		
794	(i)	(9)				The notification recording a notation on the deed as required by § 257.105(i)(9).	Same		
795	(i)	(10)				The notification of intent to comply with the alternative closure requirements as required by § 257.105(i)(10).	Same		
796	(i)	(11)				The annual progress reports under the alternative closure requirements as required by § 257.105(i)(11).	Same		

Row #	Para-graph	Ref.	Ref.	Ref.	Ref.	Federal Requirement	State Requirement	CCR surface impoundments	
								Existing	New & Lateral Expansions
						Existing and New CCR Surface Impoundments and All Lateral Expansions of CCR Surface Impoundments			
797	(i)	(12)				The written post-closure plan, and any amendment of the plan, specified under § 257.105(i)(12).	Same		
798	(i)	(13)				The notification of completion of post-closure care specified under § 257.105(i)(13).	Same		
799	(j)	(1)				*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:* The written retrofit plan, and any amendment of the plan, specified under § 257.105(j)(1).	Same		
800	(j)	(2)				The notification of intent to comply with the alternative retrofit requirements as required by § 257.105(j)(2).	Same		
801	(j)	(3)				The annual progress reports under the alternative retrofit requirements as required by § 257.105(j)(3).	Same		
802	(j)	(4)				The demonstration(s) for a time extension for completing retrofit activities specified under § 257.105(j)(4).	Same		
803	(j)	(5)				The notification of intent to retrofit a CCR unit specified under § 257.105(j)(5).	Same		
804	(j)	(6)				The notification of completion of retrofit activities specified under § 257.105(j)(6).	Same		

Chapter 1 – Permit Program Application Checklist

This chapter contains a checklist of the materials EPA believes would constitute a "complete" CCR permit program application. EPA has developed this checklist to provide the states a quick reference to aid them in developing their CCR permit program application. These materials were discussed in detail in Chapter 2 of this document.

As explained previously, EPA encourages States who are or may be considering submitting a CCR permit program to EPA for approval to consult with EPA early in the process. Such consultations will enable EPA and the State to work through areas where the State program may be different from the federal CCR regulation. EPA intends to provide as much flexibility to the State programs as possible, consistent with the WIIN Act's standard for approval of State programs of "as protective as" the federal CCR rule.

ED_002047_00000068-00218

CCR Permit Program Application Checklist		
Row	Requirement	Notes (Complete? If N, why?)
1	Basic Application Packet Components	
2	Signed Transmittal letter	
3	A Narrative Description of the permit program	
4	Legal Certification	
5	Copies of all applicable State statutes, regulations, and guidance	
6	257 Checklist	
7	Narrative Description Components	
8	An explanation of the jurisdiction and responsibilities of all State agencies and local agencies implementing the permit program	
9	An explanation of how the State will ensure existing and new facilities are permitted or otherwise approved and in compliance with either 40 CFR part 257 or other State criteria	
10	A demonstration that the State meets permitting requirements, requirements for compliance monitoring authority, requirements for enforcement authority, and intervention in civil enforcement proceedings section	
11	A description of the State's public participation procedures as specified in the permitting requirements section	
12	State Legal Certification	
13	Signed Certification from Attorney General or independent legal counsel for the State that has full authority to independently represent the lead State agency in court on all matters pertaining to the State program	
14	Permitting Requirements	
15	State Law requires that documents for permit determinations are made available for public review and comment and final determinations on permit applications are made known to the public	
16	State procedures that ensure public comments are considered	

ED_002047_00000068-00219

CCR Permit Program Application Checklist		
Row	Requirement	Notes (Complete? If N, why?)
17	State description on public participation procedures for permit issuance and post-permit actions	
18	State law should require that all CCR units permits shall incorporate that States have the authority to impose requirements for CCR units adequate to ensure compliance with either 40 CFR part 257 subpart D or such other State criteria that has been determined and approved by the Regional Administrator to be at least as protective as 40 CFR part 257.	
19	Requirements for Compliance Monitoring Authority	
20	The State should have the authority to: (1) Obtain any and all information necessary, including records and reports, from an owner or operator of a CCR unit, to determine whether the owner or operator is in compliance with the State requirements; (2) Conduct monitoring or testing to ensure that owners and operators are in compliance with the State requirements; and (3) Enter any site or premise subject to the permit program or in which records relevant to the operation of the CCR unit or activities are kept.	
21	State should demonstrate that its compliance monitoring program provides for inspections adequate to determine compliance with the approved program	

CCR Permit Program Application Checklist		
Row	Requirement	Notes (Complete? If N, why?)
22	A State should demonstrate that its compliance monitoring program provides processes to: (1) Verify the accuracy of information submitted by owners or operators of the CCR unit; (2) Verify the adequacy of methods (including sampling) used by owners or operators in developing that information; (3) Produce evidence admissible in an enforcement proceeding; and (4) Receive and ensure proper consideration of information submitted by the public	
23	Requirements for Enforcement Authority	
24	A State should have the authority to restrain immediately and effectively any person by administrative or court order or by suit in a court of competent jurisdiction from engaging in any activity which may endanger or cause damage to human health or the environment	
25	A State should have the authority to sue in a court of competent jurisdiction to enjoin any threatened or continuing activity which violates any statute, regulation, order, or permit which is part of or issued pursuant to the State program	
26	A State should have the authority to sue in a court of competent jurisdiction to recover civil penalties for violations of a statute or regulation which is part of the State program or of an order or permit which is issued pursuant to the State program	
27	Intervention in Civil Enforcement Proceedings	

