



State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Tim Davis
Commissioner

DIVISION OF WASTE MANAGEMENT
AND RADIATION CONTROL

Ted H. Sonnenburg, P.E., L.E.H.S.
Director

A meeting of the Utah Waste Management and Radiation Control Board has been scheduled for June 11, 2026 at 1:30 p.m. at the Utah Department of Environmental Quality, (Multi-Agency State Office Building) Conference Room #1015, 195 North 1950 West, SLC.

Board members and interested individuals may participate electronically/telephonically.

Join via the Internet: meet.google.com/gad-sxsd-uvs

Join via the Phone: (US) +1 978-593-3748 PIN: 902 672 356#

AGENDA

- I. Call to Order and Roll Call.
- II. Public Comments on Agenda Items.
- III. Declarations of Conflict of Interest.
- IV. Approval of meeting minutes for the May 14, 2026, Board meeting Tab 1
(Board Action Item).
- V. Petroleum Storage Tanks Update..... Tab 2
- VI. Administrative Rules Tab 3
 - A. Five-Year Review of Utah Administrative Rule R315-319, Coal Combustion Residuals Requirements (Information Item).
- VII. Hazardous Waste Section Tab 4
 - A. Proposed Stipulated Compliance Order between the Director and Barnes Group Inc. DBA Barnes Aerospace Ogden (Information Item).
- VIII. Director’s Report.
- IX. Commissioner Davis’s Report.

X. Other Business.

- A. Miscellaneous Information Items.
- B. Scheduling of next Board meeting (July 9, 2026).

XI. Adjourn.

In compliance with the Americans with Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact LeAnn Johnson, Office of Human Resources at 385-226-4881, Telecommunications Relay Service 711, or by email at leannjohnson@utah.gov.

Utah Waste Management and Radiation Control Board Meeting Minutes
Utah Department of Environmental Quality
Multi-Agency State Office Building, (Conf. Room #1015)
195 North 1950 West, SLC
May 14, 2026
1:30 p.m.

Board Members Participating at Anchor Location: Brett Mickelson (Chair), Dennis Riding (Vice-Chair), Tim Davis, Jeremy Hawk, Dr. Steve McIff, Vern Rogers, Shane Whitney

Board Members Participating Virtually: Dr. Richard Codell, Dr. Danielle Endres, Mark Franc

Board Members Excused/Absent: Neil Schwendiman, Scott Wardle

UDEQ Staff Members Participating at Anchor Location: Brent Everett, Ted Sonnenburg, Lecia Cope, Brandon Davis, Doreen Egan, Tyler Hegburg, Larry Kellum, Jalynn Knudsen, Arlene Lovato, Stevie Norcross, Carlo Romano, Elisa Smith, Raymond Wixom

Others Attending at Anchor Location: Steve Gurr

Other UDEQ employees and interested members of the public also participated either virtually or telephonically.

This meeting was recorded. The unedited audio can be accessed at <https://www.utah.gov/pmn/files/1434548.mp3>

I. Call to Order and Roll Call.

Chairman Mickelson called the meeting to order at 1:30 p.m. Roll call of Board members was conducted; see above.

II. Public Comments on Agenda Items – None.

III. Declaration of Conflict of Interest.

Vern Rogers declared a conflict of interest; he will abstain from voting on Agenda Item VII. B.

IV. Approval of the meeting minutes for the April 9, 2026, Board meeting (Board Action Item).

It was moved by Dr. Codell and seconded by Dennis Riding and UNANIMOUSLY CARRIED to approve the April 9, 2026, Board meeting minutes.

V. Petroleum Storage Tanks Update.

Brent Everett, Director, Division of Environmental Response and Remediation (DERR), let the Board know that the cash balance of the Petroleum Storage Tank (PST) Enterprise Fund (Fund) at the end of April 2026, was \$40,213,320.00. We keep a close eye on the PST Enterprise Fund to make sure there is enough money to pay qualified claims.

Director Everett also said that at the end of the fiscal year, the DERR will provide the necessary data to our actuarial contractor for the annual actuarial report on the PST Fund. The DERR will report to the Board when the actuarial report is completed, as we have done in the past.

VI. Annual Open and Public Meetings, Conflicts, Ethics, and Records Training (Presented by Raymond Wixom, Assistant Attorney General, Utah Attorney General's Office) (Information Item).

Mr. Wixom provided to the Board the annual required training and updates regarding the Open and Public Meetings Act, Ethics and Conflicts, and Board Operations and Duties, and Records and Government Records Access and Management Act (GRAMA). Mr. Wixom's presentation included information regarding the following topics: Board's Functions & Duties; Roles of Board & Division; Role of Attorney General Office; Board Rulemaking; Open Public Meetings and the Open Public Meetings Act; Amendments – H.B. 36 (2024); Conflict of Interest; Ethics Act and Ethics Prohibitions; Identifying Conflicts and Conflict Procedures; Records and GRAMA and GRAMA Revisions and Records Procedures. A copy of the presentation is available at the following link: <https://www.utah.gov/pmn/files/1436805.pdf>

VII. Low-Level Radioactive Waste.

A. EnergySolutions' request for a one-time site-specific treatment variance from the Utah Hazardous Waste Management Rules. EnergySolutions seeks authorization to receive an exemption from the treatment standards for uranium extraction process residues encased in cement for macroencapsulation (Information Item).

Tyler Hegburg, Environmental Scientist, Low-Level Radioactive Waste Section, Division of Waste Management and Radiation Control (Division), introduced Steve Gurr, EnergySolutions representative, who presented this informational item to the Board.

Mr. Gurr reviewed EnergySolutions' request for a site-specific treatment variance for uranium extraction process residues. Mr. Gurr informed the Board that the waste consists of cemented uranium extraction process residuals from the generator's three different points of generation. The residual waste from each of these processes is collected in small cans (~ 2 ½ gallons each) and stored at the generator's facility.

Appropriate packaging procedures were created and currently being utilized at the generator's facility. These packaging procedures include repackaging the cans into 16-gallon drums and filling the void spaces with cement. Characterization samples were analyzed by the generator detecting elevated concentrations of both metals and semi-volatile organics above their respective treatment standards of 40 CFR 268. The generator has assessed other options, including treatment for the hazardous constituents; however, additional processing creates additional hazards.

The uranium content within the process residues is enriched, natural uranium, which is around 7%, and enriched uranium, which is around 5%. From a health and safety standpoint, the enrichment makes the waste more hazardous to employees managing the waste. Further, enriched material has increased security concerns and must be managed appropriately. Furthermore, encasing enriched uranium within concrete is the preferred method of stabilization as recommended by the U.S. Nuclear Regulatory Commission (NRC). The waste material packaged in these 16-gallon monolithic forms is inherently safe and is the form that will be shipped and received at the EnergySolutions Clive facility.

EnergySolutions' proposes to macroencapsulate the waste, thereby isolating the waste and decreasing the leaching potential of the media. Macroencapsulation is a permitted process utilized at the Clive facility that significantly reduces the potential for migration (leaching) of the waste. Macroencapsulation requires less handling of the waste and creates a waste form for disposal that is protective of human health and the environment. Macroencapsulation also adds a further level of security by restricting access to the waste.

Historically, EnergySolutions has requested this variance 17 times for this generator, dating back to 2007. The Board has approved all previous requests. Since the last variance was approved in 2025, EnergySolutions has received approximately 20,080 cubic feet of this waste.

Dennis Riding commented that this variance request has been approved numerous times since 2007. He requested additional information regarding the track record for this specific waste stream.

Mr. Gurr reported that no issues have been identified at either the Clive Facility or the generator's facility. It remains a very successfully managed waste stream.

Dr. Endres expressed interest in the classification of enriched uranium and checked to ensure it remains categorized as Class A level waste, rather than Class B or C. Mr. Gurr reported that, in this scenario, *EnergySolutions* is only authorized to receive Class A level waste and confirmed that this specific waste stream meets that classification.

Additionally, Dr. Endres inquired whether enriched uranium is a form of radiation that can change over time, noting concerns that it could potentially become "hotter" and breach Class B or C limits. Mr. Gurr clarified that this concern applies to depleted uranium, which is not part of this variance request.

Dr. Codell requested further information on the approximately 5% enrichment level for uranium. In response, Mr. Gurr clarified that while natural uranium is around 0.7%, enriched uranium is approximately 5%.

B. *EnergySolutions'* request for a one-time site-specific treatment variance from the Utah Hazardous Waste Management Rules. *EnergySolutions* seeks authorization to receive a variance from Utah Administrative Codes R315-268-40 and R315-268-45 for the direct macroencapsulation treatment of approximately 1200 lbs. of lithium and lithium-ion batteries (Board Action Item).

Tyler Hegburg, Environmental Scientist from the Low-Level Radioactive Waste Section in the Division, reviewed *EnergySolutions*, LLC request for a one-time site-specific variance request.

Mr. Hegburg reminded the Board that during the April 9, 2026, Board meeting, *EnergySolutions* presented to the Board as an informational item a one-time site-specific treatment variance request from Utah Administrative Codes R315-268-40 and R315-268-45 for the macroencapsulation treatment and disposal of approximately 1200 lbs. of lithium and lithium-ion batteries that are secondarily contaminated with radioactive components.

The 30-day public comment period began April 9, 2026, and ended end May 11, 2026; no comments were received.

Lithium and lithium-ion batteries typically exhibit the hazardous characteristics of ignitability (D001) and reactivity (D003). Regulations in Utah Admin. Code R315-268-40 require that these characteristic hazards be deactivated to remove the hazardous characteristic prior to land disposal. As an alternative method, Utah Admin. Code R315-268-45 allows hazardous debris to be treated using an immobilization technology like macroencapsulation. However, the U.S. Environmental Protection Agency (U.S. EPA) has ruled that intact batteries are containers and not considered debris. Furthermore, the definition of macroencapsulation in Utah Admin. Code R315-268-42 states that "Macroencapsulation specifically does not include any material that would be classified as a tank or container."

Mr. Hegburg explained that for *EnergySolutions* to meet the regulatory standards described above, lithium and lithium-ion batteries would need to be shredded and mixed with chemicals to deactivate them or punctured (and then considered debris) to macroencapsulate them. Both of these activities (shredding and puncturing) severely agitate the waste and would expose the reactive portion of the waste to open air which could cause an adverse reaction or explosion which presents a safety hazard for *EnergySolutions* personnel handling the waste. Although this type of waste management is possible, from a safety and health standpoint, it is inappropriate.

EnergySolutions proposes to manage this waste by directly macroencapsulating the intact batteries. Macroencapsulation is a permitted treatment technology that isolates hazardous waste from the environment, eliminating the potential for harmful reactions from exposure to the environment. Macroencapsulation requires less handling of the waste and creates a waste form for disposal that is protective of human health and the environment and more appropriate for disposal methods that shredding and deactivation methods previously mentioned.

To date, approximately 900 lbs. of this waste has been received since the previous approval of this variance request in 2025. This waste is shipped in small quantities to the EnergySolutions facility within containers that have specialized handling labels to address the ignitability and reactive waste codes associated with the waste stream.

Mr. Hegburg informed the Board that historically, EnergySolutions has requested this same variance five times previously, dating back to 2021. All instances of this request have been reviewed and approved by the Board.

This is a Board Action Item and the Director recommends approval of this variance request. The Director's recommendation is based on the following findings: the proposed alternative treatment method meets the regulatory basis for a variance and will be as safe to human health and the environment as the required method.

Commissioner Davis commented that in cases where repeated variances are presented he inquired whether the Board could transition from recurring, case-by-case variances to allowing certain actions by rule, specifically concerning lithium-ion battery disposal. Specifically, could the rules be modified if this is an appropriate way for lithium-ion battery disposal.

Raymond Wixom, Assistant Attorney General, Utah Attorney General's Office, clarified that while both the U.S. EPA and the Utah Solid and Hazardous Waste Act allow for variances, the U.S. EPA generally prefers to manage the variances they grant directly. Furthermore, Utah state statute dictates that a variance is valid for only one year unless it includes a specific provision for returning to compliance. In cases involving materials buried at facilities like EnergySolutions, the objective is for the material to remain permanently interred rather than being unearthed for further action. Consequently, to maintain legal compliance, facilities must request a new variance each year for similar items. This annual process ensures that both the agency and the facility fulfill their legal obligations while providing necessary oversight for all stakeholders.

Commissioner Davis concurred that these annual variances are required in these instances to ensure compliance with both federal and state law.

Shane Whitney requested elaboration on the specialized shipping containers being utilized. Mr. Hegburg clarified that these containers feature specific handling labels to ensure they are managed appropriately upon arrival at the facility.

Additionally, Mr. Whitney inquired whether these containers are standard DOT-approved shipping drums. Mr. Hegburg confirmed that they are, noting that his primary focus remains on ensuring proper handling procedures are followed once the drums reach the facility. Mr. Hegburg also noted that approximately 900 lbs. of this waste has been received since the variance request was approved in 2025.

It was moved by Shane Whitney and seconded by Dennis Riding and UNANIMOUSLY CARRIED to approve EnergySolutions LLC's request for a site-specific treatment variance from the Utah Hazardous Waste Management Rules for the direct macroencapsulation treatment of approximately 1200 lbs. of lithium and lithium-ion batteries. (Vern Rogers abstained from voting.)

VIII. Director's Report.

Director Sonnenburg reported that pursuant to House Bill 384, Executive Branch Agency Amendments, several leadership roles were redesignated effective May 6, 2026. This change aligns with the Governor's goal of ensuring greater consistency among cabinet members by transitioning multiple Director and Deputy Director roles to Commissioner titles. The redesignated leadership roles within the UDEQ include Executive Director Davis who is now Commissioner Davis, Jill Burton and Ashley Sumner who are now Deputy Commissioners and in the Division of Waste Management and Radiation Control all three Assistant Directors and now Deputy Directors. These updates better reflect their current responsibilities and assigned tasks.

Director Sonnenburg reported that the Division is currently conducting two studies requested by the Utah State Legislature. The first study concerns antifreeze recycling to determine if there is a statewide need. This request from the Legislature is related to House Bill 37 and the Used Oil Management Act, which increased the oil fee from \$.04 to \$.08 per quart, though the study itself is not a requirement of the Used Oil Management Act. The second study is in conjunction with House Bill 323 that mandates a study on solar panel waste disposal. The Division is actively working on this, though limited information is available at this time. Findings from both studies will be presented to the Utah Legislative Interim Committee upon completion.

Director Sonnenburg provided a update on House Bill 78 and Senate Bill 135 concerning nuclear energy regulations. Director Sonnenburg reminded the Board that House Bill 78 established the Nuclear Energy Regulatory Office (NERO) within the Division, and a nuclear engineer has been hired to support this initiative. A key requirement of the NERO is the oversight of safety requirements and security measures. Director Sonnenburg noted that while the Board has the authority to establish rules for these areas, the Division is not proposing any new rules at this time. Instead, the Division is currently focusing on coordinating emergency preparedness and response efforts with local responders for potential radiological incidents. The NERO is in the initial stages of assessing existing resources to determine how the NERO can best support these local efforts.

Director Sonnenburg introduced Sean Creegan, Assistant Attorney General, Utah Attorney General's Office. Mr. Creegan will be supporting the Division. Director Sonnenburg welcomed him and noted that he will be a great addition to help manage the Division's workload.

Director Sonnenburg announced that UDEQ is transitioning to a new, uniform statewide logo. This change follows the Governor's initiative to replace the various departmental logos with consistent branding across all state divisions and departments. Samples of the new branding logo were presented; the Division is currently in the process of switching over to the new logo. It is anticipated that the new logo will be used exclusively by the end of the month.

IX. Commissioner's Report – None.

X. Other Business.

A. Miscellaneous Information Items – None.

B. Scheduling of next Board meeting (June 11, 2026).

The next Board meeting is scheduled for June 11, 2026, at the Utah Department of Environmental Quality, Multi-Agency State Office Building.

Interested parties can join via the internet at: meet.google.com/gad-sxsd-uvv
Or by phone at (US) + 1 978-593-3748 PIN: 902 672 356#

XI. Adjourn.

The meeting adjourned at 2:25 p.m.

PST STATISTICAL SUMMARY

May 1, 2025 -- April 30, 2026

PROGRAM

	May	June	July	August	September	October	November	December	January	February	March	April	(+/-) OR Total
Regulated Tanks	4,907	4,902	4,907	4,912	4,906	4,907	4,917	4,914	4,894	4,903	4,909	5,041	134
Tanks with Certificate of Compliance	4,683	4,692	4,695	4,701	4,721	4,731	4,756	4,753	4,751	4,758	4,753	4,745	62
Tanks without COC	223	210	212	211	185	176	161	161	143	145	156	136	(87)
Cumulative Facilities with Registered A Operators	1,272	1,254	1,267	1,271	1,273	1,274	1,276	1,277	1,206	1,243	1,207	1,197	78.54%
Cumulative Facilities with Registered B Operators	1,273	1,256	1,266	1,270	1,272	1,272	1,274	1,275	1,176	1,206	1,183	1,183	77.62%
New LUST Sites	4	8	5	12	7	7	8	3	2	7	6	2	71
Closed LUST Sites	5	3	8	5	3	6	1	4	3	5	4	3	50
Cumulative Closed LUST Sites	5751	5758	5765	5768	5774	5776	5780	5783	5786	5791	5795	5798	47

FINANCIAL

	May	June	July	August	September	October	November	December	January	February	March	April	(+/-)
Tanks on PST Fund	3,059	3,067	3,064	3,062	3,084	3,100	3,105	3,102	3,097	3,109	3,102	3,090	31
PST Claims (Cumulative)	740	740	739	739	739	740	739	740	683	683	683	685	(55)
Equity Balance	\$9,321,582	\$9,640,627	\$9,913,949	\$10,715,671	\$9,541,937	\$15,156,203	\$15,801,900	\$14,878,066	\$15,432,509	\$15,703,063	\$14,418,028	\$15,155,925	\$5,834,343
Cash Balance	\$39,639,881	\$39,958,926	\$40,232,248	\$41,033,970	\$39,860,236	\$40,213,598	\$40,859,295	\$39,935,461	\$40,489,904	\$40,760,458	\$39,475,423	\$40,213,320	\$573,439
Loans	0	0	0	0	2	0	0	0	0	0	0	0	0
Cumulative Loans	129	129	129	129	131	131	131	131	131	131	131	131	2
Cumulative Amount	\$6,123,705	\$6,123,705	\$6,123,705	\$6,123,705	\$6,520,492	\$6,520,492	\$6,520,492	\$6,520,492	\$6,520,492	\$6,520,492	\$6,520,492	\$6,520,492	\$396,787
Defaults/Amount	2	2	2	2	2	3	2	2	2	1	1	1	-1

	May	June	July	August	September	October	November	December	January	February	March	April	TOTAL
Speed Memos	135	165	135	114	118	133	191	161	78	86	126	168	1,610
Compliance Letters	18	10	9	11	8	3	8	16	3	3	2	5	96
Notice of Intent to Revoke	0	0	0	0	0	0	0	0	0	0	0	0	0
Orders	0	2	1	0	0	2	0	3	0	0	1	0	9

UTAH WASTE MANAGEMENT AND RADIATION CONTROL BOARD

Executive Summary

Five Year Review for Rules R315-319

June 11, 2026

<p>What is the issue before the Board?</p>	<p>Rule R315-319 of the Utah Administrative Code is due for a five-year review. This rule is a Solid Waste rule. If this rule is to continue, a Notice of Continuation (Five-Year Review) must be filed prior to the anniversary of the last five-year review. The anniversary date for this rule is July 8th, 2026.</p>
<p>What is the historical background or context for this issue?</p>	<p>The Utah Administrative Rulemaking Act (Utah Code §63G-3-305) requires state agencies to review each of their administrative rules within five years of the rule’s original effective date or the last five-year review. The purpose of the review is to provide agencies with an opportunity to evaluate the rules to assess if the rules should be continued. In performing a five-year review, an agency may consider the need to amend or repeal rules that are archaic in form, are no longer used, are not based on existing statutory authority or are otherwise unnecessary. If an agency determines that a rule needs to be amended or repealed this is done in a separate action.</p> <p>To retain a rule as part of the Utah Administrative Code, a “Five-Year Notice of Review and Statement of Continuation” must be filed with the Office of Administrative Rules, before the rule’s five-year anniversary date.</p> <p>The form provided by the Office of Administrative Rules requires the following information:</p> <ol style="list-style-type: none">1. A concise explanation of the particular statutory provisions under which the rule is enacted and how these provisions authorize the rule;2. A summary of written comments received during and since the last five-year review of the rule from interested persons supporting or opposing the rule; and,3. A reasoned justification for continuation of the rule, including reasons why the agency disagrees with comments in opposition to the rule, if any. <p>Completing the form provided by the Office of Administrative Rules and filing it before the five-year review date satisfies the provisions of the Administrative Rulemaking Act with respect to a five-year review. The completed forms and copies of the rules listed above follow this Executive Summary.</p>

<p>What is the governing statutory or regulatory citation?</p>	<p>Utah Code §63G-3-305 and Utah Code §19-3-103.1, §19-6-105 and §19-6-106.</p>
<p>Is Board action required?</p>	<p>No. The Division is providing this information to keep the Board informed of Five-Year Reviews that have been conducted and are being submitted to the Office of Administrative Rules.</p>
<p>What is the Division Director's recommendation?</p>	<p>N/A</p>
<p>Where can more information be obtained?</p>	<p>Please contact Brandon Davis (385-622-1873, bbdavis@utah.gov).</p>

State of Utah
Administrative Rule Analysis
 Revised May 2026

NOTICE OF FIVE-YEAR REVIEW AND STATEMENT OF CONTINUATION

Rule number:	R315-319	Filing ID: OFFICE USE ONLY
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Effective date:	OFFICE USE ONLY
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1. Agency Information

Title catchline:	Environmental Quality, Waste Management and Radiation Control, Waste Management.
Building:	Multi-Agency State Office Building (MASOB)
Street address:	195 N 1950 W
City, state:	Salt Lake City, Utah
Mailing address:	PO Box 144880
City, state and zip:	Salt Lake City, Utah 84114-4880

2. Contact Persons

Name:	Phone:	Email:
Brandon Davis	385-622-1873	bbdavis@utah.gov
Brian Speer	385-499-0010	bspeer@utah.gov

Please address questions regarding information on this notice to the persons listed above.

3. General Information

A. Rule catchline:	R315-319. Coal Combustion Residuals Requirements.
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B. Statutory provisions that authorize or require this rule and an explanation of those particular statutory provisions:	
Section 19-6-108	This section requires a person who plans to own and operate a facility that receives waste generated from the combustion of coal at electric utilities and independent power producer. It requires a person to submit a request to and receive the approval of the director for an operation plan for that facility or site prior to purchasing, constructing, modifying, or operating it. The rule sets out the procedures and information that must be submitted to meet the requirements.
Subsection 63G-3-202(1)	An explanation of how this reference authorizes or requires this rule.
Subsection 63G-3-301-(2)(a)	An explanation of how this reference authorizes or requires this rule.

C. A summary of written comments received during and since the last five-year review of this rule from interested persons supporting or opposing this rule:
No comments have been received since the last five-year review of this rule.

D. A reasoned justification for continuation of this rule, including reasons why the agency disagrees with comments in opposition to this rule, if any:
Rule R315-319 contains the permit requirements, scope and applicability, definitions, restrictions, design and operating criteria, environmental monitoring requirements, closure requirements, and recordkeeping requirements for a coal combustion residuals disposal facility. The rule forms the basis of the coal combustion residuals disposal facility permitting program required by the Solid and Hazardous Waste Act and therefore should be continued.

4. Agency Authorization Information

To the agency: Information requested on this form is required by Section 63G-3-305. The office may return incomplete forms to the agency, possibly delaying publication in the *Utah State Bulletin*.

Agency head or designee and title:

Ted H. Sonnenburg, PE, LEHS, Division Director

Date:

Click or tap to enter a date.

Reminder: Text changes cannot be made with this type of rule filing. To change any text, please file an amendment or a nonsubstantive change.

R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.

R315-319. Coal Combustion Residuals Requirements.

R315-319-1. Permit Required.

(a) Landfills disposing of coal combustion residuals and surface impoundments containing coal combustion residuals shall have a permit for a Class I, II, or V landfill or a coal combustion residuals permit issued under Rule R315-319.

(b) An application for a permit for a coal combustion residual landfill or surface impoundment or multiple landfills and impoundments at a facility covered by one permit shall be made to the director.