CCR Permit Program Application Checklist		
Row	Requirement	Notes (Complete? If N, why?)
28	A State should demonstrate that intervention is possible in the State civil enforcement process by providing either: (a) Authority that allows intervention, as a right, in any civil action to obtain remedies specified in the requirements for enforcement authority section by any citizen having an interest that is or may be adversely affected; or (b) Assurance by the appropriate State agency that: (1) It will provide notice and opportunity for public involvement in all proposed settlements of civil enforcement actions (except where immediate action is necessary to adequately protect human health and the environment); and, (2) It will investigate and provide responses to citizen complaints about violations; and, (3) It will not oppose citizen intervention when permissive intervention is allowed by statute, rule, or regulation	

ED_002047_00000068-00222

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

EPD Director's Office
2 Martin Luther King, Jr. Drive
Suite 1456, East Tower
Atlanta, Georgia 30334
404-656-4713

MAR 30 2017

Ms. V. Anne Heard
Acting Regional Administrator
U.S. EPA, Region IV
61 Forsyth Street SW
Atlanta, GA 30303

RE: Request to Approve Georgia's Coal Combustion Residuals Permit Program

Dear Ms. Heard,

The Georgia Environmental Protection Division (EPD) is submitting Georgia's Coal Combustion Residuals (CCR) Permit Program for approval and amendments to the Rules for Solid Waste Management, Chapter 391-3-4, for incorporation into Georgia's Solid Waste Management Plan dated 1981. The Water Infrastructure Improvements for the Nation Act (WIIN Act) Title II Subtitle C Section 2301 provides for the approval of state programs for control of coal combustion residuals.

The Georgia Department of Natural Resources Board adopted amendments to the Rules for Solid Waste Management on October 26, 2016, and the amended rules became effective on November 22, 2016. The amendments included a new section (391-3-4-.10) entitled Coal Combustion Residuals that apply to owners and operators of new and existing landfills and surface impoundments for CCR generated by the combustion of coal at electric utilities and independent power producers. Other amendments to the rules included new definitions, handling of solid waste permits, public participation, criteria for siting, closure and post closure criteria, groundwater monitoring and corrective action, and measuring and reporting requirements. All of the references contained in the EPD Rules for 40 CFR 257.60 through 257.107 are based on the effective date of October 19, 2015 for the Federal CCR Rule published on April 17, 2015 in the Federal Register.

EPD has performed an equivalency demonstration using the 40 CFR 257 checklist for CCR Landfills, Surface Impoundments & Lateral Expansion Requirements dated February 23, 2017. Based on the side by side comparison of the Federal requirements, EPD demonstrates that the State's CCR permit program is at least as protective as the applicable criteria for CCR units under Part 257 of Title 40, Code of Federal Regulations. EPD has incorporated all of the Federal requirements in the enclosed checklists and has additional requirements that will make it more protective than Part 257. EPD's Rules include requirements for two hundred foot boundaries between the waste disposal boundary and boundary of the permitted facility and five hundred foot buffers between the waste disposal boundary

and any occupied dwelling for new and lateral expansions of CCR units. In addition, EPD is regulating inactive CCR landfills, NPDES – CCR Surface Impoundments, and Dewatered Surface Impoundments, all of which are not included in the Federal requirements. EPD's rule addresses CCR permitting requirements in 391-3-4-.10 (9) Permits. EPD's rule 391-3-4-.10 (10) requires that CCR units meet financial assurance requirements.

As a part of this request, EPD has provided the following documents for review:

- Rules of Georgia Department of Natural Resources Environmental Protection Division Chapter 391-3-4 Solid Waste Management, effective November 22, 2016
- Notes on 40 CFR 257 Equivalency
- 40 CFR 257 Checklist for CCR Landfills
- 40 CFR 257 Checklist for CCR Surface Impoundments

If you or your staff have any questions or need additional documents concerning this request to approve the Georgia CCR Permit Program and to approve the incorporation of the amended Rules For Solid Waste Management effective November 22, 2017 into Georgia's Solid Waste Management Plan, please contact William Cook, Program Manager for the Solid Waste Management Program, at 404-362-4500 or william.cook@dnr.ga.gov.

Sincerely,

Richard E. Dunn
Director

Enclosures

C: Jon Johnston, EPA Region IV
Davy Simonson, EPA Region IV
Jeff Cown, Branch Chief
Beth Blalock, Assistant Branch Chief
William Cook, Program Manager

From:	Cook, William
To:	Simonson, Davy; Johnston, Jon
Cc:	Hall, Chad
Subject:	Georgia EPD"s CCR Program
Date:	Thursday, March 30, 2017 9:37:20 AM
Attachments:	image001.png Cover Letter Georgia CCR Approval Final 2017_03_01.docx Rule_391-3-4_010517.pdf Checklist procedures Final 3_1_17.docx 40 CFR 257 Checklist Final 3_1_2017.xlsx

Good morning Davy and Jon,

As a heads up, we are mailing our application package today requesting delegated authority for Georgia's CCR Permitting Program. The package is attached to this e-mail and includes a cover letter, copy of the Solid Waste Management Rules, equivalency determination notes page, and equivalency determination checklist for landfills and surface impoundments. Please let me know if you have any questions or comments associated with the application package.

William Cook
Solid Waste Program Manager
Georgia Environmental Protection Division
4244 International Pkwy., Ste 104
Atlanta, GA 30354
Phone: 404-362-4500
E-mail: William.cook@dnr.state.ga.us

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Technical Support Document for the Approval of Georgia's Coal Combustion Residuals State Permit Program

U.S. Environmental Protection Agency
Office of Land and Emergency Management (5305)
1200 Pennsylvania Avenue, NW
Washington, DC 20460
May 2018

Evaluation of the Georgia's Coal Combustion Residual Permit Program
I. Introduction
II. Summary of State Submittal
III. Evaluation Checklist
IV. Technical Review of State Submittal
V. Conclusion

I. Introduction

On April 13, 2018, Georgia Environmental Protection Division (Georgia EPD) submitted an application to EPA Region 4 requesting approval of the State's Coal Combustion Residuals (CCR) permit program. The Georgia EPD requested EPA approve their program consistent with Section 2301 of the Water Infrastructure Improvements for the Nation (WIIN) Act.