(c)(1) An application for a permit for a Coal Combustion Residue (CCR) unit shall contain the information required in Sections R315-319-60 through R315-319-107. No information needs be submitted for which the effective date in Sections R315-319-60 through R315-319-107 has not been reached when the application is submitted.

(2) Information required in Sections R315-319-60 through R315-319-107 with an effective date that falls later than the application submittal required in Subsection R315-319-1(c)(1) shall be submitted within six months of the effective date of the requirement found in Sections R315-319-60 through R315-319-107.

(d) Permit application procedures shall follow the requirements of Sections R315-310-1 and R315-310-2.

(e) Permit transfers shall follow the procedures of Section R315-310-11.

(f) Permit applicants shall follow the notification requirements of Subsection R315-310-3(2).

(g) Permit approvals shall follow the requirements of Rule R315-311.

(h) The director approvals required in Sections R315-319-60 through R315-319-107 are satisfied by the issuance of a permit by the director.

R315-319-2. Relation to Federal Coal Combustion Residuals Regulation in 40 CFR 257.

(a) The compliance dates in 40 CFR 257 Subpart D are not affected by the requirements in Rule R315-319.

R315-319-50. Scope and Applicability.

(a) Rule R315-319 establishes criteria for purposes of managing CCR in Utah.

(b) Rule R315-319 applies, except as provided in Subsection R315-319-50(i), to owners and operators of new and existing CCR units as defined in Subsection R315-319-53(a)(15). Rule R315-319 applies to any practice that does not meet the definition of a beneficial use of CCR.

(c) Rule R315-319 applies to inactive CCR surface impoundments at active electric utilities or independent power producers, regardless of the fuel currently used to produce electricity.

(d) Rule R315-319 does not apply to coal combustion residual landfills that have ceased receiving CCR before October 19, 2015.

(e) Reserved.

(f) Rule R315-319 does not apply to:

(1) fly ash, bottom ash, boiler slag, and flue gas desulfurization materials, generated from burning exclusively coal to generate electricity at facilities that are not part of an electric utility or independent power producer;

(2) fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated primarily from the combustion of fossil fuels other than coal, for generating electricity, unless the fuel burned consists of more than 50% coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal.

(g) Rule R315-319 does not apply to practices that meet the definition of a beneficial use of CCR.

(h) Rule R315-319 does not apply to coal combustion residual placement at active or abandoned underground or surface coal mines.

(i) Rule R315-319 does not apply to Class I or V solid waste landfills that receive CCR.

R315-319-51. Effective Date.

The effective date of Rule R315-319 is September 1, 2016.

R315-319-52. Applicability of Other Rules and Regulations.

(a) Compliance with the requirements of Sections R315-319-50 through R315-319-107 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 other applicable federal, state, tribal, or local laws or other requirements.

(b) Any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit continues to be subject to the requirements in Section R315-302-1.

R315-319-53. Definitions.

(a) The definitions in Subsections R315-319-53(a)(1) through R315-319-53(a)(71) apply to Rule R315-319. Terms not defined in Section R315-319-53 have the meaning given in Rule R315-301.

(1) "Acre foot" means 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" means any facility subject to the requirements of Sections R315-319-50 through R315-319-107 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.

(3) "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 Section R315-319-102.

(4) "Active portion" means that part of the CCR unit that has received or is receiving CCR or non-CCR waste and that has not finished closure in accordance with Section R315-319-102.

(5) "Aquifer" means a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells or springs.

(6) "Area-capacity curves" means graphic curves that 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" means those areas of influence, that is, 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 gravitational influence. Areas of mass movement include landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.

(8) "Beneficial use of CCR" means the CCR meet each of the conditions in Subsections R315-319-53(a)(8)(i) through R315-319-53(a)(8)(iv):

(i) the CCR shall provide a functional benefit;

(ii) the CCR shall substitute for the use of a virgin material, conserving natural resources that would otherwise need to be gotten through practices, such as extraction;

(iii) the use of the CCR shall meet relevant product specifications, regulatory standards or design standards if available, and if standards are not available, the CCR is not used in excess quantities; and

(iv) if unencapsulated use of CCR involves placement on the land of 12,400 tons or more in non-roadway applications, the user shall demonstrate and keep records, and provide the 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 in accordance with Rule R315-101.

(9) "Closed" means placement of CCR in a CCR unit has stopped, and the owner or operator has finished closure of the CCR unit in accordance with Section R315-319-102 and has initiated post-closure care in accordance with Section R315-319-104.

(10) "Coal combustion residuals (CCR)" means fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal to generate electricity by electric utilities and independent power producers.

(11) "CCR fugitive dust" means solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than a stack or chimney.

(12) "CCR landfill or landfill" means an area of land or an excavation that receives CCR and that 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 Rule R315-319, 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" means 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" means a natural topographic depression, man-made excavation, or diked area, that is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR.

(15) "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 subsection in which it is used. This term includes both new and existing units, unless otherwise specified.

(16) "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.

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

(18) "Disposal" is defined in Subsection 19-6-102(6), disposal does not include the storage or the beneficial use of CCR.

(19) "Downstream toe" means the junction of the downstream slope or face of the CCR surface impoundment with the ground surface.

(20) "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.

(21) "Eligible unlined CCR surface impoundment" means an existing CCR surface impoundment that:

(i) the owner or operator has documented that the CCR unit complies with the location restrictions specified under Sections R315-319-60 through R315-319-64;

(ii) the owner or operator has documented that the CCR unit complies with the periodic safety factor assessment requirements under Subsections R315-319-73(e) and R315-319-73(f); and

(iii) no constituent listed in Appendix IV to Rule R315-319 has been detected at a statistically significant level exceeding a groundwater protection standard defined under Subsection R315-319-95(h).

(22) "Existing CCR landfill" means a CCR landfill that receives CCR both before and after October 14, 2015, or for which construction began before October 14, 2015 and receives CCR on or after October 14, 2015. A CCR landfill has begun construction if the owner or operator has received the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun before October 14, 2015.

(23) "Existing CCR surface impoundment" means a CCR surface impoundment that receives CCR both before and after October 14, 2015, or for which construction began before October 14, 2015 and receives CCR on or after October 14, 2015. A CCR surface impoundment has begun construction if the owner or operator has received the federal, state, and local approvals or permits necessary to begin physical construction and a continuous on-site, physical construction program had begun October 14, 2015.

(24) "Facility" means the 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, for example, one or more landfills, surface impoundments, or combinations of them.

(25) "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 the failure as determined by accepted engineering practice.

(26) "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.

(27) "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.

(28) "Freeboard" means the vertical distance between the lowest point on the crest of the impoundment dike and the surface of the waste contained therein.

(29) "Free liquids" means liquids that readily separate from the solid portion of a waste under ambient temperature and pressure.

(30) "Groundwater" means water below the land surface in a zone of saturation.

(31) "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:

(i) "High hazard potential CCR surface impoundment" means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.

(ii) "Low hazard potential CCR surface impoundment" means a diked surface impoundment where failure or mis-operation results in no probable loss of human life and low economic or environmental losses, or both. Losses are principally limited to the surface impoundment owner's property.

(iii) "Significant hazard potential CCR surface impoundment" means a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.

(32) "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.

(33) "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.

(34) "Hydraulic conductivity" means the rate that water can move through a permeable medium, that is, the coefficient of permeability.

(35) "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.

(36) "Incised CCR surface impoundment" means a CCR surface impoundment that 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.

(37) "Inflow design flood" means the flood hydrograph that is used in the design or modification of the CCR surface impoundments and its appurtenant works.

(38) "In operation" see "Active life."

(39) "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 dolines, collapse shafts or sinkholes, sinking streams, caves, seeps, large springs, and blind valleys.

(40) "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.

(41) "Liquefaction factor of safety" means the factor of safety, safety factor, determined using analysis under liquefaction conditions.

(42) "Lithified earth material" means any rock, including 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.

(43) "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration at the ground surface as depicted on a seismic hazard map, with a 98% or greater probability that the acceleration will not be exceeded in 50 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(44) "New CCR landfill" means a CCR landfill or lateral expansion of a CCR landfill that first receives CCR or begins construction after October 14, 2015. A new CCR landfill has begun construction if the owner or operator has received 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.

(45) "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 begins construction after October 14, 2015. A new CCR surface impoundment has begun construction if the owner or operator has received 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.

(46) "Operator" means the person responsible for the overall operation of a CCR unit.

(47) "Overfill" means a new CCR landfill constructed over a closed CCR surface impoundment.

(48) "Owner" means the person who owns a CCR unit or part of a CCR unit.

(49) "Poor foundation conditions" mean those areas where features exist that show 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 Subsections R315-319-73(e) and R315-319-74(e) would cause a poor foundation condition.

(50) "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.

(51) "Qualified person" means a person trained to recognize specific appearances of structural weakness and other conditions that 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.

(52) "Qualified professional engineer" means an individual who is licensed in Utah 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 Sections R315-319-50 through R315-319-107.

(53) "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. These practices generally detail approved ways to perform specific engineering, inspection, or mechanical integrity activities.

(54) "Retrofit" means to remove any CCR and contaminated soils and sediments from the CCR surface impoundment, and to ensure the unit complies with the requirements in Section R315-319-72.

(55) "Representative sample" means a sample of a universe or whole, for example, waste pile, lagoon, and groundwater, that 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.

(56) "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.

(57) "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.

(58) "Sand and gravel pit or quarry" means an excavation for the extraction of aggregate, minerals, or metals. The terms sand and gravel pit or quarry do not include subsurface or surface coal mines.

(59) "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 about 2,500 years, based on the US Geological Survey (USGS) seismic hazard maps for seismic events with this return period for the region where the CCR surface impoundment is located.

(60) "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.

(61) "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 rock riprap, wooden pile, or concrete revetments, vegetated wave berms, concrete facing, gabions, geotextiles, or fascines.

(62) "Solid waste management or management" means the systematic administration of the activities that provide for the collection, source separation, storage, transportation, processing, treatment, or disposal of solid waste.

(63) "State" means the State of Utah unless otherwise indicated.

(64) "Director" means the director of the Division of Waste Management and Radiation Control.

(65) "Static factor of safety" means the factor of safety, safety factor, determined using analysis under the long-term, maximum storage pool loading condition, the maximum surcharge pool loading condition, and under the end-of-construction loading condition.

(66) "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.

(67) "Technically feasible" means possible to do in a way that would likely be successful.

(68) "Technically infeasible" means not possible to do in a way that would likely be successful.

(69) "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity, including structural components of the CCR unit that are responsible for preventing releases from the unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

(70) "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.

(71) "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.

R315-319-60. Location Restrictions.

Placement above the uppermost aquifer.

(a) New CCR landfills, existing and new CCR surface impoundments, and any lateral expansions of CCR units shall 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 shall 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 shall demonstrate by the dates specified in Subsection R315-319-60(c) that the CCR unit meets the minimum requirements for placement above the uppermost aquifer.

(b) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of Subsection R315-319-60(a).

(c) The owner or operator of the CCR unit shall complete the demonstration required by Subsection R315-319-60(a) by the date specified in either Subsection R315-319-60(c)(1) or R315-319-60(c)(2).

(1) For an existing CCR surface impoundment, the owner or operator shall 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 shall 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 Subsection R315-319-60(a) when the demonstration has been submitted to and has received approval from the director and is placed in the facility's operating record as required by Subsection R315-319-105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of Subsection R315-319-60(a) by the date specified in Subsection R315-319-60(c)(1) is subject to the requirements of Subsection R315-319-101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of Subsection R315-319-60(a) is prohibited from placing CCR in the CCR unit.

(d) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(e), the notification requirements specified in Subsection R315-319-106(e), and the internet requirements specified in Subsection R315-319-107(e).

R315-319-61. Wetlands.

(a) New CCR landfills, existing and new CCR surface impoundments, and any lateral expansions of CCR units shall not be located in wetlands, as defined in Section R315-301-2, unless the owner or operator demonstrates by the dates specified in Rule R315-319-61(c) that the CCR unit meets the requirements of Subsections R315-319-61(a)(1) through R315-319-61(a)(5).

(1) Where applicable under section 404 of the Clean Water Act or applicable Utah 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 Utah or federal water quality standard;

(ii) a violation of any applicable toxic effluent standard or prohibition under section 307 of the Clean Water Act; 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.

(3) The CCR unit will not cause or contribute to significant degradation of wetlands by addressing each 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 try 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 Subsections R315-319-61(a)(1) through R315-319-61(a)(3), then minimizing unavoidable impacts to the maximum extent reasonable, and finally offsetting remaining unavoidable wetland impacts through appropriate and reasonable compensatory mitigation actions, for example, restoration of existing degraded wetlands or creation of man-made wetlands.

(5) Sufficient information is available to make a reasoned determination with respect to the demonstrations in Subsections R315-319-61(a)(1) through R315-319-61(a)(4).

(b) The owner or operator of the CCR unit shall get a certification from a qualified professional engineer stating that the demonstration meets the requirements of Subsection R315-319-61(a).

(c) The owner or operator of the CCR unit shall finish the demonstrations required by Subsection R315-319-61(a) by the date specified in either Subsection R315-319-61(c)(1) or R315-319-61(c)(2).

(1) For an existing CCR surface impoundment, the owner or operator shall finish 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 shall finish the demonstration no later than the date of initial receipt of CCR in the CCR unit.

(3) The owner or operator has finished the demonstration required by Subsection R315-319-61(a) when the demonstration has been submitted to and has received approval from the director and the demonstration is placed in the facility's operating record as required by Subsection R315-319-105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of Subsection R315-319-61(a) by the date specified in Subsection R315-319-61(c)(1) is subject to the requirements of Subsection R315-319-101(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 Subsection R315-319-61(a) is prohibited from placing CCR in the CCR unit.

(d) The owner or operator shall comply with the recordkeeping requirements specified in Subsection R315-319-105(e), the notification requirements specified in Subsection R315-319-106(e), and the Internet requirements specified in Subsection R315-319-107(e).

R315-319-62. Fault Areas.

(a) New CCR landfills, existing and new CCR surface impoundments, and any lateral expansions of CCR units may 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 Subsection R315-319-62(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 shall obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of Subsection R315-319-62(a).

(c) The owner or operator of the CCR unit shall complete the demonstration required by Subsection R315-319-62(a) by the date specified in either Subsection R315-319-62(c)(1) or R315-319-62(c)(2).

(1) For an existing CCR surface impoundment, the owner or operator shall 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 shall 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 Subsection R315-319-62(a) when the demonstration has been submitted to and has received approval from the director and the demonstration is placed in the facility's operating record as required by Subsection R315-319-105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of Subsection R315-319-62(a) by the date specified in Subsection R315-319-62(c)(1) is subject to the requirements of Subsection R315-319-101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of Subsection R315-319-62(a) is prohibited from placing CCR in the CCR unit.

(d) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(e), the notification requirements specified in Subsection R315-319-106(e), and the internet requirements specified in Subsection R315-319-107(e).

R315-319-63. Seismic Impact Zones.

(a) New CCR landfills, existing and new CCR surface impoundments, and any lateral expansions of CCR units may not be located in seismic impact zones unless the owner or operator demonstrates by the dates specified in Subsection R315-319-63(c) that the 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 shall obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of Subsection R315-319-63(a).

(c) The owner or operator of the CCR unit shall complete the demonstration required by Subsection R315-319-63(a) by the date specified in either Subsection R315-319-63(c)(1) or R315-319-63(c)(2).

(1) For an existing CCR surface impoundment, the owner or operator shall 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 shall 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 Subsection R315-319-63(a) when the demonstration has been submitted to and has received approval from the director and the demonstration is placed in the facility's operating record as required by Subsection R315-319-105(e).

(4) An owner or operator of an existing CCR surface impoundment who fails to demonstrate compliance with the requirements of Subsection R315-319-63(a) by the date specified in Subsection R315-319-63(c)(1) is subject to the requirements of Subsection R315-319-101(b)(1).

(5) An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of Subsection R315-319-63(a) is prohibited from placing CCR in the CCR unit.

(d) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(e), the notification requirements specified in Subsection R315-319-106(e), and the internet requirements specified in Subsection R315-319-107(e).

R315-319-64. Unstable Areas.

(a) An existing or new CCR landfill, existing or new CCR surface impoundment, or any lateral expansion of a CCR unit may not be located in an unstable area unless the owner or operator demonstrates by the dates specified in Subsection R315-319-64(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 shall consider the factors in Subsections R315-319-64(b)(1) through R315-319-64(b)(3), 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 shall obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of Subsection R315-319-64(a).

(d) The owner or operator of the CCR unit shall complete the demonstration required by Subsection R315-319-64(a) by the date specified in either Subsection R315-319-64(d)(1) or R315-319-64(d)(2).

(1) For an existing CCR landfill or existing CCR surface impoundment, the owner or operator shall 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 shall 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 Subsection R315-319-64(a) when the demonstration has been submitted to and has received approval from the director and the demonstration is placed in the facility's operating record as required by Subsection R315-319-105(e).

(4) An owner or operator of an existing CCR surface impoundment or existing CCR landfill who fails to demonstrate compliance with the requirements of Subsection R315-319-64(a) by the date specified in Subsection R315-319-64(d)(1) is subject to the requirements of Subsection R315-319-101(b)(1) or R315-319-101(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 Subsection R315-319-64(a) is prohibited from placing CCR in the CCR unit.

(e) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(e), the notification requirements specified in Subsection R315-319-106(e), and the internet requirements specified in Subsection R315-319-107(e).

R315-319-70. Design Criteria for New CCR Landfills and Any Lateral Expansion of a CCR Landfill.

(a)(1) New CCR landfills and any lateral expansion of a CCR landfill shall be designed, constructed, operated, and maintained with either a composite liner that meets the requirements of Subsection R315-319-70(b) or an alternative composite liner that meets the requirements in Subsection R315-319-70(c), and a leachate collection and removal system that meets the requirements of Subsection R315-319-70(d).

(2) Before construction of an overfill the underlying surface impoundment shall meet the requirements of Subsection R315-319-102(d).

(b) A composite liner shall consist of two components; the upper component consisting of, at a minimum, a 30-mil geomembrane liner (GM), and the lower component consisting of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second (cm/sec). GM components consisting of high density polyethylene (HDPE) shall be at least 60-mil thick. The GM or upper liner component shall be installed in direct and uniform contact with the compacted soil or lower liner component. The composite liner shall be:

(1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients, including static head and external hydrogeologic forces, physical contact with the CCR or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) Constructed of materials that provide appropriate shear resistance of the upper and lower component interface to prevent sliding of the upper component including on slopes;

(3) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(4) Installed to cover any 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, the requirements in Subsections R315-319-70(c)(1) through R315-319-70(c)(4) shall be met:

(1) An alternative composite liner shall 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 HDPE shall be at least 60-mil thick. If the lower component of the alternative liner is compacted soil, the GM shall be installed in direct and uniform contact with the compacted soil.

(2) The owner or operator shall 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 shall be determined using recognized and generally accepted methods. The liquid flow rate comparison shall be made using Equation 1 of Section R315-319-70, that is derived from Darcy's Law for gravity flow through porous media.

Equation 1

$$Q/A=qk(h/t+1)$$

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 shall meet the requirements specified in Subsections R315-319-70(b)(1) through R315-319-70(b)(4).

(d) The leachate collection and removal system shall 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 shall 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) Before construction of the CCR landfill or any lateral expansion of a CCR landfill, the owner or operator shall 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 Section R315-319-70.

(f) Upon completion of construction of the CCR landfill or any lateral expansion of a CCR landfill, the owner or operator shall 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 Section R315-319-70.

(g) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(f), the notification requirements specified in Subsection R315-319-106(f), and the internet requirements specified in Subsection R315-319-107(f).

R315-319-71. Liner Design Criteria for Existing CCR Surface Impoundments.

(a)(1) No later than October 17, 2016, the owner or operator of an existing CCR surface impoundment shall document whether or not the unit was constructed with:

(i) Reserved;

(ii) a composite liner that meets the requirements of Subsection R315-319-70(b); or

(iii) an alternative composite liner that meets the requirements of Subsection R315-319-70(c).

(2) The hydraulic conductivity of the compacted soil shall 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 Subsection R315-319-71(a)(1)(i), R315-319-71(a)(1)(ii), or R315-319-71(a)(1)(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 Subsection R315-319-71(a)(1)(i), R315-319-71(a)(1)(ii), or R315-319-71(a)(1)(iii).

(4) Existing unlined CCR surface impoundments are subject to the requirements of Subsection R315-319-101(a).

(b) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer attesting that the documentation as to whether a CCR unit meets the requirements of Subsection R315-319-71(a) is accurate.

(c) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(f), the notification requirements specified in Subsection R315-319-106(f), and the internet requirements specified in Subsection R315-319-107(f).

(d) Alternate Liner Demonstration. An owner or operator of a CCR surface impoundment constructed without a composite liner or alternate composite liner, as defined in Subsection R315-319-70(b) or R315-319-70(c), may submit an alternate liner demonstration to the director to demonstrate that, based on the construction of the unit and surrounding site conditions, there is no reasonable probability that continued operation of the surface impoundment will result in adverse effects to human health or the environment. The application and demonstration shall be submitted to the director no later than the relevant deadline in Subsection R315-319-71(d)(2). The director will act on the submissions in accordance with the procedures in Subsection R315-319-71(d)(2).

(1) Application and alternative liner demonstration submission requirements. To get approval under Subsection R315-319-71(d), the owner or operator of the CCR surface impoundment shall submit:

(i) an application. The owner or operator of the CCR surface impoundment shall submit a letter to the director, announcing their intention to submit a demonstration under Subsection R315-319-71(d)(1)(ii). The application shall include the location of the facility and identify the specific CCR surface impoundment for which the demonstration will be made. The letter shall include:

(A) a certification signed by the owner or operator that the CCR unit is in full compliance with Rule R315-319 except for Subsection R315-319-71(a)(1);

(B) documentation supporting the certification required under Subsection R315-319-71(d)(1)(i)(A) that includes:

(I) documentation that the groundwater monitoring network meets the requirements of Section R315-319-91. This shall include documentation that the existing network of groundwater monitoring wells is sufficient to ensure detection of any groundwater contamination resulting from the impoundment, based on direction of flow, well location, screening depth, and other relevant factors. At a minimum, the documentation shall include:

(1) maps of groundwater monitoring well locations in relation to the CCR units that depict the elevation of the potentiometric surface and the directions of groundwater flow across the site;

(2) well construction diagrams and drilling logs for each groundwater monitoring well;

(3) maps that characterize the direction of groundwater flow accounting for temporal variations; and

(4) any other data and analyses the owner or operator of the CCR surface impoundment relied upon when determining the design and location of the groundwater monitoring network;

(II) documentation that the CCR surface impoundment remains in detection monitoring pursuant to Section R315-319-94 as a precondition for submitting an application. This includes documentation that the groundwater monitoring program meets the requirements of Sections R315-319-93 and R315-319-94. This documentation includes data of constituent concentrations, summarized in table format, at each groundwater monitoring

well monitored during each sampling event, and documentation of the most recent statistical tests conducted, analyses of the tests, and the rationale for the methods used in these comparisons. As part of this rationale, the owner or operator of the CCR surface impoundment shall provide the data and analyses relied upon to comply with each of the requirements of Rule R315-319;

(III) documentation that the unit meets the location restrictions under Sections R315-319-60 through R315-319-64;

(IV) the most recent structural stability assessment required in Subsection R315-319-73(d); and

(V) the most recent safety factor assessment required in Subsection R315-319-73(e);

(C) documentation of the design specifications for any engineered liner components, as well as the data and analyses the owner or operator of the CCR surface impoundment relied on when determining that the materials are suitable for use and that the construction of the liner is of good quality and in line with proven and accepted engineering practices;

(D) facilities with CCR surface impoundments located on properties adjacent to a water body shall demonstrate that there is no reasonable probability that a complete and direct transport pathway, not mediated by groundwater, can exist between the impoundment and any nearby water body. If the potential for a pathway is identified, then the unit would not be eligible to submit a demonstration. If ongoing releases are identified, the owner or operator of the CCR unit shall address these releases in accordance with Subsection R315-319-96(a); and

(E) upon submission of the application and any supplemental materials submitted in support of the application to the director, the owner or operator shall place the complete application in the facility's operating record as required in Subsection R315-319-105(f)(14).