In 2015, EPA published a final rule, creating 40 CFR Part 257, Subpart D. These requirements were finalized under the solid waste provisions, subtitle D, of the Resource Conservation and Recovery Act (RCRA). The rule establishes a comprehensive set of requirements for the disposal of coal combustion residuals (CCR or coal ash) in landfills and surface impoundments. CCR are generated from the combustion of coal, including solid fuels classified as anthracite, bituminous, subbituminous, and lignite, for the purpose of generating steam for the purpose of powering a generator to produce electricity or electricity and other thermal energy by electric utilities and independent power producers. CCR includes fly ash, bottom ash, boiler slag, and flue gas desulfurization materials. CCR can be sent off-site for disposal, used for beneficial purposes or disposed in on-site landfills or surface impoundments.

40 CFR Part 257 became effective on October 19, 2015. The CCR rule established national minimum criteria for existing and new CCR landfills, existing and new CCR surface impoundments and all lateral expansions of CCR units. The rule created a self-implementing program which regulates location restrictions, design and operating criteria, groundwater monitoring and corrective action, closure requirements and post-closure care, recordkeeping, notification and internet posting requirements. These regulations contain provisions to help ensure that actions taken by power plants to comply with this rule are transparent and that the communities impacted by the disposal of CCR have the information they need. The regulations do not cover the "beneficial use" of CCR as defined in 40 CFR 257.53.

The CCR rule adds requirements to coal ash surface impoundments and landfills including:

• Groundwater monitoring around surface impoundments and landfills;
• Liner requirements for new surface impoundments and landfills to protect groundwater;
• Groundwater cleanup from coal ash contamination;
• The closure of unlined surface impoundments that are polluting groundwater;
• The closure of surface impoundments that fail to meet engineering and structural standards or are located inappropriately;
• Restrictions on the location of new surface impoundments and landfills so that they cannot be built in sensitive areas such as wetlands and earthquake zones;
• Proper closure of all surface impoundments and landfills that will no longer receive CCR; and

• Post-closure care requirements for the proper care of CCR units when closed with CCR in place.

On August 5, 2016, EPA published a direct final CCR rule (81 FR 51802). This direct final rule extended the deadlines for the owners and operators of those inactive CCR surface impoundments that had taken advantage of the "early closure" provisions of 40 CFR 257.100, who became newly subject to the rule's requirements for existing CCR surface impoundments on June 14, 2016 when the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) ordered the vacatur of those provisions. This rule provided time for these owners and operators to bring their units into compliance with the rule's substantive requirements, but does not otherwise amend the rule or otherwise impose new requirements on those units.

Section 2301 of the WIIN Act, enacted on December 16, 2016, amends Section 4005 of RCRA to provide for CCR permit programs. The law also provides EPA additional authorities including the authority to review and approve state CCR permit programs. The major provisions of Section 2301 of the WIIN Act include:

• States may, but are not required to, develop and submit a CCR permit ("or other system of prior approval") program to EPA for approval.
• The program does not have to be identical to the current CCR rule, found in Title 40 of the Code of Federal Regulations (CFR) Part 257 subpart D, but must be at least "as protective as" the CCR rule.
• EPA has 180 days to act on a complete State submission; EPA must provide public notice and an opportunity for comment prior to EPA approval.
• EPA may approve a program "in whole or in part".
• Once approved, the State permit program operates "in lieu of" the federal CCR rule.
• The CCR rule applies to a CCR unit until a permit is in effect for that unit.
• In States that do not have an approved permit program ("non-participating States"), EPA must implement a permit program, "subject to the availability of appropriations specifically provided to carry out a program…".
• EPA must implement a permit program in Indian Country.
• EPA may use its information gathering and enforcement authorities under RCRA Sections 3007 and 3008 to enforce the CCR rule or permit provisions.
• EPA must review State permit programs at least once every 12 years and in certain specific situations.

Consistent with the WIIN Act's standard for approval of state programs, EPA requires that each coal combustion residuals unit located in the state achieve compliance with either: (1) the Federal CCR requirements at 40 CFR Part 257; or (2) other State criteria that the Administrator, after consultation with the state, determines to be at least as protective as the Federal requirements.

To assist and provide information to states, EPA has developed a guidance document that provides information about the provisions of the 2016 WIIN Act related to CCR as well as the process and procedures EPA will generally use to review and make determinations on state CCR permit programs. The interim final Guidance for Coal Combustion Residuals State Permit

Programs was published on August 15, 2017. The process that the Agency outlines in the Guidance is based on the existing regulations at 40 CFR Part 239, Requirements for State Permit Program Determination of Adequacy, and the Agency's experience in reviewing and approving State programs in general. The guidance includes discussions on the provisions of the 2016 WIIN Act related to CCR, the process for obtaining EPA approval for State CCR permit programs, a checklist with the 40 CFR Part 257, Subpart D regulatory requirements for CCR units and the state permit application checklist.

Because the CCR rule was developed as self-implementing, it does not have its own implementation procedures. EPA is relying on the developed guidance and past experience evaluating state solid waste programs using 40 CFR Part 239 for reviewing CCR permit program applications. The 40 CFR Part 239 requirements are a helpful guide in evaluating the essential pieces of how a state would implement a CCR permit program but are not direct requirements.