(ii) Alternate Liner Demonstration Package. The completed alternate liner demonstration package shall be certified by a qualified professional engineer. The package shall present evidence to demonstrate that, based on the construction of the unit and surrounding site conditions, there is no reasonable probability that operation of the surface impoundment will result in concentrations of constituents listed in Appendix IV to Rule R315-319 in the uppermost aquifer at levels above a groundwater protection standard. For each line of evidence, as well as any other data and assumptions incorporated into the demonstration, the owner or operator of the CCR surface impoundment shall include documentation on how the data were collected and why these data and assumptions adequately reflect potential contaminant transport from that specific impoundment. The alternate liner demonstration at a minimum shall contain the lines of evidence listed in Subsection R315-319-71(d)(1)(ii)(A):

(A) Characterization of site hydrogeology. A characterization of the variability of site-specific soil and hydrogeology surrounding the surface impoundment that will control the rate and direction of contaminant transport from the impoundment. As part of this line of evidence the owner or operator shall provide:

(I) measurements of the hydraulic conductivity in the uppermost aquifer from each monitoring well associated with the impoundments and discussion of the methods used to obtain these measurements;

(II) measurements of the variability in subsurface soil characteristics collected from around the perimeter of the CCR surface impoundment to identify regions of substantially higher conductivity;

(III) documentation that the sampling methods used are in line with recognized and generally accepted practices that can provide data at a spatial resolution necessary to adequately characterize the variability of subsurface conditions that will control contaminant transport;

(IV) explanation of how the specific number and location of samples collected are sufficient to capture subsurface variability if:

(1) samples are advanced to a depth less than the top of the groundwater table or 20 feet beneath the bottom of the nearest water body, whichever is greater; or

(2) samples are spaced further apart than 200 feet around the impoundment perimeter; or

(3) both Subsections R315-319-71(d)(1)(ii)(A)(IV)(1) and R315-319-71(d)(1)(ii)(A)(IV)(2).

(V) a narrative description of site geological history; and

(VI) conceptual site models with cross-sectional depictions of the site environmental sequence stratigraphy that include, at a minimum:

(1) the relative location of the impoundment with depth of ponded water noted;

(2) monitoring wells with screening depth noted;

(3) depiction of the location of other samples used in the development of the model;

(4) the upper and lower limits of the uppermost aquifer across the site;

(5) the upper and lower limits of the depth to groundwater measured from monitoring wells if the uppermost aquifer is confined; and

(6) both the location and geometry of any nearby points of groundwater discharge or recharge, for example surface water bodies, with potential to influence groundwater depth and flow measured around the unit.

(B) Potential for infiltration. A characterization of the potential for infiltration through any soil-based liner components or naturally occurring soil that control release and transport of leachate, or both. Samples collected in the field for measurement of saturated hydraulic conductivity shall be sent to a certified laboratory for analysis under controlled conditions and analyzed using recognized and generally accepted methodology. Facilities shall document how the selected method is designed to simulate on-site conditions. As part of this line of evidence the owner or operator shall also provide documentation of:

(I) the location, number, depth, and spacing of samples relied upon is supported by the data collected in Subsection R315-319-71(d)(1)(ii)(A) and is sufficient to capture the variability of saturated hydraulic conductivity for the soil-based liner components or naturally occurring soil, or both;

(II) the liquid used to pre-hydrate the samples and measure long-term hydraulic conductivity reflects the pH and major ion composition of the CCR surface impoundment porewater;

(III) that samples intended to represent the hydraulic conductivity of naturally occurring soils, that is not mechanically compacted soil, are handled in a manner that will ensure the macrostructure of the soil is not disturbed during collection, transport, or analysis; and

(IV) any test for hydraulic conductivity relied upon includes, in addition to other relevant termination criteria specified by the method, criteria that equilibrium has been achieved between the inflow and outflow, within acceptable tolerance limits, for both electrical conductivity and pH.

(C) Mathematical model to estimate the potential for releases. Owners or operators shall incorporate the data collected for Subsections R315-319-71(d)(1)(ii)(A) and R315-319-71(d)(1)(ii)(B) into a mathematical model to calculate the potential groundwater concentrations that may result in downgradient wells as a result of the impoundment. Facilities shall also, where available, incorporate the national-scale data on constituent concentrations and behavior provided by the existing risk record. Application of the model shall account for the full range of site current and potential future conditions at and around the site to ensure that high-end groundwater concentrations have been effectively characterized. The data and assumptions incorporated into the model shall be documented and justified.

(I) The models relied upon in Subsection R315-319-71(d)(1)(ii)(C) shall be well-established and validated, with documentation that can be made available for public review.

(II) The owner or operator shall use the models to demonstrate that, for each constituent in Appendix IV to Rule R315-319, there is no reasonable probability that the peak groundwater concentration that may result from releases to groundwater from the CCR surface impoundment throughout its active life will exceed the groundwater protection standard at the waste boundary.

(III) The demonstration shall include the peak groundwater concentrations modeled for the constituents in Appendix IV to Rule R315-319 attributed both to the impoundment in isolation and in addition to background.

(D) Upon submission of the alternative liner demonstration to the director, the owner or operator shall place the complete demonstration in the facility's operating record as required in Subsection R315-319-105(f)(15).

(2) Procedures for adjudicating requests.

(i) Deadline for application submission. The owner or operator shall submit the application under Subsection R315-319-71(d)(1)(i) to the director for approval no later than November 30, 2020.

(ii) Deadline for demonstration submission. If the application is approved the owner or operator shall submit the demonstration required under Subsection R315-319-71(d)(1)(ii) to the director for approval no later than November 30, 2021.

(A) Extension due to analytical limitations. If the owner or operator cannot meet the demonstration deadline due to analytical limitations related to the measurement of hydraulic conductivity, the owner or operator shall submit a request for an extension no later than September 1, 2021 that includes a summary of the data that have been analyzed to date for the samples responsible for the delay and an alternate timeline for completion that has been certified by the laboratory. The extension request shall include:

(I) a timeline of fieldwork to confirm that samples were collected expeditiously;

(II) a chain of custody documenting when samples were sent to the laboratory;

(III) written certification from the lab identifying how long it is projected for the tests to reach the relevant termination criteria related to solution chemistry; and

(IV) documentation of the progression toward the test termination metrics to date.

(B) Length of extension. If the extension is granted, the owner or operator will have 45 days beyond the timeframe certified by the laboratory to submit the completed demonstration.

(C) Extension due to analytical limitations for chemical equilibrium. If the measured hydraulic conductivity has not stabilized to within acceptable tolerance limits by the time the termination criteria for solution chemistry are met, the owner or operator shall submit a preliminary demonstration no later than September 1, 2021, with or without the onetime extension for analytical limitations.

(I) In this preliminary demonstration, the owner or operator shall submit a justification of how the bounds of uncertainty applied to the available measurements of hydraulic conductivity ensure that the final value is not underestimated.

(II) The director will review the preliminary demonstration to determine if it is complete and, if so, will propose to deny or to tentatively approve the demonstration. The proposed determination will be posted on the Utah Department of Environmental Quality's (UDEQ) website and will be available for public comment for 30 days. After consideration of the comments, the director will issue a decision on the application within four months of receiving a complete preliminary demonstration.

(III) Once the final laboratory results are available, the owner or operator shall submit a final demonstration that updates only the finalized hydraulic conductivity data to confirm that the model results in the preliminary demonstration are accurate.

(IV) Until the time that the director approves this final demonstration, the surface impoundment shall remain in detection monitoring or the demonstration will be denied.

(V) If the director tentatively approved the preliminary demonstration, the director will then take action on the newly submitted final demonstration using the procedures in Subsections R315-319-71(d)(2)(iv) through R315-319-71(d)(2)(vi).

(VI) The public will have 30 days to comment but may comment only on the new information presented in the complete final demonstration or in the director's tentative decision on the newly submitted demonstration.

(D) Upon submission of a request for an extension to the deadline for the demonstration due to analytical limitations pursuant to Subsection R315-319-71(d)(2)(ii)(A), the owner or operator shall place the alternative liner demonstration extension request in the facility's operating record as required in Subsection R315-319-105(f)(16).

(E) Upon submission of a preliminary demonstration pursuant to Subsection R315-319-71(d)(2)(ii)(C), the owner or operator shall place the preliminary demonstration in the facility's operating record as required in Subsection R315-319-105(f)(17).

(iii) Application review.

(A) The director will evaluate the application and may request additional information not required as part of the application as necessary to complete the review. Submission of a complete application will toll the facility's deadline to stop receipt of waste until issuance of a final decision under Subsection R315-319-71(d)(2)(iii)(C). Incomplete submissions will not toll the facility's deadline and will be rejected without further process.

(B) If the application is determined to be incomplete, the director will notify the facility. The owner or operator shall place the notification of an incomplete application in the facility's operating record as required in Subsection R315-319-105(f)(18).

(C) The director will publish a proposed decision on complete applications on the UDEQ website for a 20-day comment period. After consideration of the comments, the director will issue a decision on the application within 60 days of receiving a complete application.

(D) If the application is approved, the deadline to stop receipt of waste will be tolled until an alternate liner demonstration is determined to be incomplete or a final decision under Subsection R315-319-71(d)(2)(vi) is issued.

(E) If the surface impoundment is determined by the director to be ineligible to apply for an alternate liner demonstration, and the facility lacks alternative capacity to manage its CCR or non-CCR wastestreams, or both, the owner or operator may apply for an alternative closure deadline in accordance with the procedures in Subsection R315-319-103(f). The owner or operator will be given four months from the date of the ineligibility determination to apply for the alternative closure provisions in either Subsection R315-319-103(f)(1) or R315-319-103(f)(2), during which time the facility's deadline to stop receipt of waste will be tolled.

(F) Upon receipt of a decision on the application pursuant to Subsection R315-319-71(d)(2)(iii)(C), the owner or operator shall place the decision on the application in the facility's operating record as required in Subsection R315-319-105(f)(19).

(iv) Demonstration review. The director will evaluate the demonstration package and may request additional information not required as part of the demonstration as necessary to complete the review. Submission of a complete demonstration package will continue to toll the facility's deadline to stop receipt of waste into that CCR surface impoundment until issuance of a final decision under Subsection R315-319-71(d)(2)(vi). Upon a determination that a demonstration is incomplete the tolling of the facility's deadline will stop and the submission will be rejected without further process.

(v) Proposed decision demonstration. The director will publish a proposed decision on a complete demonstration package on the UDEQ website for a 30-day comment period.

(vi) Final decision on demonstration. After consideration of the comments, the director will issue a decision on the alternate liner demonstration package within four months of receiving a complete demonstration package. Upon approval the facility may continue to operate the impoundment as long as the impoundment remains in detection monitoring. Upon detection of a statistically significant increase over background of a constituent listed on Appendix III to Rule R315-319, the facility shall proceed in accordance with the requirements of Subsection R315-319-71(d)(2)(ix).

(vii) Facility operating record requirements. Upon receipt of the final decision on the alternate liner demonstration pursuant to Subsection R315-319-71(d)(2)(vi), the owner or operator shall place the final decision in the facility's operating record as required in Subsection R315-319-105(f)(20).

(viii) Effect of Demonstration Denial. If the director determines that the CCR surface impoundment's alternate liner does not meet the standard for approval in Subsection R315-319-71(d), the owner or operator shall stop receipt of waste and initiate closure as determined in the director's decision. If the owner or operator needs to get alternate capacity, they may do so in accordance with the procedures in Section R315-319-103. The owner or operator will have four months from the date of director's decision to apply for an alternative closure deadline under either Subsection R315-319-103(f)(1) or R315-319-103(f)(2), during which time the facility's deadline to stop receipt of waste will be tolled.

(ix) Loss of authorization.

(A) The owner or operator of the CCR unit shall comply with the requirements of Subsections R315-319-71(d)(2)(ix)(A)(I) through R315-319-71(d)(2)(ix)(A)(V) upon determining that there is a statistically significant increase over background levels for one or more constituents listed in Appendix III to Rule R315-319 pursuant to Subsection R315-319-94(e):

(I) in addition to the requirements specified in Subsection R315-319-71(d), comply with the groundwater monitoring and corrective action procedures specified in Sections R315-319-90 through R315-319-98;

(II) submit the notification required by Subsection R315-319-94(e)(3) to the director within 14 days of placing the notification in the facility's operating record as required by Subsection R315-319-105(h)(5);

(III) conduct intra-well analysis on each downgradient well to identify any trends of increasing concentrations as required by Subsection R315-319-71(d)(2)(ix)(B). The owner and operator shall conduct the initial groundwater sampling and analysis for the constituents listed in Appendix IV to Rule R315-319 according to the timeframes specified in Subsection R315-319-95(b);

(IV) the owner or operator may elect to pursue an alternative source demonstration pursuant to Subsection R315-319-94(e)(2) that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality, provided that the alternative source demonstration shall be conducted simultaneously with the sampling and analysis required by Subsection R315-319-71(d)(2)(ix)(A)(III). If the owner or operator believes that a successful demonstration has been made, the demonstration shall be submitted to the director for review and approval. The owner or operator shall place the demonstration in the facility's operating record within the deadlines specified in Subsection R315-319-94(e)(2) and submit the demonstration to the director within 14 days of placing the demonstration in the facility's operating record; and

(V) the alternative source demonstration shall be posted to the facility's publicly accessible CCR internet site and submitted to the director within 14 days of completion. The director will publish a proposed decision on the alternative source determination on the UDEQ website for a 20-day comment period. After consideration of the comments, the director will issue a decision. If the alternative source demonstration is approved, the owner or operator may stop conducting the trend analysis and return to detection monitoring. If the alternative source demonstration is denied, the owner or operator shall either complete the trend analysis or stop receipt of waste. Upon receipt of the final decision on the alternative source demonstration, the owner or operator shall place the final decision in the facility's operating record as required by Subsection R315-319-105(f)(22).

(B) Trend analysis.

(I) Except as provided for in Subsection R315-319-95(c), the owner or operator shall collect a minimum of four independent samples from each well, background and downgradient, on a quarterly basis within the first year of triggering assessment monitoring and analyze each sample for the constituents listed in Appendix IV to Rule R315-319. Consistent with Subsection R315-319-95(b), the first samples shall be collected within 90 days of triggering assessment monitoring. After the initial year of sampling, the owner or operator shall then conduct sampling as prescribed in Subsection R315-319-95(d)(1). After each sampling event, the owner or operator shall update the trend analysis with the new sampling information.

(II) The owner or operator of the CCR surface impoundment shall apply an appropriate statistical test to identify any trends of increasing concentrations within the monitoring data. For normally distributed data sets, linear regression will be used to identify trends and determine the associated magnitude. For non-normally distributed data sets, the Mann-Kendall test will be used to identify trends and the Theil-Sen trend line will be used to determine the associated magnitude. If a trend is identified, the owner or operator of the CCR surface impoundment will use the upper 95th percentile confidence limit on the trend line to estimate future concentrations. The owner or operator will project this trendline into the future for a duration set to the maximum number of years established in Section R315-319-102 for closure of the surface impoundment.

(III) A report of the results of each sampling event, as well as the final trend analysis, shall be posted to the facility's publicly accessible CCR internet site and submitted to the director within 14 days of completion. The trend analysis submitted to the director shall include the data relied upon by the facility to support the analysis. The director will publish a proposed decision on the trend analysis on the UDEQ website for a 30-day comment period. After consideration of the comments, the director will issue a decision. If the trend analysis shows the potential for a future exceedance of a groundwater protection standard, before the closure deadlines established in Section R315-319-102, the CCR surface impoundment shall stop receipt of waste by the date provided in the notice.

(C) If the trend analysis demonstrates the presence of a statistically significant trend of increasing concentration for one or more constituents listed in Appendix IV to Rule R315-319 with potential to result in an exceedance of any groundwater protection standard before closure is complete, or if at any time one or more constituents listed in Appendix IV to Rule R315-319 are detected at a statistically significant level above a groundwater protection standard, the authorization will be withdrawn. Subsection R315-319-96(g)(3) does not apply to CCR surface impoundments operating under an alternate liner demonstration. Upon receipt of a decision that the alternate liner demonstration has been withdrawn, the owner or operator shall place the decision in the facility's operating record as required by Subsection R315-319-105(f)(24).

(D) The burden remains on the owner or operator of the CCR surface impoundment to demonstrate that the CCR surface impoundment meets the conditions for authorization under this Section R315-319-71. If at any point, any condition for qualification under Section R315-319-71 has not been met, the director can without further notice or process deny or revoke the owner or operator's authorization under Subsection R315-319-71(d)(2)(ix).

R315-319-72. Liner Design Criteria for New CCR Surface Impoundments and Any Lateral Expansion of a CCR Surface Impoundment.

(a) New CCR surface impoundments and lateral expansions of existing and new CCR surface impoundments shall be designed, constructed, operated, and maintained with either a composite liner or an alternative composite liner that meets the requirements of Subsection R315-319-70(b) or R315-319-70(c).

(b) Any liner specified in Section R315-319-72 shall be installed to cover any surrounding earth likely to be in contact with CCR. Dikes may not be constructed on top of the composite liner.

(c) Before construction of the CCR surface impoundment or any lateral expansion of a CCR surface impoundment, the owner or operator shall 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 Section R315-319-72.

(d) Upon completion, the owner or operator shall 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 Section R315-319-72.

(e) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(f), the notification requirements specified in Subsection R315-319-106(f), and the internet requirements specified in Subsection R315-319-107(f).

R315-319-73. Structural Integrity Criteria for Existing CCR Surface Impoundments.

(a) The requirements of Subsections R315-319-73(a)(1) through R315-319-73(a)(4) apply to 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, for example 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 Subsections R315-319-73(a)(1) through R315-319-73(a)(4).

(1) No later than, December 17, 2015, the owner or operator of the CCR unit shall 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 shall conduct initial and periodic hazard potential classification assessments of the CCR unit according to the timeframes specified in Subsection R315-319-73(f). The owner or operator shall 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 shall also document the basis for each hazard potential classification.

(ii) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the initial hazard potential classification and each subsequent periodic classification specified in Subsection R315-319-73(a)(2)(i) was conducted in accordance with the requirements of Section R315-319-73.

(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 Subsection R315-319-73(a)(2) shall prepare and maintain a written EAP. At a minimum, the EAP shall:

(A) Define the events or circumstances involving the CCR unit that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;

(B) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;

(C) Provide contact information of emergency responders;

(D) Include a map that delineates the downstream area that would be affected in the event of a CCR unit failure and a physical description of the CCR unit; and

(E) Include provisions for an annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders.

(ii) Amendment of the plan.

(A) The owner or operator of a CCR unit subject to the requirements of Subsection R315-319-73(a)(3)(i) may amend the written EAP at any time provided the revised plan is has been submitted to and has received approval from the director and placed in the facility's operating record as required by Subsection R315-319-105(f)(6). The owner or operator shall amend the written EAP when there is a change in conditions that would substantially affect the EAP in effect.

(B) The written EAP shall be evaluated, at a minimum, every five years to ensure the information required in Subsection R315-319-73(a)(3)(i) is accurate. As necessary, the EAP shall be updated and a revised EAP has been submitted to and has received approval from the director and placed in the facility's operating record as required by Subsection R315-319-105(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 has been submitted to and has received approval from the director and placed in the facility's operating record as required by Subsection R315-319-105(f)(5).

(B) If the owner or operator of a CCR unit classified as a low hazard potential CCR surface impoundment subsequently determines that the CCR unit is properly re-classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit shall prepare a written EAP for the CCR unit as required by Subsection R315-319-73(a)(3)(i) within six months of completing the periodic hazard potential assessment and submit the EAP to the director for approval.

(iv) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the written EAP, and any subsequent amendment of the EAP, meets the requirements of Subsection R315-319-73(a)(3) and submit the certification to the director.

(v) Activation of the EAP. The EAP shall 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 shall be designed, constructed, operated, and maintained with vegetated slopes of dikes except for slopes that are protected with an alternate forms of slope protection.

(b) The requirements of Subsections R315-319-73(c) through R315-319-73(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 shall compile and submit to the director a history of construction, which shall contain, to the extent feasible, the information specified in Subsections R315-319-73(c)(1)(i) through R315-319-73(c)(1)(xi).

(i) The name and address of the persons 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 USGS 7-1/2 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 the 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 man-made features that could adversely affect operation of the CCR unit due to malfunction or mis-operation.

(viii) A description of the type, purpose, and location of existing instrumentation.

(ix) Area-capacity curves for the CCR unit.

(x) A description of each spillway and diversion design features and capacities and calculations used in their determination.

(xi) The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.

(xii) Any record or knowledge of structural instability of the CCR unit.

(2) Changes to the history of construction. If there is a significant change to any information compiled under Subsection R315-319-73(c)(1), the owner or operator of the CCR unit shall update the relevant information, submit it to the director, and place it in the facility's operating record as required by Subsection R315-319-105(f)(9).

(d) Periodic structural stability assessments.

(1) The owner or operator of the CCR unit shall 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 that can be impounded therein. The assessment shall, 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 except for slopes that have an alternate form or forms of slope protection;

(v) A single spillway or a combination of spillways configured as specified in Subsection R315-319-73(d)(1)(v)(A). The combined capacity of any spillways shall be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in Subsection R315-319-73(d)(1)(v)(B).

(A) Spillways shall 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.

(B) The combined capacity of the spillways shall 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 that may negatively affect the operation of the hydraulic structure; and

(vii) For CCR units with downstream slopes that 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 Subsection R315-319-73(d)(1) shall 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 shall remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken and submit the documentation to the director.

(3) The owner or operator of the CCR unit shall 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 Section R315-319-73 and submit the certification to the director.

(e) Periodic safety factor assessments.

(1) The owner or operator shall conduct and submit to the director 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 Subsections R315-319-73(e)(1)(i) through R315-319-73(e)(1)(iv) for the critical cross section of the embankment. The critical cross section is the cross section anticipated to be the most susceptible of the cross sections to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments shall be supported by appropriate engineering calculations.

(i) The calculated static factor of safety under the long-term, maximum storage pool loading condition shall equal or exceed 1.50.

- (ii) The calculated static factor of safety under the maximum surcharge pool loading condition shall equal or exceed 1.40.
- (iii) The calculated seismic factor of safety shall equal or exceed one.
- (iv) For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety shall equal or exceed

1.20.

(2) The owner or operator of the CCR unit shall obtain a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment specified in Subsection R315-319-73(e)(1) meets the requirements of Section R315-319-73.

(f) Timeframes for periodic assessments

(1) Initial assessments. Except as provided by Subsection R315-319-73(f)(2), the owner or operator of the CCR unit shall complete the initial assessments required by Subsections R315-319-73(a)(2), R315-319-73(d), and R315-319-73(e) no later than October 17, 2016. The owner or operator has completed an initial assessment when the owner or operator has and submit to the director and placed the assessment required by Subsections R315-319-73(a)(2), R315-319-73(d), and R315-319-73(e) in the facility's operating record as required by Subsections R315-319-105(f)(5), R315-319-105(f)(10), and R315-319-105(f)(12).

(2) Use of a previously completed assessments in lieu of the initial assessments. The owner or operator of the CCR unit may elect to use a previously completed assessment to serve as the initial assessment required by Subsections R315-319-73(a)(2), R315-319-73(d), and R315-319-73(e) provided that the previously completed assessments:

(i) was completed no earlier than 42 months before October 17, 2016; and

(ii) meets the applicable requirements of Subsections R315-319-73(a)(2), R315-319-73(d), and R315-319-73(e).

(3) Frequency for conducting periodic assessments. The owner or operator of the CCR unit shall conduct and complete and submit to the director the assessments required by Subsections R315-319-73(a)(2), R315-319-73(d), and R315-319-73(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 assessments in lieu of the initial assessment as provided by Subsection R315-319-73(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 before the required deadline provided the owner or operator submits the assessment to the director and places the completed assessments into the facility's operating record within a reasonable amount of time. In each case, the deadline for completing subsequent assessments is based on the date of completing the previous assessment. For purposes of Subsection R315-319-73(f)(3), the owner or operator has completed an assessment when the relevant assessments required by Subsections R315-319-73(a)(2), R315-319-73(d), and R315-319-73(e) has been submitted and approved by the director and has been placed in the facility's operating record as required by Subsections R315-319-105(f)(5), R315-319-105(f)(10), and R315-319-105(f)(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 Subsection R315-319-73(e) is subject to the requirements of Subsection R315-319-101(b)(2).

(g) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(f), the notification requirements specified in Subsection R315-319-106(f), and the internet requirements specified in Subsection R315-319-107(f).

R315-319-74. Structural Integrity Criteria for New CCR Surface Impoundments and Any Lateral Expansion of a CCR Surface Impoundment.

(a) The requirements of Subsections R315-319-74(a)(1) through R315-319-74(a)(4) apply to any 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, for example, 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 Subsections R315-319-74(a)(1) through R315-319-71(a)(4).

(1) No later than the initial receipt of CCR, the owner or operator of the CCR unit shall 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 shall conduct initial and periodic hazard potential classification assessments of the CCR unit according to the timeframes specified in Subsection R315-319-74(f). The owner or operator shall 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 shall also document the basis for each hazard potential classification.

(ii) The owner or operator of the CCR unit shall get a certification from a qualified professional engineer stating that the initial hazard potential classification and each subsequent periodic classification specified in Subsection R315-319-74(a)(2)(i) was conducted in accordance with the requirements of Section R315-319-74.

(3) Emergency Action Plan (EAP)

(i) Development of the plan. Before 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 Subsection R315-319-74(a)(2) shall prepare, and maintain a written EAP. At a minimum, the EAP shall:

(A) define the events or circumstances involving the CCR unit that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;

(B) define a responsible person, 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 that delineates the downstream area that would be affected in the event of a CCR unit failure and a physical description of the CCR unit; and

(E) include provisions for an annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders.

(ii) Amendment of the plan.

(A) The owner or operator of a CCR unit subject to the requirements of Subsection R315-319-74(a)(3)(i) may amend the written EAP at any time if the revised plan is placed in the facility's operating record as required by Subsection R315-319-105(f)(6). The owner or operator shall amend the written EAP whenever there is a change in conditions that would substantially affect the EAP in effect.

(B) The written EAP shall be evaluated, at a minimum, each five years to ensure the information required in Subsection R315-319-74(a)(3)(i) is accurate. As necessary, the EAP shall be updated and a revised EAP placed in the facility's operating record as required by Subsection R315-319-105(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 has been submitted to and has received approval from the director and placed in the facility's operating record as required by Subsection R315-319-105(f)(5).

(B) If the owner or operator of a CCR unit classified as a low hazard potential CCR surface impoundment subsequently determines that the CCR unit is properly re-classified as either a high hazard potential CCR surface impoundment or a significant hazard potential CCR surface impoundment, then the owner or operator of the CCR unit shall prepare and submit to the director a written EAP for the CCR unit as required by Subsection R315-319-74(a)(3)(i) within six months of completing the periodic hazard potential assessment.

(iv) The owner or operator of the CCR unit shall get a certification from a qualified professional engineer stating that the written EAP, and any subsequent amendment of the EAP, meets the requirements of Subsection R315-319-74(a)(3).

(v) Activation of the EAP. The EAP shall 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 shall be designed, constructed, operated, and maintained with vegetated slopes of dikes except for slopes that are protected with an alternate form of slope protection.

(b) The requirements of Subsections R315-319-74(c) through R315-319-74(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 unit shall compile the design and construction plans for the CCR unit, which shall include, to the extent feasible, the information specified in Subsection R315-319-74(c)(1)(i) through R315-319-74(c)(1)(xi).

(i) The name and address of the person 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) 7-1/2 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 of the CCR unit.

(iv) The name and size in acres of the watershed where the CCR unit is located.

(v) A description of the physical and engineering properties of the foundation and abutment materials of the CCR units construction.

(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 each zone, foundation improvement, drainage provision, spillway, diversion ditch, outlet, instrument location, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR unit due to malfunction or mis-operation.

(viii) A description of the type, purpose, and location of existing instrumentation.

(ix) Area-capacity curves for the CCR unit.

(x) A description of each spillway and diversion design features and capacities and calculations used in their determination.

(xi) The construction specifications and provisions for surveillance, maintenance, and repair of the CCR unit.

(xii) Any record or knowledge of structural instability of the CCR unit.

(2) Changes in the design and construction. If there is a significant change to any information compiled under Subsection R315-319-74(c)(1), the owner or operator of the CCR unit shall update the relevant information and place it in the facility's operating record as required by Subsection R315-319-105(f)(13).

(d) Periodic structural stability assessments.

(1) The owner or operator of the CCR unit shall 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 that can be impounded therein. The assessment shall, 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 except for slopes that have an alternate form or forms of slope protection; and

(v) a single spillway or a combination of spillways configured as specified in Subsection R315-319-74(d)(1)(v)(A). The combined capacity of each spillway shall be designed, constructed, operated, and maintained to adequately manage flow during and following the peak discharge from the event specified in Subsection R315-319-74(d)(1)(v)(B).

(A) Spillways shall 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.

(B) The combined capacity of the spillways shall 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) one thousand-year flood for a significant hazard potential CCR surface impoundment; or
(III) one hundred-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 that may negatively affect the operation of the hydraulic structure; and

(vii) For CCR units with downstream slopes that 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 Subsection R315-319-74(d)(1) shall 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 shall remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

(3) The owner or operator of the CCR unit shall get 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 Section R315-319-74.

(e) Periodic safety factor assessments.

(1) The owner or operator shall 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 Subsections R315-319-74(e)(1)(i) through R315-319-74(e)(1)(v) for the critical cross section of the embankment. The critical cross section is the cross section anticipated to be the most susceptible of the cross sections to structural failure based on appropriate engineering considerations, including loading conditions. The safety factor assessments shall be supported by appropriate engineering calculations.

(i) The calculated static factor of safety under the end-of-construction loading condition shall 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 shall equal or exceed 1.50.

(iii) The calculated static factor of safety under the maximum surcharge pool loading condition shall equal or exceed 1.40.

(iv) The calculated seismic factor of safety shall equal or exceed 1.00.

(v) For dikes constructed of soils that have susceptibility to liquefaction, the calculated liquefaction factor of safety shall equal or exceed 1.20.

(2) The owner or operator of the CCR unit shall get a certification from a qualified professional engineer stating that the initial assessment and each subsequent periodic assessment specified in Subsection R315-319-74(e)(1) meets the requirements of Section R315-319-74.

(f) Timeframes for periodic assessments

(1) Initial assessments. Except as provided by Subsection R315-319-74(f)(2), the owner or operator of the CCR unit shall finish the initial assessments required by Subsections R315-319-74(a)(2), R315-319-74(d), and R315-319-74(e) before the initial receipt of CCR in the unit. The owner or operator has finished an initial assessment when the owner or operator has placed the assessment required by Subsections R315-319-74(a)(2), R315-319-74(d), and R315-319-74(e) in the facility's operating record as required by Subsection R315-319-105(f)(5), R315-319-105(f)(10), and R315-319-105(f)(12).

(2) Frequency for conducting periodic assessments. The owner or operator of the CCR unit shall conduct, and finish the assessments required by Subsections R315-319-74(a)(2), R315-319-74(d), and R315-319-74(e) each five years. The date of completing the initial assessment is the basis for establishing the deadline to finish the first subsequent assessment. The owner or operator may finish any required assessment before the required deadline if the owner or operator places the finished assessment into the facility's operating record within a reasonable amount of time. In each case, the deadline for completing subsequent assessments is based on the date of completing the previous assessment. For Subsection R315-319-74(f)(2), the owner or operator has finished an assessment when the relevant assessment required by Subsections R315-319-74(a)(2), R315-319-74(d), and R315-319-74(e) has been placed in the facility's operating record as required by Subsection R315-319-105(f)(5), R315-319-105(f)(10), and R315-319-105(f)(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 Subsections R315-319-74(e)(1)(i) through R315-319-74(e)(1)(v), the owner or operator is prohibited from placing CCR in the unit.

(4) Closure of the CCR unit. An owner or operator of a CCR unit who either fails to finish a timely periodic safety factor assessment or fails to demonstrate minimum safety factors as required by Subsection R315-319-74(e) is subject to the requirements of Subsection R315-319-101(c).

(g) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(f), the notification requirements specified in Subsection R315-319-106(f), and the internet requirements specified in Subsection R315-319-107(f).

R315-319-80. Operating Criteria - Air Criteria.

(a) The owner or operator of a CCR landfill, CCR surface impoundment, or any lateral expansion of a CCR unit shall 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 shall prepare and operate in accordance with a CCR fugitive dust control plan has been submitted to and has received approval from the director and as specified in Subsections R315-319-80(b)(1) through R315-319-80(b)(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 shall 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 shall 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:

(i) locating CCR inside an enclosure or partial enclosure;

(ii) operating a water spray or fogging system;

(iii) reducing fall distances at material drop points;

(iv) using wind barriers, compaction, or vegetative covers;

(v) establishing and enforcing reduced vehicle speed limits;

(vi) paving and sweeping roads;

(vii) covering trucks transporting CCR;

(viii) reducing or halting operations during high wind events; or

(ix) 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 shall 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 shall 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 shall 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 shall 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 Sections R315-319-50 through R315-319-107 after October 19, 2015. The owner or operator has finished the initial CCR fugitive dust control plan when the plan has been placed in the facility's operating record as required by Subsection R315-319-105(g)(1).

(6) Amendment of the plan. The owner or operator of a CCR unit subject to the requirements of Section R315-319-80 may amend the written CCR fugitive dust control plan at any time if the revised plan is placed in the facility's operating record as required by Subsection R315-319-105(g)(1). The owner or operator shall 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 shall get 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 Section R315-319-80.

(c) Annual CCR fugitive dust control report. The owner or operator of a CCR unit shall 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 any citizen complaints, and a summary of any corrective measures taken. The initial annual report shall be finished 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 Subsection R315-319-80(c), the owner or operator has finished the annual CCR fugitive dust control report when the plan has been placed in the facility's operating record as required by Subsection R315-319-105(g)(2).

(d) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(g), the notification requirements specified in Subsection R315-319-106(g), and the internet requirements specified in Subsection R315-319-107(g).

R315-319-81. Operating Criteria 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 shall design, construct, operate, and maintain:

(1) a run-on control system to prevent flow onto the active portion of the CCR unit during the peak discharge from a 24-hour, 25-year storm; and

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

(b) Run-off from the active portion of the CCR unit shall be handled in accordance with the surface water requirements under Subsection R315-303-2(3).

(c) Run-on and run-off control system plan.

(1) Content of the plan. The owner or operator shall prepare initial and periodic run-on and run-off control system plans for the CCR unit according to the timeframes specified in Subsections R315-319-81(c)(3) and R315-319-81(c)(4). These plans shall document how the run-on and run-off control systems have been designed and constructed to meet the applicable requirements of Section R315-319-81. Each plan shall 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 Subsection R315-319-105(g)(3).

(2) Amendment of the plan. The owner or operator may amend the written run-on and run-off control system plan at any time provided the revised plan is placed in the facility's operating record as required by Subsection R315-319-105(g)(3). The owner or operator shall amend the written run-on and run-off control system plan when 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 shall 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 shall 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 shall prepare periodic run-on and run-off control system plans required by Subsection R315-319-81(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 before 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 each case, the deadline for completing a subsequent plan is based on the date of completing the previous plan. For purposes of Subsection R315-319-81(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 Subsection R315-319-105(g)(3).

(5) The owner or operator shall 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 Section R315-319-81.

(d) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(g), the notification requirements specified in Subsection R315-319-106(g), and the internet requirements specified in Subsection R315-319-107(g).

R315-319-82. Operating Criteria - 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 shall design, construct, operate, and maintain an inflow design flood control system as specified in Subsections R315-319-82(a)(1) and R315-319-82(a)(2).

(1) The inflow design flood control system shall adequately manage flow into the CCR unit during and following the peak discharge of the inflow design flood specified in Subsection R315-319-82(a)(3).

(2) The inflow design flood control system shall adequately manage flow from the CCR unit to collect and control the peak discharge resulting from the inflow design flood specified in Subsection R315-319-82(a)(3).

(3) The inflow design flood is:

(i) for a high hazard potential CCR surface impoundment, as determined under Subsection R315-319-73(a)(2) or Subsection R315-319-74(a)(2), the PMF;

(ii) for a significant hazard potential CCR surface impoundment, as determined under Subsection R315-319-73(a)(2) or Subsection R315-319-74(a)(2), the 1,000-year flood;

(iii) for a low hazard potential CCR surface impoundment, as determined under Subsection R315-319-73(a)(2) or Subsection R315-319-74(a)(2), the 100-year flood; or

(iv) for an incised CCR surface impoundment, the 25-year flood.

(b) Discharge from the CCR unit shall be handled in accordance with the surface water requirements under Subsection R315-303-2(3).

(c) Inflow design flood control system plan.

(1) Content of the plan. The owner or operator shall prepare initial and periodic inflow design flood control system plans for the CCR unit according to the timeframes specified in Subsections R315-319-82(c)(3) and R315-319-82(c)(4). These plans shall document how the inflow design flood control system has been designed and constructed to meet the requirements of Section R315-319-82. Each plan shall 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 Subsection R315-319-105(g)(4).

(2) Amendment of the plan. The owner or operator of the CCR unit may amend the written inflow design flood control system plan at any time provided the revised plan is placed in the facility's operating record as required by Subsection R315-319-105(g)(4). The owner or operator shall amend the written inflow design flood control system plan when 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 shall 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 shall 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 shall prepare periodic inflow design flood control system plans required by Subsection R315-319-82(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 before 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 each case, the deadline for completing a subsequent plan is based on the date of completing the previous plan. For purposes of Subsection R315-319-82(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 Subsection R315-319-105(g)(4).

(5) The owner or operator shall obtain a certification from a qualified professional engineer stating that the initial and periodic inflow design flood control system plans meet the requirements of Section R315-319-82.

(d) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(g), the notification requirements specified in Subsection R315-319-106(g), and the internet requirements specified in Subsection R315-319-107(g).

R315-319-83. Operating Criteria - Inspection Requirements for CCR Surface Impoundments.

(a) Inspections by a qualified person.

(1) Each CCR surface impoundment and any lateral expansion of a CCR surface impoundment shall 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 that 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 each outlet of hydraulic structures that 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 the CCR unit instrumentation.

(iv) The results of the inspection by a qualified person shall be recorded in the facility's operating record as required by Subsection R315-319-105(g)(5).

(2) Timeframes for inspections by a qualified person

(i) Existing CCR surface impoundments. The owner or operator of the CCR unit shall initiate the inspections required under Subsection R315-319-83(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 shall initiate the inspections required under Subsection R315-319-83(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 Subsection R315-319-73(d) or Subsection R315-319-74(d), the CCR unit shall 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 shall, 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, for example, CCR unit design and construction information required by Subsections R315-319-73(c)(1) and R315-319-74(c)(1), previous periodic structural stability assessments required under Subsections R315-319-73(d) and R315-319-74(d), the results of inspections by a qualified person, and results of previous annual inspections;

(ii) a visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit and appurtenant structures; and

(iii) a visual inspection of any hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation.

(2) Inspection report. The qualified professional engineer shall 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 when it was inspected;
 - (v) the approximate volume of the impounded water and CCR when it was inspected;
 - (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 that 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 shall finish the initial inspection required by Subsections R315-319-83(b)(1) and R315-319-83(b)(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 shall finish the initial annual inspection required by Subsections R315-319-83(b)(1) and R315-319-83(b)(2) is finished 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 Subsection R315-319-83(b)(4)(ii), the owner or operator of the CCR unit shall conduct the inspection required by Subsections R315-319-83(b)(1) and R315-319-83(b)(2) on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to finish the first subsequent inspection. Any required inspection may be conducted before the required deadline if the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In each case, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For Section R315-319-83, the owner or operator has finished an inspection when the inspection report has been placed in the facility's operating record as required by Subsection R315-319-105(g)(6).
 - (ii) In any calendar year when both the periodic inspection by a qualified professional engineer and the quinquennial, occurring each five years, structural stability assessment by a qualified professional engineer required by Subsections R315-319-73(d) and R315-319-74(d) are required to be completed, the annual inspection is not required, if the structural stability assessment is finished during the calendar year. If the annual inspection is not conducted in a year as provided by Subsection R315-319-83(b)(4)(ii), the deadline for completing the next annual inspection is one year from the date of completing the quinquennial structural stability assessment.
- (5) If a deficiency or release is identified during an inspection, the owner or operator shall 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 shall comply with the recordkeeping requirements specified in Subsection R315-319-105(g), the notification requirements specified in Subsection R315-319-106(g), and the internet requirements specified in Subsection R315-319-107(g).

R315-319-84. Operating Criteria - Inspection Requirements for CCR Landfills.

- (a) Inspections by a qualified person.
 - (1) CCR landfills and any lateral expansion of a CCR landfill shall be examined by a qualified person:
 - (i) at intervals not exceeding seven days, inspect for any appearances of actual or potential structural weakness and other conditions that 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 shall be recorded in the facility's operating record as required by Subsection R315-319-105(g)(8).
 - (2) Timeframes for inspections by a qualified person.
 - (i) Existing CCR landfills. The owner or operator of the CCR unit shall initiate the inspections required under Subsection R315-319-84(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 shall initiate the inspections required under Subsection R315-319-84(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 shall 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 shall, at a minimum, include:
 - (i) a review of available information regarding the status and condition of the CCR unit, including files available in the operating record, for example, 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 shall prepare a report following each inspection that addresses:
 - (i) any changes in geometry of the structure since the previous annual inspection;
 - (ii) the approximate volume of CCR contained in the unit when it was inspected;
 - (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 changes that 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 shall complete the initial inspection required by Subsections R315-319-84(b)(1) and R315-319-85(b)(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 shall complete the initial annual inspection required by Subsections R315-319-84(b)(1) and R315-319-84(b)(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 shall conduct the inspection required by Subsections R315-319-84(b)(1) and R315-319-84(b)(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 before 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 each case, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of Section R315-319-84, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by Subsection R315-319-105(g)(9).

(5) If a deficiency or release is identified during an inspection, the owner or operator shall 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 shall comply with the recordkeeping requirements specified in Subsection R315-319-105(g), the notification requirements specified in Subsection R315-319-106(g), and the internet requirements specified in Subsection R315-319-107(g).

R315-319-90. Groundwater Monitoring and Corrective Action – Applicability.

(a) Except as provided for in Section R315-319-100 for inactive CCR surface impoundments, CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under Sections R315-319-90 through R315-319-98.

(b) Initial timeframes.

(1) Existing CCR landfills and existing CCR surface impoundments. No later than October 17, 2017, the owner or operator of the CCR unit shall be in compliance with the groundwater monitoring requirements listed in Subsections R315-319-90(b)(1)(i) through R315-319-90(b)(1)(iv):

(i) install the groundwater monitoring system as required by Section R315-319-91;

(ii) develop the groundwater sampling and analysis program to include selection of the statistical procedures to be used for evaluating groundwater monitoring data as required by Section R315-319-93;

(iii) initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient well as required by Subsection R315-319-94(b); and

(iv) begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in Appendix III to Rule R315-319 as required by Section R315-319-94.

(2) New CCR landfills, new CCR surface impoundments, and lateral expansions of CCR units. Before initial receipt of CCR by the CCR unit, the owner or operator shall be in compliance with the groundwater monitoring requirements specified in Subsections R315-319-90(b)(1)(i) and R315-319-90(b)(1)(ii). In addition, the owner or operator of the CCR unit shall initiate the detection monitoring program to include obtaining a minimum of eight independent samples for each background well as required by Subsection R315-319-94(b).

(c) Once a groundwater monitoring system and groundwater monitoring program has been established at the CCR unit as required by Sections R315-319-50 through R315-319-107, the owner or operator shall conduct groundwater monitoring and, if necessary, corrective action throughout the active life and post-closure care period of the CCR unit.

(d) In the event of a release from a CCR unit, the owner or operator shall immediately take any necessary measures to control the sources 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 shall comply with the applicable requirements in Sections R315-319-96, R315-319-97, and R315-319-98.

(e) Annual groundwater monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator shall prepare an annual groundwater monitoring and corrective action report and forward the report to the director by March 1 of each year. For new CCR landfills, new CCR surface impoundments, and lateral expansions of CCR units, the owner or operator shall 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 the CCR unit as required by Sections R315-319-50 through R315-319-107, and annually thereafter. For the preceding calendar year, the annual report shall 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 Section R315-319-90, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by Subsection R315-319-105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report shall contain, to the extent available:

(1) a map, aerial image, or diagram showing the CCR unit and the 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 the monitoring data obtained under Sections R315-319-90 through R315-319-98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

(4) a narrative discussion of any transition between monitoring programs, for example, the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituents detected at a statistically significant increase over background levels;

(5) other information required to be included in the annual report as specified in Sections R315-319-90 through R315-319-98; and

(6) A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary shall specify:

(i) at the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in Section R315-319-94 or the assessment monitoring program in Section R315-319-95;

(ii) at the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in Section R315-319-94 or the assessment monitoring program in Section R315-319-95;

(iii) if it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III to Rule R315-319 pursuant to Subsection R315-319-94(e):

(A) identify those constituents listed in Appendix III to Rule R315-319 and the names of the monitoring wells associated with an increase; and

(B) provide the date when the assessment monitoring program was initiated for the CCR unit;

(iv) if it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in Appendix IV to Rule R315-319 pursuant to Subsection R315-319-95(g) include:

(A) identification of those constituents listed in Appendix IV to Rule R315-319 and the names of the monitoring wells associated with an increase;

(B) the date when the assessment of corrective measures was initiated for the CCR unit;

(C) the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and

(D) the date when the assessment of corrective measures was completed for the CCR unit;

(v) whether a remedy was selected pursuant to Section R315-319-97 during the current annual reporting period, and if so, the date of remedy selection; and

(vi) whether remedial activities were initiated or are ongoing pursuant to Section R315-319-98 during the current annual reporting period.

(f) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(h), the notification requirements specified in Subsection R315-319-106(h), and the internet requirements specified in Subsection R315-319-107(h).

R315-319-91. Groundwater Monitoring and Corrective Action - Groundwater Monitoring Systems.

(a) Performance standard. The owner or operator of a CCR unit shall install a groundwater monitoring system consists of enough 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 shall be installed at the waste boundary that ensures detection of groundwater contamination in the uppermost aquifer. Each potential contaminant pathway shall be monitored.

(b) The number, spacing, and depths of monitoring systems shall be determined based upon site-specific technical information that shall 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 thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities, and effective porosities.

(c) The groundwater monitoring system shall include the minimum number of monitoring wells necessary to meet the performance standards specified in Subsection R315-319-91(a), based on the site-specific information specified in Subsection R315-319-91(b). The groundwater monitoring system shall 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 shall be equally as capable of detecting monitored constituents at the waste boundary of the CCR unit as the individual groundwater monitoring system specified in Subsections R315-319-91(a) through R315-319-91(c) for each CCR unit based on:

(i) number, spacing, and orientation of each CCR unit;

(ii) hydrogeologic setting;

(iii) site history; and

(iv) engineering design of the CCR unit.

(e) Monitoring wells shall be cased in a manner that maintains the integrity of the monitoring well borehole. This casing shall be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space, that is, the space between the borehole and well casing, above the sampling depth shall be sealed to prevent contamination of samples and the groundwater.

(1) The owner or operator of the CCR unit shall 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 shall be given access to this documentation when completing the groundwater monitoring system certification required under Subsection R315-319-91(f).

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

(f) The owner or operator shall obtain a certification from a qualified professional engineer stating that the groundwater monitoring system has been designed and constructed to meet the requirements of Section R315-319-91. If the groundwater monitoring system includes the minimum number of monitoring wells specified in Subsection R315-319-91(c)(1), the certification shall document the basis supporting this determination.

(g) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(h), the notification requirements specified in Subsection R315-319-106(h), and the internet requirements specified in Subsection R315-319-107(h).

R315-319-93. Groundwater Monitoring and Corrective Action - Groundwater Sampling and Analysis Requirements.

(a) The groundwater monitoring program shall include consistent sampling and analysis procedures designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells required by Section R315-319-91. The owner or operator of the CCR unit shall develop and receive approval from the director for 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 shall 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 Sections R315-319-90 through R315-319-98, the term constituent refers to both hazardous constituents and other monitoring parameters listed in either Appendix III or IV to Rule R315-319.

(c) Groundwater elevations shall be measured in each well immediately before purging, each time groundwater is sampled. The owner or operator of the CCR unit shall determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells that monitor a CCR management area shall be measured within a period short enough to avoid temporal variations in groundwater flow that could preclude accurate determination of groundwater flow rate and direction.

(d) The owner or operator of the CCR unit shall establish background groundwater quality in a hydraulically upgradient or background well for each of the constituents required in the particular groundwater monitoring program that applies to the CCR unit as determined under Subsection R315-319-94(a) or R315-319-95(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 Subsection R315-319-91(a)(1).

(e) The number of samples collected when conducting detection monitoring and assessment monitoring, for both downgradient and background wells, shall be consistent with the statistical procedures chosen under Subsection R315-319-93(f) and the performance standards under Subsection R315-319-93(g). The sampling procedures shall be those specified under Subsections R315-319-94(b) through R315-319-94(d) for detection monitoring, Subsections R315-319-95(b) through R315-319-95(d) for assessment monitoring, and Subsection R315-319-96(b) for corrective action.