II. Summary of State Submittal

~~On September 16, 2016, Oklahoma promulgated in the Oklahoma Administrative Code Title 252 Chapter 517 *Disposal of Coal Combustion Residuals from Electric Utilities*, which prescribes requirements pertaining to the disposal of CCR generated from the combustion of coal at electric utilities and independent power producers. Chapter 517 includes the 40 CFR Part 257, Subpart D requirements and inserts, where appropriate, pertinent language to enable the ODEQ to permit CCR units and enforce the new rules. EPA is aware of six CCR facilities currently in Oklahoma, none of which are located in Indian Country.~~

~~Following the EPA rulemaking in August 2016 revising the "early closure" of inactive CCR surface impoundments requirements of 40 CFR Part 257, Subpart D the ODEQ initiated rulemaking efforts to ensure OAC 252:517 was consistent with the federal CCR requirements. ODEQ's revisions to OAC 252:517, were formally approved and adopted by Declaration by Mary Fallen, Governor of the State of Oklahoma on June 13, 2017, and became effective on September 15, 2017.~~

~~In addition to Chapter 517, ODEQ provided to EPA Oklahoma statutes that address the State's authority, jurisdiction, public participation, permitting process and additional groundwater well design specifications. The application and additional regulatory language provided by Oklahoma were reviewed in context of the table below which describes the permit program checklist based on 40 CFR Part 239 found in the EPA interim final CCR guidance document. This checklist is EPA's detailed analysis that Oklahoma statutes and regulations fully meet the requirements for an approved CCR State program.~~

III. Evaluation Checklist

CCR Permit Program Application Checklist		
Row	**Requirement**	**Notes (Complete? If N, why?)**
1	Basic Application Packet Components	
2	Signed Transmittal letter	Submitted on April 13, 2018, received by Region 4 April 16, 2018.
3	A Narrative Description of the permit program	Submitted on April 13, 2018

4	State Legal Certification	Submitted on April 13, 2018
5	Copies of all applicable State statutes, regulations, and guidance	Submitted on April 13, 2018
6	257 Checklist	Submitted on April 13, 2018
7	Narrative Description Components	
8	An explanation of the jurisdiction and responsibilities of all State agencies and local agencies implementing the permit program	Narrative statement pages 2-6 indicate that Georgia EPD has the authority to regulate entities engaging in processing and disposing of solid wastes, including Coal Combustion Residuals (CCR). Updated regulations provided as Appendix C to the permit application, Rules for Solid Waste Management, Revisions Adopted February 28, 2018, effective March 28, 2018.
9	An explanation of how the State will ensure existing and new facilities are permitted or otherwise approved and in compliance with either 40 CFR part 257 or other State criteria	Narrative statement on page 4 provides the state of Georgia's Solid Waste Management Program (SWMP), O.C.G.A., Volume 10, Title 12, specifically O.C.G.A. 12-8-23.1, which gives the Director of the Environmental Protection Division the primary responsibility for implementation of the SWMP. Page 5 of the narrative explains the State Rule 391-3-4-.10, which contains the requirements for a permitting program for CCR units.
10	A demonstration that the State meets permitting requirements, requirements for compliance monitoring authority, requirements for enforcement authority, and intervention in civil enforcement proceedings section	Narrative statements on page 9 begins the permitting requirements, permit modifications, with public participation discussed on page 13. Inspections and enforcement discussion in the narrative is contained in pages 15 through 17. Note, intervention in civil enforcement is contained in Appendix C, pages 20-21, and should be mentioned in the narrative.
11	A description of the State's public participation procedures as specified in the permitting requirements section	Narrative statement of public participation is contained at page 13 through 14. The draft permit comment process is also contained in Appendix D.
12	State Legal Certification	
13	Signed Certification from Attorney General or independent legal counsel for the State that has full authority to independently represent the lead State agency in court on all matters pertaining to the State program	Submitted on April 13, 2018, dated April 2, 2018, contained in the Georgia EPD submittal as the certification.
14	Permitting Requirements	
15	State Law requires that documents for permit determinations are made available for public review and comment and final determinations	Narrative pages 10 through 12, and figure 1, describe the Georgia EPD permit process and the public participation proceedings.

	on permit applications are made known to the public	Additionally, pages 13 through 14, Narrative Section VII. Public Participation, details the process of review, comment and publishing state's intent. Appendix D contains a memorandum denoting Georgia EPD's intent to follow public comment period on CCR applications (dated April 13, 2018), as well as model language for public notice of draft permits.
16	State procedures that ensure public comments are considered	Narrative section VII, Public Participation, notes that a public hearing must be held for CCR units. This is amplified and reinforced in Appendix D, Memorandum of April 13, 2018, Georgia EPD.
17	State description on public participation procedures for permit issuance and post-permit actions	
18	The state shall have the authority to collect all information necessary to issue permits that are adequate to ensure compliance with relevant 40 CFR 257, subpart D.	
19	State law should require that all CCR units permits shall incorporate that States have the authority to impose requirements for CCR units adequate to ensure compliance with either 40 CFR part 257 subpart D or such other State criteria that has been determined and approved by the Regional Administrator to be at least as protective as 40 CFR part 257.	
20	Requirements for Compliance Monitoring Authority	
21	The State should have the authority to: (1) Obtain any and all information necessary, including records and reports, from an owner or operator of a CCR unit, to determine whether the owner or operator is in compliance with the State requirements; (2) Conduct monitoring or testing to ensure that owners and operators are in compliance with the State requirements; and (3) Enter any site or premise subject to the permit program or in which records relevant to the operation of the CCR unit or activities are kept.	
22	State should demonstrate that its compliance monitoring program provides for inspections adequate to determine compliance with the approved program	