(f) The owner or operator of the CCR unit shall select one of the statistical methods specified in Subsections R315-319-93(f)(1) through R315-319-93(f)(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 shall 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 shall 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 Subsection R315-319-93(g) and has been approved by the director.

(6) The owner or operator of the CCR unit shall get 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 shall include a narrative description of the statistical method selected to evaluate the groundwater monitoring data.

(g) Any statistical method chosen under Subsection R315-319-93(f) shall comply with the performance standards listed in Subsections R315-319-93(g)(1) through R315-319-93(g)(6), 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 shall be transformed or a distribution-free, non-parametric, theory test shall 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 shall 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 Section R315-319-93 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 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 shall contain, shall be such that this approach is at least as effective as any other approach in Section R315-319-93 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 shall 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 Section R315-319-93 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 shall 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 shall 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 Subsection R315-319-94(a) or R315-319-95(a).

(1) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the groundwater quality of each constituent at each monitoring well designated pursuant to Subsection R315-319-91(a)(2) or R315-319-91(d)(1) to the background value of that constituent, according to the statistical procedures and performance standards specified under Subsections R315-319-93(f) and R315-319-93(g).

(2) Within 90 days after completing sampling and analysis, the owner or operator shall determine whether there has been a statistically significant increase over background for any constituent at each monitoring well.

(i) The owner or operator shall 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 may not be field-filtered before analysis.

(j) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(h), the notification requirements specified in Subsection R315-319-106(h), and the internet requirements specified in Subsection R315-319-107(h).

R315-319-94 Groundwater Monitoring and Corrective Action - Detection Monitoring Program.

(a) The owner or operator of a CCR unit shall conduct detection monitoring at each groundwater monitoring well consistent with Section R315-319-94. At a minimum, a detection monitoring program shall include groundwater monitoring for the constituents listed in Appendix III to Rule R315-319.

(b) Except as provided in Subsection R315-319-94(d), the monitoring frequency for the constituents listed in Appendix III to Rule R315-319 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 shall be collected and analyzed for the constituents listed in Appendix III and Appendix IV to Rule R315-319 no later than October 17, 2017. For new CCR landfills, new CCR surface impoundments, and lateral expansions of CCR units, a minimum of eight independent samples for each background well shall be collected and analyzed for the constituents listed in Appendices III and IV to Rule R315-319 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 shall be consistent with Subsection R315-319-93(e), and shall account for any unique characteristics of the site, but shall 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 Rule R315-319 during the active life and the post-closure care period based on the availability of groundwater. This demonstration shall be submitted and approved by the director. 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 shall be evaluated on a site-specific basis. The demonstration shall be supported by, at a minimum, the information specified in Subsections R315-319-94(d)(1) and R315-319-94(d)(2).

(1) Information documenting that the need for less frequent sampling. The alternative frequency shall be based on consideration of the factors listed in Subsections R315-319-94(d)(1)(i) through R315-319-94(d)(1)(iii):

- (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 shall obtain a certification from a qualified professional engineer stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of Section R315-319-94. The owner or operator shall 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 Subsection R315-319-90(e).

(e) If the owner or operator of the CCR unit determines, pursuant to Subsection R315-319-93(h) that there is a statistically significant increase over background levels for one or more of the constituents listed in Appendix III to Rule R315-319 at any monitoring well at the waste boundary specified under Subsection R315-319-91(a)(2), the owner or operator shall:

(1) Except as provided for in Subsection R315-319-94(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 Section R315-319-95.

(2) The owner or operator may demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The owner or operator shall 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 Section R315-319-94. If a successful demonstration is not completed within the 90-day period, the owner or operator of the CCR unit shall initiate an assessment monitoring program as required under Section R315-319-95. The owner or operator shall also include the demonstration in the annual groundwater monitoring and corrective action report required by Subsection R315-319-90(e), in addition to the certification by a qualified professional engineer.

(3) The owner or operator of a CCR unit shall 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 Subsection R315-319-105(h)(5).

(f) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(h), the notification requirements specified in Subsection R315-319-106(h), and the internet requirements specified in Subsection R315-319-107(h).

R315-319-95. Groundwater Monitoring and Corrective Action - Assessment Monitoring Program.

(a) Assessment monitoring is required when a statistically significant increase over background levels has been detected for one or more of the constituents listed in Appendix III to Rule R315-319.

(b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator of the CCR unit shall sample and analyze the groundwater for the constituents listed in Appendix IV to Rule R315-319. The number of samples collected and analyzed for each well during each sampling event shall be consistent with Subsection R315-319-93(e), and shall account for any unique characteristics of the site, but shall 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 Rule R315-319 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 shall be evaluated on a site-specific basis. The demonstration shall be supported by, at a minimum, the information specified in Subsections R315-319-95(c)(1) and R315-319-95(c)(2).

(1) Information documenting that the need for less frequent sampling. The alternative frequency shall be based on consideration of:

- (i) lithology of the aquifer and unsaturated zone;
- (ii) hydraulic conductivity of the aquifer and unsaturated zone; and
- (iii) groundwater flow rates.

(2) Information documenting that the alternative frequency will be no less effective in ensuring that any leakage from the CCR unit will be discovered within a timeframe that will not materially delay the initiation of any necessary remediation measures.

(3) The owner or operator shall get a certification from a qualified professional engineer stating that the demonstration for an alternative groundwater sampling and analysis frequency meets the requirements of Section R315-319-95. The owner or operator shall 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 Subsection R315-319-90(e).

(d) After getting the results from the initial and subsequent sampling events required in Subsection R315-319-95(b), the owner or operator shall:

(1) within 90 days of getting the results, and on at least a semiannual basis thereafter, resample any wells that were installed pursuant to the requirements of Section R315-319-91, conduct analyses for the parameters in Appendix III to Rule R315-319 and for those constituents in Appendix IV to Rule R315-319 that are detected in response to Subsection R315-319-95(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 shall be consistent with Subsection R315-319-93(e), and shall account for any unique characteristics of the site, but shall be at least one sample from each background and downgradient well;

(2) establish groundwater protection standards for any constituents detected pursuant to Subsection R315-319-95(b) or R315-319-95(d). The groundwater protection standards shall be established in accordance with Subsection R315-319-95(h); and

(3) include the recorded concentrations required by Subsection R315-319-95(d)(1), identify the background concentrations established under Subsection R315-319-94(b), and identify the groundwater protection standards established under Subsection R315-319-95(d)(2) in the annual groundwater monitoring and corrective action report required by Subsection R315-319-90(e).

(e) If the concentrations of the constituents listed in Appendices III and IV of Rule R315-319 are shown to be at or below background values, using the statistical procedures in Subsection R315-319-93(g), for two consecutive sampling events, the owner or operator may return to detection monitoring of the CCR unit. The owner or operator shall prepare a notification stating that detection monitoring is resuming for the CCR unit and submit the notification to the director for approval. The owner or operator has finished the notification when the notification is placed in the facility's operating record as required by Subsection R315-319-105(h)(7).

(f) If the concentrations of any constituent in Appendices III and IV to Rule R315-319 are above background values, but the concentrations are below the groundwater protection standard established under Subsection R315-319-95(h), using the statistical procedures in Subsection R315-319-93(g), the owner or operator shall continue assessment monitoring in accordance with Section R315-319-95.

(g) If one or more constituents in Appendix IV to Rule R315-319 are detected at statistically significant levels above the groundwater protection standard established under Subsection R315-319-95(h) in any sampling event, the owner or operator shall prepare a notification identifying the constituents in Appendix IV to Rule R315-319 that have exceeded the groundwater protection standard. The owner or operator has finished the notification when the notification is placed in the facility's operating record as required by Subsection R315-319-105(h)(8). The owner or operator of the CCR unit also shall:

(1) characterize the nature and extent of the release and any relevant site conditions that may affect the remedy ultimately selected. The characterization shall be sufficient to support a complete and accurate assessment of the corrective measures necessary to effectively clean up any releases from the CCR unit pursuant to Section R315-319-96. Characterization of the release includes the minimum measures listed in Subsections R315-319-95(g)(1)(i) through R315-319-95(g)(1)(iv):

(i) install additional monitoring wells necessary to define the contaminant plume;

(ii) collect data on the nature and estimated quantity of material released including specific information on the constituents listed in Appendix IV to Rule R315-319 and the levels that 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 Subsection R315-319-95(d)(1); and

(iv) sample the wells in accordance with Subsection R315-319-95(d)(1) to characterize the nature and extent of the release.

(2) Notify each person who owns the land or resides 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 Subsection R315-319-95(g)(1). The owner or operator has finished the notifications when they are placed in the facility's operating record as required by Subsection R315-319-105(h)(8).

(3) Within 90 days of finding that any of the constituents listed in Appendix IV to Rule R315-319 have been detected at a statistically significant level exceeding the groundwater protection standards the owner or operator shall either:

(i) initiate an assessment of corrective measures as approved by the director and as required by Section R315-319-96; or

(ii) demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any demonstration shall be submitted to and has received approval from the director and supported by a report that includes the factual or evidentiary basis for any conclusions and shall be certified to be accurate by a qualified professional engineer. If a successful demonstration is made, the owner or operator shall continue monitoring in accordance with the assessment monitoring program pursuant to Section R315-319-95, and may return to detection monitoring if the constituents in Appendices III and IV to Rule R315-319 are at or below background as specified in Subsection R315-319-95(e). The owner or operator shall also include the demonstration in the annual groundwater monitoring and corrective action report required by Subsection R315-319-90(e), in addition to the certification by a qualified professional engineer.

(4) If a successful demonstration has not been made at the end of the 90-day period provided by Subsection R315-319-95(g)(3)(ii), the owner or operator of the CCR unit shall initiate the assessment of corrective measures requirements under Section R315-319-96.

(5) The owner or operator shall prepare a notification stating that an assessment of corrective measures has been initiated.

(h) The owner or operator of the CCR unit shall establish a groundwater protection standard for each constituent in Appendix IV to Rule R315-319 detected in the groundwater. The groundwater protection standard shall be:

(1) for constituents that a ground water protection standard has been established in Rule R315-308, the ground water protection standard in Rule R315-308;

(2) for the constituents listed in Subsections R315-319-95(h)(2)(i) and R315-319-95(h)(2)(ii):

(i) lithium 40 micrograms per liter, µg/l; and

(ii) molybdenum 100 µg/l; or

(3) for constituents that the background level is higher than the ground water protection standard identified under Subsections R315-319-95(h)(1) and R315-319-95(h)(2), the background concentration.

(i) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(h), the notification requirements specified in Subsection R315-319-106(h), and the internet requirements specified in Subsection R315-319-107(h).

R315-319-96. Groundwater Monitoring and Corrective Action Assessment of Corrective Measures.

(a) Within 90 days of finding that any constituent listed in Appendix IV to Rule R315-319 has been detected at a statistically significant level exceeding the groundwater protection standard defined under Subsection R315-319-95(h), or immediately upon detection of a release from a CCR unit, the owner or operator shall 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 shall 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 shall 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 shall also include the demonstration in the annual groundwater monitoring and corrective action report required by Subsection R315-319-90(e), in addition to the certification by a qualified professional engineer.

(b) The owner or operator of the CCR unit shall continue to monitor groundwater in accordance with the assessment monitoring program as specified in Section R315-319-95.

(c) The assessment under Subsection R315-319-96(a) shall include an analysis of the effectiveness of potential corrective measures in meeting each of the requirements and objectives of the remedy as described under Section R315-319-97 addressing at least:

(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; and

(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 remedies.

(d) The owner or operator shall 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 Subsection R315-319-105(h)(10).

(e) The owner or operator shall discuss the results of the corrective measures assessment at least 30 days before the selection of remedy, in a public meeting with interested and affected parties.

(f) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(h), the notification requirements specified in Subsection R315-319-106(h), and the internet requirements specified in Subsection R315-319-107(h).

R315-319-97. Groundwater Monitoring and Corrective Action Selection of Remedy.

(a) Based on the results of the corrective measures assessment conducted under Section R315-319-96, the owner or operator shall, as soon as feasible, select a remedy that, at a minimum, meets the standards listed in Subsection R315-319-97(b). This requirement applies to, not in place of, any applicable standards under the Occupational Safety and Health Act. The owner or operator shall prepare a semiannual report describing the progress in selecting and designing the remedy. Upon selection of a remedy, the owner or operator shall prepare a final report describing the selected remedy and how it meets the standards specified in Subsection R315-319-97(b). The remedy and report shall be approved by the director. The owner or operator shall obtain a certification from a qualified professional engineer that the remedy selected meets the requirements of Section R315-319-97. The report has been completed when it is placed in the operating record as required by Subsection R315-319-105(h)(12).

(b) Remedies shall:

(1) be protective of human health and the environment;

(2) attain the groundwater protection standard as specified pursuant to Subsection R315-319-95(h);

(3) control the sources of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of constituents in Appendix IV to Rule R315-319 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; and

(5) comply with standards for management of wastes as specified in Subsection R315-319-98(d).

(c) In selecting a remedy that meets the standards of Subsection R315-319-97(b), the owner or operator of the CCR unit shall consider the evaluation factors listed in Subsections R315-319-97(c)(1) through R315-319-97(c)(4):

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

(i) the magnitude of reduction of existing risks;

(ii) the 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) the 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) the time until full protection is achieved;

(vi) the 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) the long-term reliability of the engineering and institutional controls; and

(viii) the 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 factors listed in Subsections R315-319-97(c)(2)(i) and R315-319-97(c)(2)(ii):

(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 remedies based on consideration of the factors listed in Subsections R315-319-97(c)(3)(i) through R315-319-97(c)(3)(v):

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

(ii) expected operational reliability of the technologies;

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

(iv) availability of necessary equipment and specialists; and

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

(4) The degree to which community concerns are addressed by potential remedies.

(d) The owner or operator shall specify as part of the selected remedy a schedule or schedules for implementing and completing remedial activities. The schedule shall require the completion of remedial activities within a reasonable period taking into consideration the factors set forth in Subsections R315-319-97(d)(1) through R315-319-97(d)(6):

- (1) extent and nature of contamination, as determined by the characterization required under Subsection R315-319-95(g);
- (2) reasonable probabilities of remedial technologies in achieving compliance with the groundwater protection standards established under Subsection R315-319-95(h) and other objectives of the remedy;
- (3) availability of treatment or disposal capacity for CCR managed during implementation of the remedy;
- (4) potential risks to human health and the environment from exposure to contamination before 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 as required by the director.

(e) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(h), the notification requirements specified in Subsection R315-319-106(h), and the internet requirements specified in Subsection R315-319-107(h).

R315-319-98. Groundwater Monitoring and Corrective Action Implementation of the Corrective Action Program.

(a) Within 90 days of selecting a remedy under Section R315-319-97, the owner or operator shall initiate remedial activities. Based on the schedule established under Subsection R315-319-97(d) for implementation and completion of remedial activities the owner or operator shall:

- (1) establish and implement a corrective action groundwater monitoring program that:
 - (i) at a minimum, meets the requirements of an assessment monitoring program under Section R315-319-95;
 - (ii) documents the effectiveness of the corrective action remedy; and
 - (iii) demonstrates compliance with the groundwater protection standard pursuant to Subsection R315-319-98(c); and
- (2) implement the corrective action remedy selected under Section R315-319-97; and
- (3) take any interim measures necessary to reduce the contaminants leaching from the CCR unit, or potential exposures to human or

ecological receptors, or both. Interim measures shall, 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 Section R315-319-97. The owner or operator shall consider the factors listed in Subsections R315-319-98(a)(3)(i) through R315-319-98(a)(3)(vii) in determining whether interim measures are necessary:

- (i) time required to develop and implement a final remedy;
- (ii) actual or potential exposure of nearby populations or environmental receptors to any of the constituents listed in appendix IV of Rule R315-319;
- (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 Rule R315-319 to migrate or be released;
- (vi) potential for exposure to any of the constituents listed in Appendix IV to Rule R315-319 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 Subsection R315-319-97(b) is not being achieved through the remedy selected, the owner or operator shall, with approval of the director, implement other methods or techniques that could feasibly achieve compliance with the requirements.

(c) Remedies selected pursuant to Section R315-319-97 shall be considered complete when:

- (1) the owner or operator of the CCR unit demonstrates compliance with the groundwater protection standards established under Subsection R315-319-95(h) has been achieved at each point within the plume of contamination that lie beyond the groundwater monitoring well system established under Section R315-319-91 and has received director approval; and
- (2) compliance with the groundwater protection standards established under Subsection R315-319-95(h) has been achieved by demonstrating that concentrations of constituents listed in Appendix IV to Rule R315-319 have not exceeded the groundwater protection standards for a period of three consecutive years using the statistical procedures and performance standards in Subsections R315-319-93(f) and R315-319-93(g).

(3) Each action required to complete the remedy have been satisfied.

(d) CCR's that are managed pursuant to a remedy required under Section R315-319-97, or an interim measure required under Subsection R315-319-98(a)(3), shall be managed in a manner that complies with applicable Utah requirements.

(e) Upon completion of the remedy, the owner or operator shall prepare a notification stating that the remedy has been completed. The notification shall be submitted to and be approved by the director. The owner or operator shall obtain a certification from a qualified professional engineer attesting that the remedy has been completed in compliance with the requirements of Subsection R315-319-98(c). The report has been completed when it is placed in the operating record as required by Subsection R315-319-105(h)(13).

(f) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(h), the notification requirements specified in Subsection R315-319-106(h), and the internet requirements specified in Subsection R315-319-107(h).

R315-319-100. Closure and Post-Closure Care Inactive CCR Surface Impoundments.

(a) Inactive CCR surface impoundments are subject to the requirements of Sections R315-319-50 through R315-319-107 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 that the owner or operator has completed the actions by the deadlines specified in Subsections R315-319-100(e)(1)(i) through R315-319-100(e)(1)(iii) is eligible for the alternative timeframes specified in Subsections R315-319-100(e)(2) through R315-319-100(e)(6). The owner or operator of the CCR unit shall comply with the applicable recordkeeping, notification, and internet requirements associated with these provisions. For the inactive CCR surface impoundment:

(i) the owner or operator shall 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 Subsection R315-319-105(i)(1);

(ii) the owner or operator shall have provided notification to the director by January 19, 2016, of the intent to initiate closure of the inactive CCR surface impoundment pursuant to Subsection R315-319-106(i)(1); and

(iii) the owner or operator shall 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 Subsection R315-319-107(i)(1).

(2) Location restrictions.

(i) No later than April 16, 2020, the owner or operator of the inactive CCR surface impoundment shall:

(A) complete the demonstration for placement above the uppermost aquifer as set forth in Subsections R315-319-60(a), R315-319-60(b), and R315-319-60(c)(3);

(B) complete the demonstration for wetlands as set forth in Subsections R315-319-61(a), R315-319-61(b), and R315-319-61(c)(3);

(C) complete the demonstration for fault areas as set forth in Subsections R315-319-62(a), R315-319-62(b), and R315-319-62(c)(3);

(D) complete the demonstration for seismic impact zones as set forth in Subsections R315-319-63(a), R315-319-63(b), and R315-319-63(c)(3); and

(E) complete the demonstration for unstable areas as set forth in Subsections R315-319-64(a), R315-319-64(b), R315-319-64(c), and R315-319-64(d)(3).

(ii) An owner or operator of an inactive CCR surface impoundment who fails to demonstrate compliance with the requirements of Subsection R315-319-100(e)(2)(i) is subject to the closure requirements of Subsection R315-319-101(b)(1).

(3) Design criteria. The owner or operator of the inactive CCR surface impoundment shall:

(i) no later than April 17, 2018, complete the documentation of liner type as set forth by Subsection R315-319-71(a) and R315-319-71(b);

(ii) no later than June 16, 2017, place on or immediately adjacent to the CCR unit the permanent identification marker as set forth in Subsection R315-319-73(a)(1);

(iii) no later than October 16, 2018, prepare and maintain an EAP as set forth in Subsection R315-319-73(a)(3);

(iv) no later than April 17, 2018, compile a history of construction as set forth in Subsections R315-319-73(b) and R315-319-73(c); and

(v) no later than April 17, 2018, complete the initial hazard potential classification, structural stability, and safety factor assessments as set forth in Subsections R315-319-73(a)(2), R315-319-73(b), R315-319-73(d), R315-319-73(e), and R315-319-73(f).

(4) Operating criteria. The owner or operator of the inactive CCR surface impoundment shall:

(i) no later than April 18, 2017, prepare the initial CCR fugitive dust control plan as set forth in Subsection R315-319-80(b);

(ii) no later than April 17, 2018, prepare the initial inflow design flood control system plan as set forth in Subsection R315-319-82(c);

(iii) no later than April 18, 2017, initiate the inspections by a qualified person as set forth in Subsection R315-319-83(a); and

(iv) no later than July 19, 2017, complete the initial annual inspection by a qualified professional engineer as set forth in Subsection R315-319-83(b).

(5) Groundwater monitoring and corrective action. The owner or operator of the inactive CCR surface impoundment shall:

(i) no later than April 17, 2019, comply with groundwater monitoring requirements set forth in Subsections R315-319-90(b) and R315-319-94(b); and

(ii) no later than August 1, 2019, prepare the initial groundwater monitoring and corrective action report as set forth in Subsection R315-319-90(e).

(6) Closure and post-closure care. The owner or operator of the inactive CCR surface impoundment shall:

(i) no later than April 17, 2018, prepare an initial written closure plan as set forth in Subsection R315-319-102(b); and

(ii) no later than April 17, 2018, prepare an initial written post-closure care plan as set forth in Subsection R315-319-104(d).

R315-319-101. Closure and Post-Closure Care - Closure or Retrofit of CCR Units.

(a) The owner or operator of an existing unlined CCR surface impoundment, as determined under Subsection R315-319-71(a), is subject to the requirements of Subsection R315-319-101(a)(1).

(1) Except as provided by Subsection R315-319-101(a)(3), as soon as technically feasible, but before April 11, 2021, an owner or operator of the existing unlined CCR surface impoundment shall stop placing CCR and non-CCR wastestreams into the CCR surface impoundment and either retrofit or close the CCR unit in accordance with the requirements of Section R315-319-102.

(2) An owner or operator of an existing unlined CCR surface impoundment that closes in accordance with Subsection R315-319-101(a)(1) shall include a statement in the notification required under Subsection R315-319-102(g) or R315-319-102(k)(5) that the CCR surface impoundment is closing or retrofitting under the requirements of Subsection R315-319-101(a)(1).

(3) The timeframe specified in Subsection R315-319-101(a)(1) does not apply if the owner or operator complies with the alternative closure procedures specified in Section R315-319-103.

(4) At any time after the initiation of closure under Subsection R315-319-101(a)(1), the owner or operator may stop closure activities and initiate a retrofit of the CCR unit in accordance with the requirements of Subsection R315-319-102(k).

(b) The owner or operator of an existing CCR surface impoundment is subject to the requirements of Subsection R315-319-101(b)(1).

(1)(i) Location standard under Section R315-319-60. Except as provided by Subsection R315-319-101(b)(4), the owner or operator of an existing CCR surface impoundment has not demonstrated compliance with the location standard specified in Subsection R315-319-60(a) shall stop placing CCR and non-CCR wastestreams into the CCR unit as soon as technically feasible, but no later than April 11, 2021, and close the CCR unit in accordance with the requirements of Section R315-319-102.

(ii) Location standards under Sections R315-319-61 through R315-319-64. Except as provided by Subsection R315-319-101(b)(4), within six months of determining that an existing CCR surface impoundment has not demonstrated compliance with any location standard specified in Subsections R315-319-61(a), R315-319-62(a), R315-319-63(a), and R315-319-64(a), the owner or operator of the CCR surface impoundment shall stop placing CCR and non-CCR wastestreams into the CCR unit and close the CCR unit in accordance with the requirements of Section R315-319-102.

(2) Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by Subsection R315-319-73(e) by the deadlines specified in Subsections R315-319-73(f)(1) through R315-319-73(f)(3) or failing to document that the calculated factors of safety for the existing CCR surface impoundment achieve the minimum safety factors specified in Subsections R315-319-73(e)(1)(i) through R315-319-73(e)(1)(iv), the owner or operator of the CCR surface impoundment shall stop placing CCR and non-CCR wastestreams into the CCR unit and close the CCR unit in accordance with the requirements of Section R315-319-102.