23	A State should demonstrate that its compliance monitoring program provides processes to: (1) Verify the accuracy of information submitted by owners or operators of the CCR unit; (2) Verify the adequacy of methods (including sampling) used by owners or operators in developing that information; (3) Produce evidence admissible in an enforcement proceeding; and (4) Receive and ensure proper consideration of information submitted by the public.	
24	Requirements for Enforcement Authority	
25	A State should have the authority to restrain immediately and effectively any person by administrative or court order or by suit in a court of competent jurisdiction from engaging in any activity which may endanger or cause damage to human health or the environment	
26	A State should have the authority to sue in a court of competent jurisdiction to enjoin any threatened or continuing activity which violates any statute, regulation, order, or permit which is part of or issued pursuant to the State program	
27	A State should have the authority to sue in a court of competent jurisdiction to recover civil penalties for violations of a statute or regulation which is part of the State program or of an order or permit which is issued pursuant to the State program	
28	Intervention in Civil Enforcement Proceedings	
29	A State should demonstrate that intervention is possible in the State civil enforcement process by providing either: (a) Authority that allows intervention, as a right, in any civil action to obtain remedies specified in the requirements for enforcement authority section by any citizen having an interest that is or may be adversely affected; or (b) Assurance by the appropriate State agency that: (1) It will provide notice and opportunity for public involvement in all proposed settlements of civil enforcement actions (except where immediate action is necessary to adequately protect human health and the environment); and, (2) It will investigate and provide responses to citizen complaints about violations; and, (3) It will not oppose citizen intervention when	

	permissive intervention is allowed by statute, rule, or regulation	

IV. Technical Review of State Submittal

V. Conclusion

Technical Support Document for the Approval of Georgia's Coal Combustion Residuals State Permit Program

U.S. Environmental Protection Agency
Office of Land and Emergency Management (5305)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

July 2018

Evaluation of the Georgia's Coal Combustion Residual Permit Program
I. Introduction
II. Summary of State Submittal
III. Evaluation Checklist
IV. Technical Review of State Submittal
V. Conclusion

I. Introduction

On April 13, 2018, Georgia Environmental Protection Division (Georgia EPD) submitted an application to EPA Region 4 requesting approval of the State's Coal Combustion Residuals (CCR) permit program. The Georgia EPD requested EPA approve their program consistent with Section 2301 of the Water Infrastructure Improvements for the Nation (WIIN) Act.

In 2015, EPA published a final rule, creating 40 CFR Part 257, Subpart D. These requirements were finalized under the solid waste provisions, subtitle D, of the Resource Conservation and Recovery Act (RCRA). The rule establishes a comprehensive set of requirements for the disposal of coal combustion residuals (CCR or coal ash) in landfills and surface impoundments. CCR are generated from the combustion of coal, including solid fuels classified as anthracite, bituminous, subbituminous, and lignite, for the purpose of generating steam for the purpose of powering a generator to produce electricity or electricity and other thermal energy by electric utilities and independent power producers. CCR includes fly ash, bottom ash, boiler slag, and flue gas desulfurization materials. CCR can be sent off-site for disposal, used for beneficial purposes or disposed in on-site landfills or surface impoundments.

40 CFR Part 257 became effective on October 19, 2015. The CCR rule established national minimum criteria for existing and new CCR landfills, existing and new CCR surface impoundments and all lateral expansions of CCR units. The rule created a self-implementing program which regulates location restrictions, design and operating criteria, groundwater monitoring and corrective action, closure requirements and post-closure care, recordkeeping, notification and internet posting requirements. These regulations contain provisions to help ensure that actions taken by power plants to comply with this rule are transparent and that the communities impacted by the disposal of CCR have the information they need. The regulations do not cover the "beneficial use" of CCR as defined in 40 CFR 257.53.

The CCR rule adds requirements to coal ash surface impoundments and landfills including:

- Groundwater monitoring around surface impoundments and landfills;
- Liner requirements for new surface impoundments and landfills to protect groundwater;
- Groundwater cleanup from coal ash contamination;
- The closure of unlined surface impoundments that are polluting groundwater;
- The closure of surface impoundments that fail to meet engineering and structural standards or are located inappropriately;
- Restrictions on the location of new surface impoundments and landfills so that they cannot be built in sensitive areas such as wetlands and earthquake zones;

ED_002047_00000173-00002

- Proper closure of all surface impoundments and landfills that will no longer receive CCR; and
- Post-closure care requirements for the proper care of CCR units when closed with CCR in place.

On August 5, 2016, EPA published a direct final CCR rule (81 FR 51802). This direct final rule extended the deadlines for the owners and operators of those inactive CCR surface impoundments that had taken advantage of the "early closure" provisions of 40 CFR 257.100, who became newly subject to the rule's requirements for existing CCR surface impoundments on June 14, 2016 when the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) ordered the vacatur of those provisions. This rule provided time for these owners and operators to bring their units into compliance with the rule's substantive requirements, but does not otherwise amend the rule or otherwise impose new requirements on those units.

Section 2301 of the WIIN Act, enacted on December 16, 2016, amends Section 4005 of RCRA to provide for CCR permit programs. The law also provides EPA additional authorities including the authority to review and approve state CCR permit programs. The major provisions of Section 2301 of the WIIN Act include:

- States may, but are not required to, develop and submit a CCR permit ("or other system of prior approval") program to EPA for approval.
- The program does not have to be identical to the current CCR rule, found in Title 40 of the Code of Federal Regulations (CFR) Part 257 subpart D, but must be at least "as protective as" the CCR rule.
- EPA has 180 days to act on a complete State submission; EPA must provide public notice and an opportunity for comment prior to EPA approval.
- EPA may approve a program "in whole or in part".
- Once approved, the State permit program operates "in lieu of" the federal CCR rule.
- The CCR rule applies to a CCR unit until a permit is in effect for that unit.
- In States that do not have an approved permit program ("non-participating States"), EPA must implement a permit program, "subject to the availability of appropriations specifically provided to carry out a program…".
- EPA must implement a permit program in Indian Country.
- EPA may use its information gathering and enforcement authorities under RCRA Sections 3007 and 3008 to enforce the CCR rule or permit provisions.
- EPA must review State permit programs at least once every 12 years and in certain specific situations.

Consistent with the WIIN Act's standard for approval of state programs, EPA requires that each coal combustion residuals unit located in the state achieve compliance with either: (1) the Federal CCR requirements at 40 CFR Part 257; or (2) other State criteria that the Administrator, after consultation with the state, determines to be at least as protective as the Federal requirements.

To assist and provide information to states, EPA has developed a guidance document that provides information about the provisions of the 2016 WIIN Act related to CCR as well as the process and procedures EPA will generally use to review and make determinations on state CCR

ED_002047_00000173-00003

permit programs. The interim final Guidance for Coal Combustion Residuals State Permit Programs was published on August 15, 2017. The process that the Agency outlines in the Guidance is based on the existing regulations at 40 CFR Part 239, Requirements for State Permit Program Determination of Adequacy, and the Agency's experience in reviewing and approving State programs in general. The guidance includes discussions on the provisions of the 2016 WIIN Act related to CCR, the process for obtaining EPA approval for State CCR permit programs, a checklist with the 40 CFR Part 257, Subpart D regulatory requirements for CCR units and the state permit application checklist.

Because the CCR rule was developed as self-implementing, it does not have its own implementation procedures. EPA is relying on the developed guidance and past experience evaluating state solid waste programs using 40 CFR Part 239 for reviewing CCR permit program applications. The 40 CFR Part 239 requirements are a helpful guide in evaluating the essential pieces of how a state would implement a CCR permit program but are not direct requirements.

II. Summary of State Submittal

Georgia Board of Natural Resources adopted and promulgated into regulation, rules on Coal Combustion Residuals (CCR) at electric utilities and independent power producers on October 26, 2016, (effective November 22, 2016, known as the 2016 CCR Rule Revisions). The Georgia CCR rules were in response to the 2015 Federal Rule. The Georgia 2016 CCR Rule Revisions were effective prior to EPA responding to the Court partial vacatur of the Federal Rule. Because of the partial vacatur, Georgia EPD amended the existing rule in the 2018 Georgia Solid Waste Rule Revision, which became effective on February 28, 2018. The Georgia CCR rules were codified at State Rule 391-3-4-.10, which were nearly all included by reference from the Federal Rules contained at 40 CFR Part 257, Subpart D. A notable exception was the Endangered Species Act, which was referenced under 40 CFR § 257.52(b) which in turn referenced 40 CFR § 257.3-1, 3-2, and 3-3.

Georgia EPD provided to EPA, regulations, statutes, policy and procedures that address the State's authority, jurisdiction, public participation, permitting process and additional groundwater well design specifications. The application and additional regulatory language provided by Georgia EPD were reviewed in context of the table below which describes the permit program checklist based on 40 CFR Part 239 found in the EPA interim final CCR guidance document.

III. Evaluation Checklist

CCR Permit Program Application Checklist		
Row	Requirement	Notes (Complete? If N, why?)
1	Basic Application Packet Components	
2	Signed Transmittal letter	Submitted on April 13, 2018.
3	A Narrative Description of the permit program	Submitted on April 13, 2018
4	State Legal Certification	Submitted on April 13, 2018

5	Copies of all applicable State statutes, regulations, and guidance	Submitted on April 13, 2018
6	257 Checklist	
7	Narrative Description Components	Submitted on April 13, 2018
8	An explanation of the jurisdiction and responsibilities of all State agencies and local agencies implementing the permit program	Narrative statement pages 2-6 indicate that Georgia EPD has the authority to regulate entities engaging in processing and disposing of solid wastes, including Coal Combustion Residuals (CCR). Updated regulations provided as Appendix C to the permit application, Rules for Solid Waste Management, Revisions Adopted February 28, 2018, effective March 28, 2018.
9	An explanation of how the State will ensure existing and new facilities are permitted or otherwise approved and in compliance with either 40 CFR part 257 or other State criteria	Narrative statement on page 4 provides the state of Georgia's Solid Waste Management Program (SWMP), O.C.G.A., Volume 10, Title 12, specifically O.C.G.A. 12-8-23.1, which gives the Director of the Environmental Protection Division the primary responsibility for implementation of the SWMP. Page 5 of the narrative explains the State Rule 391-3-4-.10, which contains the requirements for a permitting program for CCR units.
10	A demonstration that the State meets permitting requirements, requirements for compliance monitoring authority, requirements for enforcement authority, and intervention in civil enforcement proceedings section	Narrative statements on page 9 begins the permitting requirements, permit modifications, with public participation discussed on page 13. Inspections and enforcement discussion in the narrative is contained in pages 15 through 17. Note, intervention in civil enforcement is contained in Appendix B, pages 20-21, and should be mentioned in the narrative, at least so far that it is apparent that it is fully addressed and already in existence.
11	A description of the State's public participation procedures as specified in the permitting requirements section	Narrative statement of public participation is contained at page 13 through 14. The draft permit comment process is also contained in Appendix D.
12	State Legal Certification	