(3) An owner or operator of an existing CCR surface impoundment that closes in accordance with Subsection R315-319-101(b)(1) or R315-319-101(b)(2) shall include a statement in the notification required under Subsection R315-319-102(g) that the CCR surface impoundment is closing under the requirements of Subsection R315-319-101(b)(1) or R315-319-101(b)(2).

(4) The timeframe specified in Subsection R315-319-101(b)(1) does not apply if the owner or operator complies with the alternative closure procedures specified in Section R315-319-103.

(c) The owner or operator of a new CCR surface impoundment is subject to the requirements of Subsection R315-319-101(c)(1).

(1) Within six months of either failing to complete the initial or any subsequent periodic safety factor assessment required by Subsection R315-319-74(e) by the deadlines specified in Subsections R315-319-74(f)(1) through R315-319-74(f)(3) or failing to document that the calculated factors of safety for the new CCR surface impoundment achieve the minimum safety factors specified in Subsections R315-319-74(e)(1)(i) through R315-319-74(e)(1)(v), the owner or operator of the CCR surface impoundment shall stop placing CCR and non-CCR wastestreams into the CCR unit and close the CCR unit in accordance with the requirements of Section R315-319-102.

(2) An owner or operator of a new CCR surface impoundment that closes in accordance with Subsection R315-319-101(c)(1) shall include a statement in the notification required under Subsection R315-319-102(g) that the CCR surface impoundment is closing under the requirements of Subsection R315-319-101(c)(1).

(d) The owner or operator of an existing CCR landfill is subject to the requirements of Subsection R315-319-101(d)(1).

(1) Except as provided by Subsection R315-319-101(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 Subsection R315-319-64(a), the owner or operator of the CCR unit shall stop placing CCR and non-CCR waste streams into the CCR landfill and close the CCR unit in accordance with the requirements of Section R315-319-102.

(2) An owner or operator of an existing CCR landfill that closes in accordance with Subsection R315-319-101(d)(1) shall include a statement in the notification required under Subsection R315-319-102(g) that the CCR landfill is closing under the requirements of Subsection R315-319-101(d)(1).

(3) The timeframe specified in Subsection R315-319-101(d)(1) does not apply if the owner or operator complies with the alternative closure procedures specified in Section R315-319-103.

R315-319-102. Closure and Post-Closure Care - 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 shall 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 Subsections R315-319-102(b) through R315-319-102(j). Retrofit of a CCR surface impoundment shall be completed in accordance with the requirements in Subsection R315-319-102(k).

(b) Written closure plan.

(1) Content of the plan. The owner or operator of a CCR unit shall 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 shall include, at a minimum, the information specified in Subsections R315-319-102(b)(1)(i) through R315-319-102(b)(1)(vi).

(i) A narrative description of how the CCR unit will be closed in accordance with Section R315-319-102.

(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 Subsection R315-319-102(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 Subsection R315-319-102(d), and the methods and procedures to be used to install the final cover. The closure plan shall also discuss how the final cover system will achieve the performance standards specified in Subsection R315-319-102(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 Subsection R315-319-102(d) at any time during the CCR unit's active life.

(vi) A schedule for completing the activities necessary to satisfy the closure criteria in Section R315-319-102, including an estimate of the year in which the 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 Subsection R315-319-102(f)(1), the written closure plan shall include the site-specific information, factors and considerations that would support any time extension sought under Subsection R315-319-102(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 shall prepare an initial written closure plan consistent with the requirements specified in Subsection R315-319-102(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 shall prepare an initial written closure plan consistent with the requirements specified in Subsection R315-319-102(b)(1).

(iii) The owner or operator has completed the written closure plan when the plan, including the certification required by Subsection R315-319-102(b)(4), has been placed in the facility's operating record as required by Subsection R315-319-105(i)(4).

(3) Amendment of a written closure plan.

(i) The owner or operator may amend the initial or any subsequent written closure plan developed pursuant to Subsection R315-319-102(b)(1) at any time.

(ii) The owner or operator shall amend the written closure plan when:

(A) there is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; or

(B) before or after closure activities have commenced, unanticipated events require a revision of the written closure plan.

(iii) The owner or operator shall amend the closure plan at least 60 days before 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 shall amend the current closure plan no later than 30 days following the triggering event.

(4) The owner or operator of the CCR unit shall get a written certification from a qualified professional engineer that the initial and any amendment of the written closure plan meets the requirements of Section R315-319-102.

(c) Closure by removal of CCR. An owner or operator may elect to close a CCR unit by removing and decontaminating any 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 Subsection R315-319-95(h) for constituents listed in Appendix IV to Rule R315-319.

(d) Closure performance standard when leaving CCR in place.

(1) The owner or operator of a CCR unit shall 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 shall meet the requirements of Subsections R315-319-102(d)(2)(i) and R315-319-102(d)(2)(ii) before installing the final cover system required under Subsection R315-319-102(d)(3).

(i) Free liquids shall be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues.

(ii) Remaining wastes shall 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 shall install a final cover system that is designed to minimize infiltration and erosion, and at a minimum, meets the requirements of Subsection R315-319-102(d)(3)(i), or the requirements of the alternative final cover system specified in Subsection R315-319-102(d)(3)(ii).

(i) The final cover system shall be designed and constructed to meet the criteria in Subsections R315-319-102(d)(3)(i)(A) through R315-319-102(d)(3)(i)(D). The design of the final cover system shall be included in the written closure plan required by Subsection R315-319-102(b).

(A) The permeability of the final cover system shall be less than or equal to the permeability of any bottom liner system or natural subsoils present, or a permeability no greater than 1×10^{-5} cm/sec, whichever is less.

(B) The infiltration of liquids through the closed CCR unit shall be minimized by the use of an infiltration layer that contains a minimum of 18 inches of earthen material.

(C) The erosion of the final cover system shall be minimized by the use of an erosion layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth.

(D) The disruption of the integrity of the final cover system shall 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 Subsections R315-319-102(f)(3)(ii)(A) through R315-319-102(f)(3)(ii)(D). The design of the final cover system shall be included in the written closure plan required by Subsection R315-319-102(b).

(A) The design of the final cover system shall include an infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in Subsections R315-319-102(d)(3)(i)(A) and R315-319-102(d)(3)(i)(B).

(B) The design of the final cover system shall include an erosion layer that provides equivalent protection from wind or water erosion as the erosion layer specified in Subsection R315-319-102(d)(3)(i)(C).

(C) The disruption of the integrity of the final cover system shall be minimized through a design that accommodates settling and subsidence.

(iii) The owner or operator of the CCR unit shall obtain a written certification from a qualified professional engineer that the design of the final cover system meets the requirements of Section R315-319-102.

(e) Initiation of closure activities. Except as provided for in Subsection R315-319-102(e)(4) and Section R315-319-103, the owner or operator of a CCR unit shall begin closure of the CCR unit no later than the applicable timeframes specified in either Subsection R315-319-102(e)(1) or R315-319-102(e)(2).

(1) The owner or operator shall begin 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 beneficial use of CCR.

(2)(i) Except as provided by Subsection R315-319-102(e)(2)(ii), the owner or operator shall begin closure of a CCR unit that has not received CCR or any non-CCR waste stream or is no longer removing CCR for beneficial use within two years of the last receipt of waste or within two years of the last removal of CCR material for beneficial use.

(ii) Notwithstanding Subsection R315-319-102(e)(2)(i), 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 beneficial use. The documentation shall be supported by, at a minimum, the information specified in Subsections R315-319-102(e)(2)(ii)(A) and R315-319-102(e)(2)(ii)(B). 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 beneficial use. The owner or operator shall place each completed demonstration, if more than one time extension is sought, in the facility's operating record as required by Subsection R315-319-105(i)(5) before the end of any two-year period.

(A) Information documenting that the CCR unit has remaining storage or disposal capacity or that the CCR unit can have CCR removed for beneficial use; and

(B) Information demonstrating 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 beneficial use. The narrative shall include a best estimate as to when the CCR unit will resume receiving CCR or non-CCR waste streams. The situations listed in Subsections R315-319-102(e)(2)(ii)(B)(I) through R315-319-102(e)(2)(ii)(B)(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, for example, 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, that is, 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, but there is a reasonable likelihood that the CCR unit will again receive non-CCR waste streams in the future.

(iii) To get additional time extensions to initiate closure of a CCR unit beyond the two years provided by Subsection R315-319-102(e)(2)(i), the owner or operator of the CCR unit shall include with the demonstration required by Subsection R315-319-102(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 Sections R315-319-50 through R315-319-107, closure of the CCR unit has commenced if the owner or operator has ceased placing waste and completes any of actions or activities listed in Subsections R315-319-102(e)(3)(i) through R315-319-102(e)(3)(iii):

(i) taken any steps necessary to implement the written closure plan required by Subsection R315-319-102(b);

(ii) submitted a completed application for any required state or agency permit or permit modification; or

(iii) taken any steps necessary to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the closure of a CCR unit.

(4) The timeframes specified in Subsections R315-319-102(e)(1) and R315-319-102(e)(2) do not apply to:

(i) Reserved;

(ii) an owner or operator of an existing unlined CCR surface impoundment closing the CCR unit as required by Subsection R315-319-101(a);

(iii) an owner or operator of an existing CCR surface impoundment closing the CCR unit as required by Subsection R315-319-101(b);

(iv) an owner or operator of a new CCR surface impoundment closing the CCR unit as required by Subsection R315-319-101(c); or

(v) an owner or operator of an existing CCR landfill closing the CCR unit as required by Subsection R315-319-101(d).

(f) Completion of closure activities.

(1) Except as provided for in Subsection R315-319-102(f)(2), the owner or operator shall 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 Subsection R315-319-102(f)(1) 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 Subsection R315-319-102(b)(1), the demonstration shall include a narrative discussion providing the basis for additional time beyond that specified in the closure plan. The owner or operator shall place each completed demonstration, if more than one time extension is sought, in the facility's operating record as required by Subsection R315-319-105(i)(6) before the end of any two-year period. Factors that may support the demonstration include:

(A) complications stemming from the climate and weather, such as unusual amounts of precipitation or a significantly shortened construction season;

(B) time required to dewater a surface impoundment due to the volume of CCR contained in the CCR unit or the characteristics of the CCR in the unit;

(C) the geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or

(D) time required or delays caused by the need to coordinate with and obtain necessary approvals and permits from a state or other agency.

(ii) Maximum time extensions.

(A) CCR surface impoundments of 40 acres or smaller may extend the time to complete closure by no longer than two years.

(B) CCR surface impoundments larger than 40 acres may extend the timeframe to complete closure of the CCR unit multiple times, in two-year increments. For each two-year extension sought, the owner or operator shall 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 shall 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) To get additional time extensions to complete closure of a CCR unit beyond the times provided by Subsection R315-319-102(f)(1), the owner or operator of the CCR unit shall include with the demonstration required by Subsection R315-319-102(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 shall obtain a certification from a qualified professional engineer verifying that closure has been completed in accordance with the closure plan specified in Subsection R315-319-102(b) and the requirements of Section R315-319-102.

(g) No later than the date the owner or operator initiates closure of a CCR unit, the owner or operator shall prepare a notification of intent to close a CCR unit. The notification shall include the certification by a qualified professional engineer for the design of the final cover system as required by Subsection R315-319-102(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 Subsection R315-319-105(i)(7).

(h) Within 30 days of completion of closure of the CCR unit, the owner or operator shall prepare a notification of closure of a CCR unit. The notification shall include the certification by a qualified professional engineer as required by Subsection R315-319-102(f)(3). The owner or operator has completed the notification when it has been placed in the facility's operating record as required by Subsection R315-319-105(i)(8).

(i) Deed notations.

(1) Except as provided by Subsection R315-319-102(i)(4), following closure of a CCR unit, the owner or operator shall 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 shall 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 Subsection R315-319-104(d)(1)(iii).

(3) Within 30 days of recording a notation on the deed to the property, the owner or operator shall 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 Subsection R315-319-105(i)(9).

(4) An owner or operator that closes a CCR unit in accordance with Subsection R315-319-102(c) is not subject to the requirements of Subsections R315-319-102(i)(1) through R315-319-102(i)(3).

(j) The owner or operator of the CCR unit shall comply with the closure recordkeeping requirements specified in Subsection R315-319-105(i), the closure notification requirements specified in Subsection R315-319-106(i), and the closure internet requirements specified in Subsection R315-319-107(i).

(k) Criteria to retrofit an existing CCR surface impoundment.

(1) To retrofit an existing CCR surface impoundment, the owner or operator shall:

(i) First remove any CCR, including any contaminated soils and sediments from the CCR unit; and

(ii) Comply with the requirements in Section R315-319-72.

(iii) A CCR surface impoundment undergoing a retrofit remains subject to the other requirements of Sections R315-319-50 through R315-319-107, including the requirement to conduct any necessary corrective action.

(2) Written retrofit plan.

(i) Content of the plan. The owner or operator shall 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 shall include, at a minimum:

(A) a narrative description of the specific measures that will be taken to retrofit the CCR unit in accordance with Section R315-319-102.

(B) a description of the procedures to remove the CCR and contaminated soils and sediments from the CCR unit.

(C) an estimate of the maximum amount of CCR that will be removed as part of the retrofit operation.

(D) an estimate of the largest area of the CCR unit that will be affected by the retrofit operation.

(E) a schedule for completing the activities necessary to satisfy the retrofit criteria in Section R315-319-102, 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 before the date of initiating retrofit activities, the owner or operator shall prepare an initial written retrofit plan consistent with the requirements specified in Subsection R315-319-102(k)(2). For purposes of Sections R315-319-50 through R315-319-107, initiation of retrofit activities has commenced if the owner or operator has ceased placing waste in the unit and completes any of the actions or activities listed in Subsections R315-319-102(k)(2)(ii)(A)(I) through R315-319-102(k)(2)(ii)(A)(III):

(I) taken any steps necessary to implement the written retrofit plan;

(II) submitted a completed application for a permit or permit modification; or

(III) taken any steps necessary to comply with any state or other agency standards that are a prerequisite, or are otherwise applicable, to initiating or completing the retrofit of a CCR unit.

(B) The owner or operator has completed the written retrofit plan when the plan, including the certification required by Subsection R315-319-102(k)(2)(iv), has been placed in the facility's operating record as required by Subsection R315-319-105(j)(1).

(iii) Amendment of a written retrofit plan.

(A) The owner or operator may amend the initial or any subsequent written retrofit plan at any time.

(B) The owner or operator shall amend the written retrofit plan when:

(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 require a revision of the written retrofit plan.

(C) The owner or operator shall amend the retrofit plan at least 60 days before 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 shall amend the current retrofit plan no later than 30 days following the triggering event.

(iv) The owner or operator of the CCR unit shall 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 Section R315-319-102.

(3) Deadline for completion of activities related to the retrofit of a CCR unit. Any CCR surface impoundment that is being retrofitted shall complete the retrofit activities within the same time frames and procedures specified for the closure of a CCR surface impoundment in Subsection R315-319-102(f) or, where applicable, Section R315-319-103.

(4) Upon completion, the owner or operator shall obtain a certification from a qualified professional engineer verifying that the retrofit activities have been completed in accordance with the retrofit plan specified in Subsection R315-319-102(k)(2) and the requirements of Section R315-319-102.

(5) No later than the date the owner or operator initiates the retrofit of a CCR unit, the owner or operator shall 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 Subsection R315-319-105(j)(5).

(6) Within 30 days of completing the retrofit activities specified in Subsection R315-319-102(k)(1), the owner or operator shall prepare a notification of completion of retrofit activities. The notification shall include the certification by a qualified professional engineer as required by Subsection R315-319-102(k)(4). The owner or operator has completed the notification when it has been placed in the facility's operating record as required by Subsection R315-319-105(j)(6).

(7) At any time after the initiation of a CCR unit retrofit, the owner or operator may stop the retrofit and initiate closure of the CCR unit in accordance with the requirements of Section R315-319-102.

(8) The owner or operator of the CCR unit shall comply with the retrofit recordkeeping requirements specified in Subsection R315-319-105(j), the retrofit notification requirements specified in Subsection R315-319-106(j), and the retrofit internet requirements specified in Subsection R315-319-107(j).

R315-319-103. Closure and Post-Closure Care - 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 Subsection R315-319-101(a), R315-319-101(b)(1), or R315-319-101(d) may continue to receive CCR in the unit if the owner or operator meets the requirements of either Subsection R315-319-103(a), R315-319-103(b) R315-319-103(f)(1) or R315-319-103(f)(2).

(a) CCR landfills.

(1) No alternative CCR disposal capacity. Notwithstanding Subsection R315-319-101(a), R315-319-101(b)(1), or R315-319-101(d), a CCR landfill may continue to receive CCR if the owner or operator of the CCR landfill certifies that the CCR shall continue to be managed in that CCR landfill due to the absence of alternative disposal capacity both on-site and off-site of the facility. To qualify under Subsection R315-319-103(a)(1), the owner or operator of the CCR unit shall document that each of the conditions listed in Subsections R315-319-103(a)(1)(i) through R315-319-103(a)(1)(iv) 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 Section R315-319-103;

(ii) the owner or operator has made, and continues to make, efforts to get additional capacity. Qualification under Subsection R315-319-103(a) lasts only as long as no alternative capacity is available. Once alternative capacity is identified, the owner or operator shall arrange to use the capacity as soon as feasible;

(iii) the owner or operator shall remain in compliance with each of the requirements of Sections R315-319-50 through R315-319-107, including the requirement to conduct any necessary corrective action; and

(iv) the owner or operator shall prepare an annual progress report documenting the continued lack of alternative capacity and the progress toward the development of alternative CCR disposal capacity.

(2) Once alternative capacity is available, the CCR unit shall stop receiving CCR and initiate closure following the timeframes in Subsections R315-319-102(e) and R315-319-102(f).

(3) If no alternative capacity is identified within five years after the initial certification, the CCR unit shall stop receiving CCR and close in accordance with the timeframes in Subsections R315-319-102(e) and R315-319-102(f).

(b) CCR landfills.

(1) Permanent cessation of a coal-fired boiler by a date certain. Notwithstanding Subsection R315-319-101(d), a CCR unit may continue to receive CCR if the owner or operator certifies that the facility will stop operation of the coal-fired boilers within the timeframes specified in Subsection R315-319-103(b)(4), but in the interim period, before closure of the coal-fired boiler, the facility shall 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 Subsection R315-319-103(b)(1), the owner or operator of the CCR unit shall document that each of the conditions listed in Subsections R315-319-103(b)(1)(i) through R315-319-103(b)(1)(iii) 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 Section R315-319-103;

(ii) the owner or operator shall remain in compliance with each of the requirements of Sections R315-319-50 through R315-319-107, including the requirement to conduct any necessary corrective action; and

(iii) the owner or operator shall prepare an annual progress report documenting the continued lack of alternative capacity and the progress toward the closure of the coal-fired boiler.

(2) Reserved.

(3) Reserved.

(4) For a CCR landfill, the coal-fired boiler shall stop operation, and the CCR landfill shall finish closure no later than April 19, 2021.

(c) Required notices and progress reports for CCR landfills. An owner or operator of a CCR unit that closes in accordance with Subsection R315-319-103(a) or R315-319-103(b) shall finish the notices and progress reports specified in Subsections R315-319-103(c)(1) through R315-319-103(c)(3).

(1) Within six months of becoming subject to closure pursuant to Subsection R315-319-101(a), R315-319-101(b)(1), or R315-319-101(d), the owner or operator shall prepare and place in the facility's operating record a notification of intent to comply with the alternative closure requirements of Section R315-319-103. The notification shall describe why the CCR unit qualifies for the alternative closure provisions under either Subsection R315-319-103(a) or R315-319-103(b), in addition to providing the documentation and certifications required by Subsection R315-319-103(a) or R315-319-103(b).

(2) The owner or operator shall prepare the periodic progress reports required by Subsection R315-319-103(a)(1)(iv) or R315-319-103(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 shall be finished according to the schedule in Subsections R315-319-103(c)(2)(i) through R315-319-103(c)(2)(iii):

(i) The first annual progress report shall be prepared no later than 13 months after completing the notification of intent to comply with the alternative closure requirements required by Subsection R315-319-103(c)(1).

(ii) The second annual progress report shall be prepared no later than 12 months after completing the first annual progress report. Additional annual progress reports shall be prepared within 12 months of completing the previous annual progress report.

(iii) The owner or operator has finished the progress reports specified in Subsection R315-319-103(c)(2) when the reports are placed in the facility's operating record as required by Subsection R315-319-105(i)(11).

(3) An owner or operator of a CCR landfill shall also prepare the notification of intent to close a CCR unit as required by Subsection R315-319-102(g).

(d) CCR landfill recordkeeping. The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(i), the notification requirements specified in Subsection R315-319-106(i), and the internet requirements specified in Subsection R315-319-107(i).

(e) Reserved.

(f) Site-specific alternative deadlines to initiate closure of CCR surface impoundments. Notwithstanding Subsections R315-319-101(a) and R315-319-101(b)(1), a CCR surface impoundment may continue to receive the waste specified in Subsection R315-319-103(f)(1) or R315-319-103(f)(1)(2), provided the owner or operator submits a demonstration that the criteria in either Subsection R315-319-103(f)(1) or R315-319-103(f)(1)(2) have been met. The demonstration shall be submitted to the director no later than the relevant deadline in Subsection R315-319-103(f)(3). The director will act on the submission in accordance with the procedures in Subsection R315-319-103(f)(3).

(1) Development of alternative capacity is technically feasible. Notwithstanding Subsections R315-319-101(a) and R315-319-101(b)(1), a CCR surface impoundment may continue to receive the waste specified in Subsection R315-319-103(f)(1)(ii)(A) or R315-319-103(f)(1)(ii)(B), provided the owner or operator demonstrates the wastestreams shall continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to provide alternative disposal capacity on or off-site of the facility by April 11, 2021. To get approval under Subsection R315-319-103(f)(1), each criteria of R315-319-103(f)(1)(i) through R315-319-103(f)(1)(xiii) shall be met:

(i) No alternative disposal capacity is available on or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under Section R315-319-103.

(ii)(A) For units closing pursuant to Subsections R315-319-101(a) and R315-319-101(b)(1)(i), CCR or non-CCR, or both, wastestreams, shall continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to obtain alternative disposal capacity either on or off-site of the facility by April 1, 2021.

(B) For units closing pursuant to Subsection R315-319-101(b)(1)(ii), CCR shall continue to be managed in that CCR surface impoundment because it was technically infeasible to complete the measures necessary to get alternative disposal capacity either on or off-site of the facility by April 11, 2021.

(iii) The facility is in compliance with the requirements of Rule R315-319.

(iv) The owner or operator of the CCR surface impoundment shall submit documentation that the criteria in Subsections R315-319-103(f)(1)(i) through R315-319-103(f)(1)(iii) have been met by submitting to the director the information listed in Subsections R315-319-103(f)(1)(iv)(A) and R315-319-103(f)(1)(iv)(B):

(A) To demonstrate that the criteria in Subsections R315-319-103(f)(1)(i) and R315-319-103(f)(1)(ii) have been met the owner or operator shall submit a workplan that contains the elements listed in Subsections R315-319-103(f)(1)(iv)(A)(I) through R315-319-103(f)(1)(iv)(A)(IV):

(I) a written narrative discussing the options considered both on and off-site to get alternative capacity for each CCR or non-CCR, or both, wastestreams, the technical infeasibility of getting alternative capacity before April 11, 2021, and the option selected and justification for the alternative capacity selected. The narrative shall also include:

(1) an in-depth analysis of the site and any site-specific conditions that led to the decision to select the alternative capacity being developed;

(2) an analysis of the adverse impact to plant operations if the CCR surface impoundment in question were to no longer be available for use; and

(3) a detailed explanation and justification for the amount of time being requested and how it is the fastest technically feasible time to complete the development of the alternative capacity;

(II) a detailed schedule of the fastest technically feasible time to complete the measures necessary for alternative capacity to be available including a visual timeline representation. The visual timeline shall clearly show:

(1) how each phase and the steps within that phase interact with or are dependent on each other and the other phases;

(2) the steps and phases that can be completed concurrently;

(3) the total time needed to obtain the alternative capacity and how long each phase and step within each phase will take; and

(4) at a minimum, the following phases: engineering and design, contractor selection, equipment fabrication and delivery, construction, and start up and implementation;

(III) a narrative discussion of the schedule and visual timeline representation, that shall discuss:

(1) why the length of time for each phase and step is needed and a discussion of the tasks that occur during the specific step;

(2) why each phase and step shown on the chart has to happen in the order it is occurring;

(3) the tasks that occur during each of the steps within the phase; and

(4) anticipated worker schedules; and

(IV) a narrative discussion of the progress the owner or operator has made to obtain alternative capacity for the CCR or non-CCR, or both, wastestreams. The narrative shall discuss the steps taken, starting from when the owner or operator initiated the design phase up to the steps occurring when the demonstration is being compiled. It shall discuss where the facility currently is on the timeline and the efforts that are currently being undertaken to develop alternative capacity.