ED_002047_00000173

13	Signed Certification from Attorney General or independent legal counsel for the State that has full authority to independently represent the lead State agency in court on all matters pertaining to the State program	Submitted on April 13, 2018, dated April 2, 2018, contained in the Georgia EPD submittal as the certification.
14	Permitting Requirements	
15	State Law requires that documents for permit determinations are made available for public review and comment and final determinations on permit applications are made known to the public	Narrative pages 10 through 12, and figure 1, describe the Georgia EPD permit process and the public participation proceedings. Additionally, pages 13 through 14, Narrative Section VII. Public Participation, details the process of review, comment and publishing state's intent. Appendix D contains a memorandum denoting Georgia EPD's intent to follow public comment period on CCR applications (dated April 13, 2018), as well as model language for public notice of draft permits.
16	State procedures that ensure public comments are considered	Narrative section VII, Public Participation, notes that a public hearing must be held for CCR units. This is amplified and reinforced in Appendix D, Memorandum of April 13, 2018, Georgia EPD.
17	State description on public participation procedures for permit issuance and post-permit actions	Narrative section VII, describes Public participation for permit issuance, a local government must hold a public hearing prior to the issuance of solid waste handling permit. This is reinforced in appendix C, Rule 391-4-3.03. Outlined on page 12, and in appendix C rule 391-4-4-.01(3)(a) public participation is required for major modifications but not minor modifications.
18	The state shall have the authority to collect all information necessary to issue permits that are adequate to ensure compliance with relevant 40 CFR 257, subpart D.	Pursuant to O.C.G.A. 12-8-20, and Rules for Solid Waste Management, Chapter 391-3-4, all applications for permits and permit modifications shall be on forms prescribed by EPD and shall be accompanied by all pertinent information as EPD may require. Reference to this is found on page 5 of the July 27, 1993, Application to USEPA Region IV for

ED_002047_00000173-00

		Solid Waste Permit Program Approval in Accordance with Section 4005(c) of Subtitle D of the Resource Conservation and Recovery Act Subtitle D submission (contained in Appendix B of the April 13, 2018 submittal).
19	State law should require that all CCR units permits shall incorporate that States have the authority to impose requirements for CCR units adequate to ensure compliance with either 40 CFR part 257 subpart D or such other State criteria that has been determined and approved by the Regional Administrator to be at least as protective as 40 CFR part 257.	Narrative pages 2-3 notes that Georgia CCR rules expanded EPD's regulatory authority over all matters of CCR disposal. Georgia EPD expands it's authority to include CCR disposal in MSWLF and Commercial Industrial Landfills. EPA in its review found that on whole, the regulations provide equal protection and are as stringent as the federal rules.
20	Requirements for Compliance Monitoring Authority	
21	The State should have the authority to: (1) Obtain any and all information necessary, including records and reports, from an owner or operator of a CCR unit, to determine whether the owner or operator is in compliance with the State requirements; (2) Conduct monitoring or testing to ensure that owners and operators are in compliance with the State requirements; and (3) Enter any site or premise subject to the permit program or in which records relevant to the operation of the CCR unit or activities are kept.	Beginning on page 15 and ending on page 17, Section VIII, Inspections, Compliance Monitoring and Enforcement details the authority to obtain records, conduct inspections, and enter a site for the purpose of determining compliance (and citizen complaints) with the regulations. Under O.C.G.A. 12-8-23.1, 12-8-24, 12-8-29, and 12-8-30 all define the authority the Director has been granted to ensure compliance with the regulations.
22	State should demonstrate that its compliance monitoring program provides for inspections adequate to determine compliance with the approved program	Narrative page 15 specifies that inspections, compliance and monitoring are incorporated by reference from Appendix B, the July 27, 1993, Application to USEPA Region IV for Solid Waste Permit Program Approval in Accordance with Section 4005(c) of Subtitle D of the Resource Conservation and Recovery Act Subtitle D submission (contained in Appendix A of the April 13, 2018 submittal).

23	A State should demonstrate that its compliance monitoring program provides processes to: (1) Verify the accuracy of information submitted by owners or operators of the CCR unit; (2) Verify the adequacy of methods (including sampling) used by owners or operators in developing that information; (3) Produce evidence admissible in an enforcement proceeding; and (4) Receive and ensure proper consideration of information submitted by the public.	Narrative page 16 details statutory authority for inspections, analysis and monitoring, pursuant to O.C.G.A. 12-8-29.1 and 12-8-24(e), Director may enter property so as to undertake investigations to verify compliance. O.C.G.A. 12-8-23.1(a)(4), may undertake analysis to determine compliance, and Chapter 391-3-4-.10(6)(d) requires a CCR unit to obtain concurrence from the director for groundwater systems.
24	Requirements for Enforcement Authority	
25	A State should have the authority to restrain immediately and effectively any person by administrative or court order or by suit in a court of competent jurisdiction from engaging in any activity which may endanger or cause damage to human health or the environment	Narrative pages 15-16 describes the authority to both issue an order, an emergency order or an injunction.
26	A State should have the authority to sue in a court of competent jurisdiction to enjoin any threatened or continuing activity which violates any statute, regulation, order, or permit which is part of or issued pursuant to the State program	Narrative page 16 describes the "ability to sue in superior court for injunctions, restraining orders, etc. The law it relates to is found in OCGA 12-8-30.4
27	A State should have the authority to sue in a court of competent jurisdiction to recover civil penalties for violations of a statute or regulation which is part of the State program or of an order or permit which is issued pursuant to the State program	Narrative page. 16, discusses the ability to assess civil penalties for non-compliance with Georgia regulations.
28	Intervention in Civil Enforcement Proceedings	
29	A State should demonstrate that intervention is possible in the State civil enforcement process by providing either: (a) Authority that allows intervention, as a right, in any civil action to obtain remedies specified in the requirements for enforcement authority section by any citizen having an interest that is or may be adversely affected; or (b) Assurance by the appropriate State agency that: (1) It will	Narrative statements on inspections and enforcement discussion in the narrative is contained in pages 15 through 17. Note, intervention in civil enforcement is contained in Appendix B, pages 20-21, and should be mentioned in the narrative, at least so far that it is apparent that it is fully addressed and already in existence.

	provide notice and opportunity for public involvement in all proposed settlements of civil enforcement actions (except where immediate action is necessary to adequately protect human health and the environment); and, (2) It will investigate and provide responses to citizen complaints about violations; and, (3) It will not oppose citizen intervention when permissive intervention is allowed by statute, rule, or regulation.	

IV. Technical Review of State Submittal

Georgia's program contains all the elements of the federal CCR rules, including requirements for location restrictions, design and operating criteria, groundwater monitoring and corrective action, closure requirements, post-closure care, recordkeeping, notification and internet posting requirements. The Georgia program application does contain state-specific language, references, and state-specific requirements that differ from the federal CCR rule.

Non-substantive changes include language inserts and deletions to enable the Georgia EPD to permit CCR units and enforce the Georgia rule. The revisions and inclusions include: the removal of statements regarding national applicability; the inclusion of language to require submittal and approval of plans to Georgia EPD; the inclusion of permitting provisions to allow the Georgia EPD to administer the CCR rules in the context of a permitting program; the inclusion of state-specific location restrictions; the inclusion of procedures for subsurface investigation; the inclusion of provisions addressing cost estimates and financial assurance.

More substantial changes described below reflect the integration of the CCR rules with the responsibilities of other state agencies or State specific conditions.

Below are some of the changes made by Georgia EPD's CCR rules which are not considered to be insignificant.

MSWL/CIL vs PISWDF

Exemption of Commercial Industrial Landfills: MSWLs disposing of CCR are exempt from the requirements of 40 CFR Part 257. Georgia's CILs must meet the same criteria for siting, design, operations, environmental monitoring, closure, post-closure care, and financial assurance as MSWLs (see also Section I). Rule 391-3-4-.04(10) further ensures that no variance can be granted to a CIL or any other facility which would waive any requirement of the Federal Rule. Groundwater monitoring of CILs where CCR is being or has been disposed must add the CCR groundwater constituents (i.e., EPA Appendix Ill and IV constituents) to both detection and assessment monitoring parameters (391-3-4.14(21) and 391-3-4-.14(25)). The requirement of a site-specific CCR management plan for CILs (391-3-4-.07(5)) ensures the facility design and operations are suitable for CCR disposal. Finally, by permitting CILs in the same manner as MSWLs, the State will hold CILs to more robust public participation requirements than will be required for the CCR Permits to be issued to PISWDFs. Therefore, the State feels it is appropriate and equally protective as the Federal Rule to exempt CILs from regulation under the State CCR Rule.

Georgia EPD exemption from 40 CFR Part 257 for CIL that receive CCR does not remove obligations to follow the rules which are functionally equivalent to the Part 257 requirements. EPA concurs with Georgia EPD's submittal as being as protective and/or stringent as the federal rule.

Definitions, 391-3-4-.01

Aquifer: EPD holds that the State's use of "significant quantities" is more protective than the Federal "usable quantities". The State's concern is that some aquifers (e.g., saline aquifers) might be argued to be not "usable", but the State seeks to maintain protection for these aquifers. Any aquifer with usable drinking water is considered to have significant quantities.

The narrative addresses the difference between EPA's definition and Georgia EPD's definition, and as a result, EPA is comfortable with the more stringent qualifier as it allows protection of aquifers that EPA would not have addressed. Therefore, EPA concurs with Georgia EPD's submittal as being as protective and/or stringent as the federal rule.

CCR Landfill, CCR Unit, and CCR Surface Impoundment: these include active or inactive units, and go beyond the Federal Rule to include previously permitted and/or unregulated units, such as:

- *Dewatered surface impoundments*
- *NPDES-CCR surface impoundments*

EPA concurs with Georgia EPD's rational, and as such the submittal is as being as protective and/or stringent as the federal rule.

Qualified Groundwater Scientists: EPD includes State-registered professional geologists as qualified groundwater scientists. (Note: Approved plans will require that all reports come under the seal of a professional engineer.)

EPA concurs with Georgia EPD's submittal as being as protective and/or stringent as the federal rule.

Definitions 391-3-4-.10

Dewatered Surface Impoundment, NPDES-CCR Surface Impoundment, and Inactive CCR Landfill: these definitions were added to meet the State's policy intent to regulate CCR impoundments of any type regardless of whether they accepted CCR prior to or after October 19, 2015.

EPA concurs with Georgia EPD's submittal as being as protective and/or stringent as the federal rule.

Beneficial Reuse: EPD requires submittal of any project; there is no automatic approval based on tonnage limits.

Beneficial reuse is not covered within the current 40 CFR Part 257 regulations, this acts as a placeholder until the Phase 2 remand is promulgated. EPA concurs with Georgia EPD's submittal as being as protective and/or stringent as the federal rule.

Variances

ED_002047_00000173-00011

[do we add variance issue here or has it been handled in such a way that it is no longer an issue]

Endangered Species Act

§ 257.52 Applicability of other regulations.

...

(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.

§ 257.3 Criteria for classification of solid waste disposal facilities and practices.
Solid waste disposal facilities or practices which violate any of the following criteria pose a reasonable probability of adverse effects on health or the environment:

§ 257.3–2 Endangered species.
(a) Facilities or practices shall not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife.
(b) The facility or practice shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species as identified in 50 CFR part 17.
(c) As used in this section:
(1) Endangered or threatened species means any species listed as such pursuant to section 4 of the Endangered Species Act.
(2) Destruction or adverse modification means a direct or indirect alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.
(3) Taking means harassing, harming, pursuing, hunting, wounding, killing, trapping, capturing, or collecting or attempting to engage in such conduct.

Based on comments received in the Oklahoma CCR matter, EPA has also determined that the Georgia EPD submittal is deficient in addressing the Environmental Species Act. The likely solution to addressing this situation is for Georgia EPD to modify the regulations to include these requirements, while giving partial approval to Georgia EPD's CCR program.

V. Conclusion

Based on the findings described above, EPA has determined that the State of Georgia has met the requirements (in part or in full) of Section 2301 of the WIIN Act and 40 CFR Part 257, Subpart D. The application materials and this analysis will be available for public review and comment. The EPA will make a final decision after considering the public comments.

ED_002047_00000173-00012