(B) To demonstrate that the criteria in Subsection R315-319-103(f)(1)(iii) have been met, the owner or operator shall submit:

(I) a certification signed by the owner or operator that the facility is in compliance with the requirements of Rule R315-319;

(II) visual representation of hydrogeologic information at and around the CCR units that supports the design, construction, and installation of the groundwater monitoring system. This includes:

(1) maps of groundwater monitoring well locations in relation to the CCR units;

(2) well construction diagrams and drilling logs for each groundwater monitoring well; and

(3) maps that characterize the direction of groundwater flow accounting for seasonal variations;

(III) constituent concentrations, summarized in table form, at each groundwater monitoring well monitored during each sampling event;

(IV) a description of site hydrogeology including stratigraphic cross sections;

(V) any corrective measures assessment conducted as required in Section R315-319-96;

(VI) any progress reports on corrective action remedy selection and design and the report of final remedy selection required in Subsection R315-319-97(a);

(VII) the most recent structural stability assessment required in Subsection R315-319-73(d); and

(VIII) the most recent safety factor assessment required in Subsection R315-319-73(e).

(v) As soon as alternative capacity for any CCR or non-CCR wastestream is available, the CCR surface impoundment shall stop receiving that CCR or non-CCR wastestream. Once the CCR surface impoundment ceases receipt of the CCR or non-CCR, or both, wastestreams, the CCR surface impoundment shall initiate closure in accordance with the timeframes in Subsections R315-319-102(e) and R319-315-102(f).

(vi) Maximum time frames. Any CCR surface impoundments covered by Subsection R315-319-103(f)(1) shall stop receiving waste by the deadlines specified in Subsections R315-319-103(f)(1)(vi)(A) and R315-319-103(f)(1)(vi)(B) and close in accordance with the timeframes in Subsections R315-319-102(e) and R319-315-102(f).

(A) Except as provided by Subsection R315-319-103(f)(1)(iv)(B), no later than October 15, 2023.

(B) An eligible unlined CCR surface impoundment shall stop receiving CCR or non-CCR, or both, wastestreams no later than October 15, 2024. To continue to operate until October 15, 2024, the owner or operator shall demonstrate that the unit meets the definition of an eligible unlined CCR surface impoundment found in Subsection R315-319-53(a)(21).

(vii) An owner or operator may seek additional time beyond the time granted in the initial approval by making the showing in Subsections R315-319-103(f)(1)(i) through R315-319-103(f)(1)(iv), except that no facility may be granted time to operate the impoundment beyond the maximum allowable time frames provided in Subsection R315-319-103(f)(1)(vi).

(viii) The owner or operator bears responsibility for demonstrating qualification under Section R315-319-103. Failure to remain in compliance with any of the requirements of Rule R315-319 will result in the automatic loss of authorization under Section R315-319.

(ix) The owner or operator shall:

(A) Upon submission of the demonstration to the director, prepare and place in the facility's operating record a notification that it has submitted the demonstration, along with a copy of the demonstration. An owner or operator that makes a claim of business confidentiality (CBI) in accordance with Section 63G-2-309 in the demonstration may post a redacted version of the demonstration to its publicly accessible CCR internet site provided that it contains sufficient detail so that the public can meaningfully comment on the demonstration.

(B) Upon receipt of a decision pursuant to Subsection R315-319-103(f)(3), prepare and place in the facility's operating record a copy of the decision.

(C) If an extension of an approved deadline pursuant to Subsection R315-319-103(f)(1)(vii) has been requested, place a copy of the request submitted to the director in the facility's operating record.

(x) The owner or operator shall prepare semiannual progress reports. The semiannual progress reports shall contain:

(A) discussion of the progress made to date in obtaining alternative capacity, including:

(I) discussion of the current stage of obtaining the capacity in reference to the timeline required under Subsection R315-319-103(f)(1)(iv)(A);

(II) discussion of whether the owner or operator is on schedule for getting alternative capacity; and

(III) if the owner or operator is not on or ahead of schedule for getting alternative capacity, include:

(1) discussion of any problems encountered, and a description of the actions taken or planned to resolve the problems and get back on schedule; and

(2) discussion of the goals for the next six months and major milestones to be achieved for obtaining alternative capacity; and

(B) discussion of any planned operational changes at the facility.

(xi) The progress reports shall be completed according to the schedule in Subsections R315-319-103(f)(1)(xi)(A) through R315-319-103(f)(1)(xi)(C):

(A) The semiannual progress reports shall be prepared no later than April 30 and October 31 of each year during the alternative stop receipt of waste deadline.

(B) The first semiannual progress report shall be prepared by whichever date, April 30 or October 31, is soonest after receiving approval from the director.

(C) The owner or operator has completed the progress reports specified in Subsection R315-319-103(f)(1)(x) when the reports have been placed in the facility's operating record as required by Subsection R315-319-105(i)(17).

(xii) The owner or operator shall prepare the notification of intent to close a CCR surface impoundment as required by Subsection R315-319-102(g).

(xiii) The owner or operator shall comply with the recordkeeping requirements specified in Subsection R315-319-105(i), the notification requirements specified in Subsection R315-319-106(i), and the internet posting requirements in Subsection R315-319-107(i).

(2) Permanent cessation of a coal-fired boilers by a date certain. Notwithstanding Subsections R315-319-101(a), and R315-319-101(b)(1), a CCR surface impoundment may continue to receive CCR or non-CCR, or both, wastestreams if the facility will stop operation of the coal-fired boilers and complete closure of the impoundment within the timeframes specified in Subsection R315-319-103(f)(2)(iv), but in the interim period, before closure of the coal-fired boiler, the facility shall continue to use the CCR surface impoundment due to the absence of alternative disposal capacity both on and off-site of the facility. To qualify under Subsection R315-319-103(f)(2) each criteria in Subsections R315-319-103(f)(2)(i) through R315-319-103(f)(2)(x) shall be met:

(i) no alternative disposal capacity is available on or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification under Section R315-319-103;

(ii) potential risks to human health and the environment from the continued operation of the CCR surface impoundment have been adequately mitigated;

(iii) the facility is in compliance with the other requirements of Rule R315-319, including the requirement to conduct any necessary corrective action; and

(iv) the coal-fired boilers shall stop operation and closure of the impoundment shall be completed within the timeframes listed in Subsections R315-319-103(f)(2)(iv)(A) and R315-319-103(f)(2)(iv)(B):

(A) for a CCR surface impoundment that is 40 acres or smaller, the coal-fired boilers shall stop operation and the CCR surface impoundment shall complete closure no later than October 17, 2023; and

(B) for a CCR surface impoundment that is larger than 40 acres, the coal-fired boilers shall stop operation, and the CCR surface impoundment shall complete closure no later than October 17, 2028;

(v) The owner or operator of the CCR surface impoundment shall submit documentation that the criteria in Subsections R315-319-103(f)(2)(i) through R315-319-103(f)(2)(iv) have been met as specified in Subsections R315-319-103(f)(2)(v)(A) through R315-319-103(f)(2)(v)(D):

(A) to demonstrate that the criteria in Subsection R315-319-103(f)(2)(i) have been met the owner or operator shall submit a narrative that explains the options considered to get alternative capacity for CCR or non-CCR, or both, wastestreams both on and off-site;

(B) to demonstrate that the criteria in Subsection R315-319-103(f)(2)(ii) have been met the owner or operator shall submit a risk mitigation plan describing the measures that will be taken to expedite any required corrective action, and that contains:

(I) a discussion of any physical or chemical measures a facility can take to limit any future releases to groundwater during operation;

(II) a discussion of the surface impoundment's groundwater monitoring data and any found exceedances, the delineation of the plume, if necessary based on the groundwater monitoring data, identification of any nearby receptors that might be exposed to current or future groundwater contamination, and how the exposures could be promptly mitigated; and

(III) a plan to expedite and maintain the containment of any contaminant plume that is either present or identified during continued operation of the unit;

(C) to demonstrate that the criteria in Subsection R315-319-103(f)(2)(iii) have been met, the owner or operator shall submit:

(I) a certification signed by the owner or operator that the facility is in compliance with the requirements of Rule R315-319;

(II) visual representation of hydrogeologic information at and around the CCR units that supports the design, construction, and installation of the groundwater monitoring system. This includes:

(1) maps of groundwater monitoring well locations in relation to the CCR unit;

(2) well construction diagrams and drilling logs for each groundwater monitoring well; and

(3) maps that characterize the direction of groundwater flow accounting for seasonal variations;

(III) constituent concentrations, summarized in table form, at each groundwater monitoring well monitored during each sampling event;

(IV) description of site hydrogeology including stratigraphic cross sections;

(V) any corrective measures assessment required in Section R315-319-96;

(VI) any progress reports on remedy selection and design and the report of final remedy selection required in Subsection R315-319-97(a);

(VII) the most recent structural stability assessment required in Subsection R315-319-73(d); and

(VIII) the most recent safety factor assessment required in Subsection R315-319-73(e); and

(D) to demonstrate that the criteria in Subsection R315-319-103(f)(2)(iv) have been met, the owner or operator shall submit the closure plan required in Subsection R315-319-102(b) and a narrative that specifies and justifies the date by which they intend to stop receipt of waste into the unit to meet the closure deadlines;

(vi) the owner or operator bears responsibility for demonstrating qualification for authorization under Section R315-319-103. Failure to remain in compliance with any of the requirements of Rule R315-319 will result in the automatic loss of authorization under Section R315-319-103;

(vii) the owner or operator shall comply with the recordkeeping requirements specified in Subsection R315-319-105(i), the notification requirements specified in Subsection R315-319-106(i), and the internet posting requirements in Subsection R315-319-107(i);

(viii) upon submission of the demonstration to the director the owner or operator shall prepare and place in the facility's operating record and on its publicly accessible CCR internet site a notification that it has submitted a demonstration along with a copy of the demonstration;

(ix) upon receipt of a decision pursuant to Subsection R315-319-103(f)(3), the owner or operator shall place a copy of the decision in the facility's operating record and on the facility's publicly accessible CCR internet site; and

(x) the owner or operator shall prepare an annual progress report documenting the continued lack of alternative capacity and the progress toward the closure of the CCR surface impoundment. The owner or operator has completed the progress report when the report has been placed in the facility's operating record as required by Subsection R315-319-105(i)(20).

(3) Process to get authorization.

(i) Deadlines for Submission.

(A) Except as provided by Subsections R315-319-71(d)(2)(iii)(E) and R315-319-71(d)(2)(viii), the owner or operator shall submit the demonstration required under Subsection R315-319-103(f)(1)(iv), for an alternative deadline to stop receipt of waste pursuant to Subsection R315-319-103(f)(1), to the director for approval no later than November 30, 2020.

(B) An owner or operator may seek additional time beyond the time granted in the initial approval, in accordance with Subsection R315-319-103(f)(1)(vii), by submitting a new demonstration, as required under Subsection R315-319-103(f)(1)(iv), to the director for approval, no later than 14 days from determining that the stop receipt of waste deadline will not be met.

(C) Except as provided by Subsections R315-319-71(d)(2)(iii)(E) and R315-319-71(d)(2)(viii), the owner or operator shall submit the demonstration required under Subsection R315-319-103(f)(2)(v) to the director for approval no later than November 30, 2020.

(ii) The director will evaluate the demonstration and may request additional information to complete the review. Submission of a complete demonstration will toll the facility's deadline to stop receipt of waste until issuance of a decision under Subsection R315-319-103(f)(3)(iv). Incomplete submissions will not toll the facility's deadline and will be rejected without further process. Decisions issued under Subsection R315-319-103(f)(3)(ii) or R315-319-103(f)(3)(iv) will contain the facility's deadline to stop receipt of waste.

(iii) The director will publish the proposed decision on a complete demonstration on the UDEQ's website for a 15-day comment period. If the demonstration is particularly complex, the director will provide a comment period of 20 to 30 days.

(iv) After consideration of the comments, the director will issue a decision on the alternative compliance deadline within four months of receiving a complete demonstration.

(4) Transferring between site-specific alternatives. An owner or operator authorized to continue operating a CCR surface impoundment under Section R315-319-103 may at any time request authorization to transfer between operating the impoundment pursuant to Subsection R315-319-103(f)(1) or R315-319-103(f)(2), by submitting the information in Subsection R315-319-103(f)(4)(i) or R315-319-103(f)(4)(ii).

(i) Transfer from being regulated under Subsection R315-319-103(f)(1) to being regulated under R315-319-103(f)(2). The owner or operator of a surface impoundment authorized to operate pursuant to Subsection R315-319-103(f)(1) may request authorization to instead operate the surface impoundment in accordance with the requirements of Subsection R315-319-103(f)(2), by submitting a new demonstration that meets the requirements of Subsection R315-319-103(f)(2)(v) to the director. The director may approve the request only upon determining that the criteria at Subsections R315-319-103(f)(2)(i) through R315-319-103(f)(2)(iv) have been met.

(ii) Transfer from Subsection R315-319-103(f)(2) to R315-319-103(f)(1). The owner or operator of a surface impoundment authorized to operate pursuant to Subsection R315-319-103(f)(2) may request authorization to instead operate the surface impoundment in accordance with the requirements of Subsection R315-319-103(f)(1), by submitting a new demonstration that meets the requirements of Subsection R315-319-103(f)(1)(iv) to the director. The director will approve the request only upon determining that the criteria in Subsections R315-319-103(f)(1)(i) through R315-319-103(f)(1)(iii) and R315-319-103(f)(1)(vi) have been met.

(iii) The procedures in Subsection R315-319-103(f)(3) will apply to each request for transfer under Subsection R315-319-103(f)(4).

R315-319-104. Closure and Post-Closure Care - Post-Closure Care Requirements.

(a) Applicability.

(1) Except as provided by either Subsection R315-319-104(a)(2) or R315-319-104(a)(3), Section R315-319-104 applies to the owners or operators of CCR landfills, CCR surface impoundments, and lateral expansions of CCR units that are subject to the closure criteria under Section R315-319-102.

(2) An owner or operator of a CCR unit that elects to close a CCR unit by removing CCR as provided by Subsection R315-319-102(c) is not subject to the post-closure care criteria under Section R315-319-104.

(b) Post-closure care maintenance requirements. Following closure of the CCR unit, the owner or operator shall conduct post-closure care for the CCR unit, that shall consist of at least:

(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 Section R315-319-70, 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 Section R315-319-70; and

(3) maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of Sections R315-319-90 through R315-319-98.

(c) Post-closure care period.

(1) Except as provided by Subsection R315-319-104(c)(2), the owner or operator of the CCR unit shall 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 Section R315-319-95, the owner or operator shall continue to conduct post-closure care until the owner or operator returns to detection monitoring in accordance with Section R315-319-95.

(d) Written post-closure plan

(1) Content of the plan. The owner or operator of a CCR unit shall prepare a written post-closure plan and any amendments to the plan. The plan shall include, at a minimum, the information specified in Subsections R315-319-104(d)(1)(i) through R315-319-104(d)(1)(iii);

(i) a description of the monitoring and maintenance activities required in Subsection R315-319-104(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 may not disturb the integrity of the final cover, liners, or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in Sections R315-319-50 through R315-319-107. 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 shall be certified by a qualified professional engineer, and notification shall be provided to the director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible internet site.

(2) Deadline to prepare the initial written post-closure plan.

(i) Existing CCR landfills and existing CCR surface impoundments. No later than October 17, 2016, the owner or operator of the CCR unit shall prepare an initial written post-closure plan consistent with the requirements specified in Subsection R315-319-104(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 shall prepare an initial written post-closure plan consistent with the requirements specified in Subsection R315-319-104(d)(1).

(iii) The owner or operator has completed the written post-closure plan when the plan, including the certification required by Subsection R315-319-104(d)(4), has been placed in the facility's operating record as required by Subsection R315-319-105(i)(4).

(3) Amendment of a written post-closure plan.

(i) The owner or operator may amend the initial or any subsequent written post-closure plan developed pursuant to Subsection R315-319-104(d)(1) at any time.

(ii) The owner or operator shall amend the written closure plan when:

(A) there is a change in the operation of the CCR unit that would substantially affect the written post-closure plan in effect; or

(B) after post-closure activities have commenced, unanticipated events require a revision of the written post-closure plan.

(iii) The owner or operator shall amend the written post-closure plan at least 60 days before 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 shall amend the written post-closure plan no later than 30 days following the triggering event.

(4) The owner or operator of the CCR unit shall get a written certification from a qualified professional engineer that the initial and any amendment of the written post-closure plan meets the requirements of Section R315-319-104.

(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 shall prepare a notification verifying that post-closure care has been completed. The notification shall include the certification by a qualified professional engineer verifying that post-closure care has been completed in accordance with the closure plan specified in Subsection R315-319-104(d) and the requirements of Section R315-319-104. The owner or operator has completed the notification when it has been placed in the facility's operating record as required by Subsection R315-319-105(i)(13).

(f) The owner or operator of the CCR unit shall comply with the recordkeeping requirements specified in Subsection R315-319-105(i), the notification requirements specified in Subsection R315-319-106(i), and the internet requirements specified in Subsection R315-319-107(i).

R315-319-105. Recordkeeping Requirements.

(a) Each owner or operator of a CCR unit subject to the requirements of Sections R315-319-50 through R315-319-107 shall maintain files of the information required by Section R315-319-105 in a written operating record at their facility.

(b) Unless specified otherwise, each file shall 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 Sections R315-319-50 through R315-319-107 may comply with the requirements of Section R315-319-105 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 shall submit to the director any demonstration or documentation required by Sections R315-319-50 through R315-319-107.

(e) Location restrictions. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall place the demonstrations documenting whether or not the CCR unit is in compliance with the requirements under Subsections R315-319-60(a), R315-319-61(a), R315-319-62(a), R315-319-63(a), and R315-319-64(a), as it becomes available, in the facility's operating record.

(f) Design criteria. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall place the information required by Subsections R315-319-105(f)(1) through R315-319-105(i)(24), as it becomes available, in the facility's operating record:

(1) the design and construction certifications as required by Subsections R315-319-70(e) and R315-319-70(f);

(2) the documentation of liner type as required by Subsection R315-319-71(a);

(3) the design and construction certifications as required by Subsections R315-319-72(c) and R315-319-72(d);

(4) documentation prepared by the owner or operator stating that the permanent identification marker was installed as required by Subsections R315-319-73(a)(1) and R315-319-74(a)(1);

(5) the initial and periodic hazard potential classification assessments as required by Subsections R315-319-73(a)(2) and R315-319-74(a)(2);

(6) the EAP, and any amendment of the EAP, as required by Subsections R315-319-73(a)(3) and R315-319-74(a)(3), except that only the most recent EAP shall be maintained in the facility's operating record irrespective of the time requirement specified in Subsection R315-319-105(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 Subsections R315-319-73(a)(3)(i)(E) and R315-319-74(a)(3)(i)(E);

(8) documentation prepared by the owner or operator recording each activation of the EAP as required by Subsections R315-319-73(a)(3)(v) and R315-319-74(a)(3)(v);

(9) the history of construction, and any revisions of it, as required by Subsection R315-319-73(c), except that these files shall be maintained until the CCR unit completes closure of the unit in accordance with Section R315-319-102;

(10) the initial and periodic structural stability assessments as required by Subsections R315-319-73(d) and R315-319-74(d);

(11) documentation detailing the corrective measures taken to remedy the deficiency or release as required by Subsections R315-319-73(d)(2) and R315-319-74(d)(2);

(12) the initial and periodic safety factor assessments as required by Subsections R315-319-73(e) and 74(e);

(13) the design and construction plans, and any revisions of it, as required by Subsection R315-319-74(c), except that these files shall be maintained until the CCR unit completes closure of the unit in accordance with Section R315-319-102;

(14) The application and any supplemental materials submitted in support of the application as required by Subsection R315-319-71(d)(1)(i)(E);

(15) The alternative liner demonstration as required by Subsection R315-319-71(d)(1)(ii)(D);

(16) The alternative liner demonstration extension request as required by Subsection R315-319-71(d)(2)(ii)(D);

(17) The documentation prepared for the preliminary demonstration as required by Subsection R315-319-71(d)(2)(ii)(E);

(18) The notification of an incomplete application as required by Subsection R315-319-71(d)(2)(iii)(B);

(19) The decision on the application as required by Subsection R315-319-71(d)(2)(iii)(F);

(20) The final decision on the alternative liner demonstration as required by Subsection R315-319-71(d)(2)(vii);

(21) The alternative source demonstration as required under Subsection R315-319-71(d)(2)(ix)(A)(IV);

(22) The final decision on the alternative source demonstration as required under Subsection R315-319-71(d)(2)(ix)(A)(V);

(23) The final decision on the trend analysis as required under Subsection R315-319-71(d)(2)(ix)(B)(III); and

(24) The decision that the alternative source demonstration has been withdrawn as required under Subsection R315-319-71(d)(2)(ix)(C).

(g) Operating criteria. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall, as it becomes available, place the information required by Subsections R315-319-105(g)(1) through R315-319-105(g)(9) in the facility's operating record:

(1) the CCR fugitive dust control plan, and any subsequent amendment of the plan, required by Subsection R315-319-80(b), except that only the most recent control plan shall be maintained in the facility's operating record irrespective of the time requirement specified in Subsection R315-319-105(b);

(2) the annual CCR fugitive dust control report required by Subsection R315-319-80(c);

(3) the initial and periodic run-on and run-off control system plans as required by Subsection R315-319-81(c);

(4) the initial and periodic inflow design flood control system plan as required by Subsection R315-319-82(c);

(5) documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by Subsection R315-319-83(a);

(6) the periodic inspection report as required by Subsection R315-319-83(b)(2);

(7) documentation detailing the corrective measures taken to remedy the deficiency or release as required by Subsections R315-319-83(b)(5) and R315-319-84(b)(5);

(8) documentation recording the results of the weekly inspection by a qualified person as required by Subsection R315-319-84(a); and

(9) the periodic inspection report as required by Subsection R315-319-84(b)(2).

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall, as it becomes available, place the information required by Subsections R315-319-105(h)(1) through R315-319-105(h)(14) in the facility's operating record:

(1) the annual groundwater monitoring and corrective action report as required by Subsection R315-319-90(e);

(2) documentation of the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices as required by Subsection R315-319-91(e)(1);

(3) the groundwater monitoring system certification as required by Subsection R315-319-91(f);

(4) the selection of a statistical method certification as required by Subsection R315-319-93(f)(6);

(5) within 30 days of establishing an assessment monitoring program, the notification as required by Subsection R315-319-94(e)(3);

- (6) the results of Appendices III and IV to Rule R315-319 constituent concentrations as required by Subsection R315-319-95(d)(1);
- (7) within 30 days of returning to a detection monitoring program, the notification as required by Subsection R315-319-95(e);
- (8) within 30 days of detecting one or more constituents in Appendix IV to Rule R315-319 at statistically significant levels above the groundwater protection standard, the notifications as required by Subsection R315-319-95(g);
- (9) within 30 days of initiating the assessment of corrective measures requirements, the notification as required by Subsection R315-319-95(g)(5);
- (10) the completed assessment of corrective measures as required by Subsection R315-319-96(d);
- (11) documentation prepared by the owner or operator recording the public meeting for the corrective measures assessment as required by Subsection R315-319-96(e);
- (12) the semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report as required by Subsection R315-319-97(a), except that the selection of remedy report shall be maintained until the remedy has been completed;
- (13) within 30 days of completing the remedy, the notification as required by Subsection R315-319-98(e); and
- (14) the demonstration, including long-term performance data, supporting the suspension of groundwater monitoring requirements as required by Subsection R315-319-90(g).
 - (i) Closure and post-closure care. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall, as it becomes available, place the information required by Subsections R315-319-105(i)(1) through R315-319-105(i)(20) in the facility's operating record:
 - (1) the notification of intent to initiate closure of the CCR unit as required by Subsection R315-319-100(c)(1);
 - (2) the annual progress reports of closure implementation as required by Subsections R315-319-100(c)(2)(i) and R315-319-100(c)(2)(ii);
 - (3) the notification of closure completion as required by Subsection R315-319-100(c)(3);
 - (4) the written closure plan, and any amendment of the plan, as required by Subsection R315-319-102(b), except that only the most recent closure plan shall be maintained in the facility's operating record irrespective of the time requirement specified in Subsection R315-319-105(b);
 - (5) the written demonstrations, including the certification required by Subsection R315-319-102(e)(2)(iii), for a time extension for initiating closure as required by Subsection R315-319-102(e)(2)(ii);
 - (6) the written demonstrations, including the certification required by Subsection R315-319-102(f)(2)(iii), for a time extension for completing closure as required by Subsection R315-319-102(f)(2)(i);
 - (7) the notification of intent to close a CCR unit as required by Subsection R315-319-102(g);
 - (8) the notification of completion of closure of a CCR unit as required by Subsection R315-319-102(h);
 - (9) the notification recording a notation on the deed as required by Subsection R315-319-102(i);
 - (10) the notification of intent to comply with the alternative closure requirements as required by Subsection R315-319-103(c)(1);
 - (11) the annual progress reports under the alternative closure requirements as required by Subsection R315-319-103(c)(2);
 - (12) the written post-closure plan, and any amendment of the plan, as required by Subsection R315-319-104(d), except that only the most recent closure plan shall be maintained in the facility's operating record irrespective of the time requirement specified in Subsection R315-319-105(b);
 - (13) the notification of completion of post-closure care period as required by Subsection R315-319-104(e);
 - (14) the notification of intent to comply with the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by Subsection R315-319-103(f)(1)(ix)(A);
 - (15) the approved or denied demonstration for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by Subsection R315-319-103(f)(1)(ix)(B);
 - (16) the notification for requesting additional time to the alternative stop receipt of waste deadline as required by Subsection R315-319-103(f)(1)(ix)(C);
 - (17) the semiannual progress reports for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by Subsection R315-319-103(f)(1)(ix);
 - (18) the notification of intent to comply with the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boilers by a date certain as required by Subsection R315-319-103(f)(2)(viii);
 - (19) the approved or denied demonstration for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boilers by a date certain as required by Subsection R315-319-103(f)(2)(ix); and
 - (20) the annual progress report for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boilers by a date certain as required by Subsection R315-319-103(f)(2)(x).
 - (j) Retrofit criteria. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall, as it becomes available, place this information in the facility's operating record:
 - (1) the written retrofit plan, and any amendment of the plan, as required by Subsection R315-319-102(k)(2), except that only the most recent retrofit plan shall be maintained in the facility's operating record irrespective of the time requirement specified in Subsection R315-319-105(b);
 - (2) the notification of intent that the retrofit activities will proceed in accordance with the alternative procedures in Section R315-319-103;
 - (3) the annual progress reports required under the alternative requirements as required by Section R315-319-103;
 - (4) the written demonstrations, including the certification in Subsection R315-319-102(f)(2)(iii), for a time extension for completing retrofit activities as required by Subsection R315-319-102(k)(3);
 - (5) the notification of intent to initiate retrofit of a CCR unit as required by Subsection R315-319-102(k)(5); and
 - (6) the notification of completion of retrofit activities as required by Subsection R315-319-102(k)(6).

R315-319-106. Notification Requirements.

- (a) The notifications required under Subsections R315-319-106(e) through R315-319-106(i) shall be sent to the director before the close of business on the day the notification is required to be completed. For Section R315-319-106, before the close of business means the notification shall be postmarked or sent by electronic mail (email). If a notification deadline falls on a weekend or federal holiday, the notification deadline is automatically extended to the next business day.
 - (b) Reserved.
 - (c) Notifications may be combined as long as the deadline requirement for each notification is met.
 - (d) Unless otherwise required in Section R315-319-106, the notifications specified in Section R315-319-106 shall be sent to the director within 30 days of placing in the operating record the information required by Section R315-319-105.

(e) Location restrictions. The owner or operator of a CCR unit subject to the requirements of Sections R315-319-50 through R315-319-107 shall notify the director that each demonstration specified under Subsection R315-319-105(e) has been placed in the operating record and on the owner or operator's publicly accessible internet site.

(f) Design criteria. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall 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 shall:

(1) within 60 days of commencing construction of a new CCR unit, provide notification of the availability of the design certification specified under Subsection R315-319-105(f)(1) or R315-319-105(f)(3). If the owner or operator of the CCR unit elects to install an alternative composite liner, the owner or operator shall 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 Subsection R315-319-105(f)(1) or R315-319-105(f)(3);

(3) provide notification of the availability of the documentation of liner type specified under Subsection R315-319-105(f)(2);

(4) provide notification of the availability of the initial and periodic hazard potential classification assessments specified under Subsection R315-319-105(f)(5);

(5) provide notification of the availability of the EAP, and any revisions of the EAP, specified under Subsection R315-319-105(f)(6);

(6) provide notification of the availability of documentation prepared by the owner or operator recording the annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders specified under Subsection R315-319-105(f)(7);

(7) provide notification of documentation prepared by the owner or operator recording any activations of the EAP specified under Subsection R315-319-105(f)(8);

(8) provide notification of the availability of the history of construction, and any revision of it, specified under Subsection R315-319-105(f)(9);

(9) provide notification of the availability of the initial and periodic structural stability assessments specified under Subsection R315-319-105(f)(10);

(10) provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under Subsection R315-319-105(f)(11);

(11) provide notification of the availability of the initial and periodic safety factor assessments specified under Subsection R315-319-105(f)(12);

(12) provide notification of the availability of the design and construction plans, and any revision of them, specified under Subsection R315-319-105(f)(13);

(13) provide notification of the availability of the application and any supplemental materials submitted in support of the application specified under Subsection R315-319-105(f)(14);

(14) provide notification of the availability of the alternative liner demonstration specified under Subsection R315-319-105(f)(15);

(15) provide notification of the availability of the alternative liner demonstration extension request specified under Subsection R315-319-105(f)(16);

(16) provide notification of the availability of the documentation prepared for the preliminary demonstration specified under Subsection R315-319-105(f)(17);

(17) provide notification of the availability of the notification of an incomplete application specified under Subsection R315-319-105(f)(18);

(18) provide notification of the availability of the decision on the application specified under Subsection R315-319-105(f)(19);

(19) provide notification of the availability of the final decision on the alternative liner demonstration specified under Subsection R315-319-105(f)(20);

(20) provide notification of the availability of the alternative source demonstration specified under Subsection R315-319-105(f)(21);

(21) provide notification of the availability of the final decision on the alternative source demonstration specified under Subsection R315-319-105(f)(22);

(22) provide notification of the final decision on the trend analysis specified under Subsection R315-319-105(f)(23); and

(23) provide notification of the decision that the alternative source demonstration has been withdrawn specified under Subsection R315-319-105(f)(24).

(g) Operating criteria. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall 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 shall:

(1) provide notification of the availability of the CCR fugitive dust control plan, or any subsequent amendment of the plan, specified under Subsection R315-319-105(g)(1);

(2) provide notification of the availability of the annual CCR fugitive dust control report specified under Subsection R315-319-105(g)(2);

(3) provide notification of the availability of the initial and periodic run-on and run-off control system plans specified under Subsection R315-319-105(g)(3);

(4) provide notification of the availability of the initial and periodic inflow design flood control system plans specified under Subsection R315-319-105(g)(4);

(5) provide notification of the availability of the periodic inspection reports specified under Subsection R315-319-105(g)(6);

(6) provide notification of the availability of the documentation detailing the corrective measures taken to remedy the deficiency or release specified under Subsection R315-319-105(g)(7); and

(7) provide notification of the availability of the periodic inspection reports specified under Subsection R315-319-105(g)(9).

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall 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 shall:

(1) provide notification of the availability of the annual groundwater monitoring and corrective action report specified under Subsection R315-319-105(h)(1);

(2) provide notification of the availability of the groundwater monitoring system certification specified under Subsection R315-319-105(h)(3);

- (3) provide notification of the availability of the selection of a statistical method certification specified under Subsection R315-319-105(h)(4);
- (4) provide notification that an assessment monitoring programs has been established specified under Subsection R315-319-105(h)(5);
- (5) provide notification that the CCR unit is returning to a detection monitoring program specified under Subsection R315-319-105(h)(7);
- (6) provide notification that one or more constituents in Appendix IV to Rule R315-319 have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under Subsection R315-319-105(h)(8);
- (7) provide notification that an assessment of corrective measures has been initiated specified under Subsection R315-319-105(h)(9);
- (8) provide notification of the availability of assessment of corrective measures specified under Subsection R315-319-105(h)(10);
- (9) provide notification of the availability of the semiannual report describing the progress in selecting and designing the remedy and the selection of remedy report specified under Subsection R315-319-105(h)(12);
- (10) provide notification of the completion of the remedy specified under Subsection R315-319-105(h)(13); and
- (11) provide the demonstration supporting the suspension of groundwater monitoring requirements specified under Subsection R315-319-105(h)(14).

(i) Closure and post-closure care. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall 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 shall:

- (1) provide notification of the intent to initiate closure of the CCR unit specified under Subsection R315-319-105(i)(1);
- (2) provide notification of the availability of the annual progress reports of closure implementation specified under Subsection R315-319-105(i)(2);
- (3) provide notification of closure completion specified under Subsection R315-319-105(i)(3);
- (4) provide notification of the availability of the written closure plan, and any amendment of the plan, specified under Subsection R315-319-105(i)(4);
- (5) provide notification of the availability of the demonstration for a time extension for initiating closure specified under Subsection R315-319-105(i)(5);
- (6) provide notification of the availability of the demonstration for a time extension for completing closure specified under Subsection R315-319-105(i)(6);
- (7) provide notification of intent to close a CCR unit specified under Subsection R315-319-105(i)(7);
- (8) provide notification of completion of closure of a CCR unit specified under Subsection R315-319-105(i)(8);
- (9) provide notification of the deed notation as required by Subsection R315-319-105(i)(9);
- (10) provide notification of intent to comply with the alternative closure requirements specified under Subsection R315-319-105(i)(10);
- (11) the annual progress reports under the alternative closure requirements as required by Subsection R315-319-105(i)(11);
- (12) provide notification of the availability of the written post-closure plan, and any amendment of the plan, specified under Subsection R315-319-105(i)(12);
- (13) provide notification of completion of post-closure care specified under Subsection R315-319-105(i)(13);
- (14) provide the notification of intent to comply with the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as specified under Subsection R315-319-105(i)(14);
- (15) provide the approved or denied demonstration for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by as specified under Subsection R315-319-105(i)(15);
- (16) provide the notification for requesting additional time to the alternative stop receipt of waste deadline as required by Subsection R315-319-105(i)(16);
- (17) the semiannual progress reports for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as specified under Subsection R315-319-105(i)(17);
- (18) provide the notification of intent to comply with the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boilers by a date certain as specified under Subsection R315-319-105(i)(18);
- (19) provide the approved or denied demonstration for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boilers by a date certain as required by Subsection R315-319-105(i)(19); and
- (20) the annual progress report for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boilers by a date certain as required by Subsection R315-319-105(i)(20).

(j) Retrofit criteria. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall 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 shall:

- (1) provide notification of the availability of the written retrofit plan, and any amendment of the plan, specified under Subsection R315-319-105(j)(1);
- (2) provide notification of intent to comply with the alternative retrofit requirements specified under Subsection R315-319-105(j)(2);
- (3) the annual progress reports under the alternative retrofit requirements as required by Subsection R315-319-105(j)(3);
- (4) provide notification of the availability of the demonstration for a time extension for completing retrofit activities specified under Subsection R315-319-105(j)(4);
- (5) provide notification of intent to initiate retrofit of a CCR unit specified under Subsection R315-319-105(j)(5); and
- (6) provide notification of completion of retrofit activities specified under Subsection R315-319-105(j)(6).

R315-319-107. Publicly Accessible Internet Site Requirements.

(a) Each owner or operator of a CCR unit subject to the requirements of Sections R315-319-50 through R315-319-107 shall maintain a publicly accessible internet site, CCR web site, containing the information specified in Section R315-319-107. The owner or operator's web site shall be titled "CCR Rule Compliance Data and Information." The website shall ensure that the information required to be posted is immediately available to anyone visiting the site, without requiring any prerequisite, such as registration or a requirement to submit a document request. The required information shall be clearly identifiable and shall be able to be immediately printed and downloaded by anyone accessing the site. If the owner or operator changes the web address, that is the Uniform Resource Locator (URL) at any point, they shall notify the director within 14 days of making the change. The facility's CCR website shall also have a "contact us" form or a specific email address posted on the website for the public to use to submit questions and issues relating to the availability of information on the website.

(b) An owner or operator of more than one CCR unit subject to Sections R315-319-50 through R315-319-107 may comply with the requirements of Section R315-319-107 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 Section R315-319-107, the information required to be posted to the CCR web site shall 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 Section R315-319-107, the information shall be posted to the CCR web site within 30 days of placing the pertinent information required by Section R315-319-105 in the operating record.

(e) Location restrictions. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall place each demonstration specified under Subsection R315-319-105(e) on the owner or operator's CCR web site.

(f) Design criteria. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall place the information required by Subsections R315-319-107(f)(1) through R315-319-107(f)(23) 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 Subsection R315-319-105(f)(1) or R315-319-105(f)(3);

(2) no later than the date of initial receipt of CCR by a new CCR unit, the construction certification specified under Subsection R315-319-105(f)(1) or R315-319-105(f)(3);

(3) the documentation of liner type specified under Subsection R315-319-105(f)(2);

(4) the initial and periodic hazard potential classification assessments specified under Subsection R315-319-105(f)(5);

(5) the EAP specified under Subsection R315-319-105(f)(6), except that only the most recent EAP shall be maintained on the CCR web site irrespective of the time requirement specified in Subsection R315-319-107(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 Subsection R315-319-105(f)(7);

(7) documentation prepared by the owner or operator recording any activation of the EAP specified under Subsection R315-319-105(f)(8);

(8) the history of construction, and any revisions of it, specified under Subsection R315-319-105(f)(9);

(9) the initial and periodic structural stability assessments specified under Subsection R315-319-105(f)(10);

(10) the documentation detailing the corrective measures taken to remedy the deficiency or release specified under Subsection R315-319-105(f)(11);

(11) the initial and periodic safety factor assessments specified under Subsection R315-319-105(f)(12);

(12) the design and construction plans, and any revisions of them, specified under Subsection R315-319-105(f)(13);

(13) the application and any supplemental materials submitted in support of the application specified under Subsection R315-319-105(f)(14);

(14) the alternative liner demonstration specified under Subsection R315-319-105(f)(15);

(15) the alternative liner demonstration specified under Subsection R315-319-105(f)(16);

(16) the documentation prepared for the preliminary demonstration specified under Subsection R315-319-105(f)(17);

(17) the notification of an incomplete application specified under Subsection R315-319-105(f)(18);

(18) the decision on the application specified under Subsection R315-319-105(f)(19);

(19) the final decision on the alternative liner demonstration specified under Subsection R315-319-105(f)(20);

(20) the alternative source demonstration specified under Subsection R315-319-105(f)(21);

(21) the final decision on the alternative source demonstration specified under Subsection R315-319-105(f)(22);

(22) the final decision on the trend analysis specified under Subsection R315-319-105(f)(23); and

(23) the decision that the alternative source demonstration has been withdrawn specified under Subsection R315-319-105(f)(24).

(g) Operating criteria. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall place the information required by Subsections R315-319-107(g)(1) through R315-319-107(g)(7) 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 Subsection R315-319-105(g)(1) except that only the most recent plan shall be maintained on the CCR web site irrespective of the time requirement specified in Subsection R315-319-107(c);

(2) the annual CCR fugitive dust control report specified under Subsection R315-319-105(g)(2);

(3) the initial and periodic run-on and run-off control system plans specified under Subsection R315-319-105(g)(3);

(4) the initial and periodic inflow design flood control system plans specified under Subsection R315-319-105(g)(4);

(5) the periodic inspection reports specified under Subsection R315-319-105(g)(6);

(6) the documentation detailing the corrective measures taken to remedy the deficiency or release specified under Subsection R315-319-105(g)(7); and

(7) the periodic inspection reports specified under Subsection R315-319-105(g)(9).

(h) Groundwater monitoring and corrective action. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall place the information required by Subsections R315-319-107(h)(1) through R315-319-107(h)(11) on the owner or operator's CCR web site:

(1) the annual groundwater monitoring and corrective action report specified under Subsection R315-319-105(h)(1);

(2) the groundwater monitoring system certification specified under Subsection R315-319-105(h)(3);

(3) the selection of a statistical method certification specified under Subsection R315-319-105(h)(4);

(4) the notification that an assessment monitoring programs has been established specified under Subsection R315-319-105(h)(5);

(5) the notification that the CCR unit is returning to a detection monitoring program specified under Subsection R315-319-105(h)(7);

(6) the notification that one or more constituents in appendix IV to Rule R315-319 have been detected at statistically significant levels above the groundwater protection standard and the notifications to land owners specified under Subsection R315-319-105(h)(8);

(7) the notification that an assessment of corrective measures has been initiated specified under Subsection R315-319-105(h)(9);

(8) the assessment of corrective measures specified under Subsection R315-319-105(h)(10);

(9) the semiannual reports describing the progress in selecting and designing remedy and the selection of remedy report specified under Subsection R315-319-105(h)(12), except that the selection of the remedy report shall be maintained until the remedy has been completed;

(10) the notification that the remedy has been completed specified under Subsection R315-319-105(h)(13); and

(11) the demonstration supporting the suspension of groundwater monitoring requirements specified under Subsection R315-319-105(h)(14).

- (i) Closure and post-closure care. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall place the information required by Subsections R315-319-107(i)(1) through R315-319-107(i)(2) on the owner or operator's CCR web site:
- (1) the notification of intent to initiate closure of the CCR unit specified under Subsection R315-319-105(i)(1);
 - (2) the annual progress reports of closure implementation specified under Subsection R315-319-105(i)(2);
 - (3) the notification of closure completion specified under Subsection R315-319-105(i)(3);
 - (4) the written closure plan, and any amendment of the plan, specified under Subsection R315-319-105(i)(4);
 - (5) the demonstrations for a time extension for initiating closure specified under Subsection R315-319-105(i)(5);
 - (6) the demonstrations for a time extension for completing closure specified under Subsection R315-319-105(i)(6);
 - (7) the notification of intent to close a CCR unit specified under Subsection R315-319-105(i)(7);
 - (8) the notification of completion of closure of a CCR unit specified under Subsection R315-319-105(i)(8);
 - (9) the notification recording a notation on the deed as required by Subsection R315-319-105(i)(9);
 - (10) the notification of intent to comply with the alternative closure requirements as required by Subsection R315-319-105(i)(10);
 - (11) the annual progress reports under the alternative closure requirements as required by Subsection R315-319-105(i)(11);
 - (12) the written post-closure plan, and any amendment of the plan, specified under Subsection R315-319-105(i)(12);
 - (13) the notification of completion of post-closure care specified under Subsection R315-319-105(i)(13);
 - (14) the notification of intent to comply with the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as specified under Subsection R315-319-105(i)(14);
 - (15) the approved or denied demonstration for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as required by as specified under Subsection R315-319-105(i)(15);
 - (16) the notification for requesting additional time to the alternative stop receipt of waste deadline as required by Subsection R315-319-105(i)(16);
 - (17) the semiannual progress reports for the site-specific alternative to initiation of closure due to development of alternative capacity infeasible as specified under Subsection R315-319-105(i)(17);
 - (18) the notification of intent to comply with the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boilers by a date certain as specified under Subsection R315-319-105(i)(18);
 - (19) the approved or denied demonstration for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boilers by a date certain as required by Subsection R315-319-105(i)(19); and
 - (20) the annual progress report for the site-specific alternative to initiation of closure due to permanent cessation of a coal-fired boilers by a date certain as required by Subsection R315-319-105(i)(20).
- (j) Retrofit criteria. The owner or operator of a CCR unit subject to Sections R315-319-50 through R315-319-107 shall place the information required by Subsections R315-319-107(j)(1) through R315-319-107(j)(6) on the owner or operator's CCR web site:
- (1) the written retrofit plan, and any amendment of the plan, specified under Subsection R315-319-105(j)(1);
 - (2) the notification of intent to comply with the alternative retrofit requirements as required by Subsection R315-319-105(j)(2);
 - (3) the annual progress reports under the alternative retrofit requirements as required by Subsection R315-319-105(j)(3);
 - (4) the demonstrations for a time extension for completing retrofit activities specified under Subsection R315-319-105(j)(4);
 - (5) the notification of intent to retrofit a CCR unit specified under Subsection R315-319-105(j)(5); and
 - (6) the notification of completion of retrofit activities specified under Subsection R315-319-105(j)(6).

R315-319-108. Appendix III to Rule R315-319 - Constituents for Detection Monitoring.

Table 1
Common Name ¹
Boron
Calcium
Chloride
Fluoride
pH
Sulfate
Total Dissolved Solids (TDS)
¹ Common names are those widely used in government rules and regulations, scientific publications, and commerce; synonyms exist for many chemicals.

R315-319-109. Appendix IV to Rule R315-319 - Constituents for Assessment Monitoring.

Table 2
Common Name ¹
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium

Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228 combined
¹ Common names are those widely used in government rules and regulations, scientific publications, and commerce; synonyms exist for many chemicals.

KEY: permit, solid waste, coal ash

Date of Last Change: September 15, 2025

Notice of Continuation: July 8, 2021

Authorizing, and Implemented or Interpreted Law: 19-6-108

UTAH WASTE MANAGEMENT AND RADIATION CONTROL BOARD

Executive Summary

Proposed Stipulated Compliance Order No. 2509089

Barnes Group Inc. DBA

Barnes Aerospace Ogden

UTR000010025

June 11, 2026

What is the issue before the Board?	This is a Proposed Stipulated Compliance Order No. 2509089 with Barnes Group Inc. DBA Barnes Aerospace Ogden to resolve Notice of Violation No. 2408112.
What is the historical background or context for this issue?	<p>The proposed Stipulated Compliance Order (SCO) settles 14 violations and includes a total penalty of \$195,020.00. Violations were observed during a July 16, 2024 Comprehensive Evaluation Inspection resulting from an anonymous complaint to the United States Environmental Protection Agency in December 2023.</p> <p>An additional violation, agreed to by both parties, was included in the SCO regarding transport of a drum-top lamp crusher without a hazardous waste manifest.</p>
What is the governing statutory or regulatory citation?	Section 19-6-104 of the Utah Solid and Hazardous Waste Act authorizes the Board to issue orders and approve or disapprove settlement negotiated by the Director with a civil penalty over \$25,000.00.
Is Board action required?	No. This is an informational item only.
What is the Division Director's recommendation?	The Director will provide a recommendation following the public comment period at a future Board meeting.
Where can more information be obtained?	<p>For technical information, please contact Sally Kaiser, Environmental Engineer, Hazardous Waste Section at 385-499-4929.</p> <p>For legal information, please contact Brenden Catt, Assistant Attorney General, Utah Attorney General's Office at 385-379-2591.</p>

DSHW-2026-002039

Attachments:

Stipulated Compliance Order No. 2509089 (DSHW-2025-005182)

Penalty Narrative (DSHW-2025-005181)

Notice of Violation No. 2408112 (DSHW-2024-008395)

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In the Matter of:	:	STIPULATED COMPLIANCE ORDER
	:	
Barnes Group Inc. DBA	:	No. 2509089
Barnes Aerospace Ogden	:	
Notice of Violation and Compliance Order	:	
No. 2408112	:	
UTR000010025	:	

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This **STIPULATED COMPLIANCE ORDER (SCO)** is issued by the DIRECTOR OF THE UTAH DIVISION OF WASTE MANAGEMENT AND RADIATION CONTROL (Director) pursuant to the Utah Solid and Hazardous Waste Act (SHWA), Utah Code Section 19-6-101 *et seq.*, the Utah Used Oil Management Act (UOMA), Utah Code Section 19-6-701 *et seq.*, and Utah Administrative Code R315 (the Rules).

JURISDICTION

1. The Director has jurisdiction over the subject matter of this SCO pursuant to Utah Code Sections 19-6-107, 19-6-112, and 19-6-721 and jurisdiction over Barnes Group Inc. (Barnes). Barnes consents to and will not challenge issuance of this SCO or the Director’s jurisdiction to enter into and enforce this SCO.
2. Barnes and the Director are collectively referred to as the "parties" and individually as a "party" to this SCO.
3. The Utah Waste Management and Radiation Control Board has authority to review and approve or disapprove this SCO pursuant to Utah Code Section 19-6-104(1)(e).

FINDINGS

4. Barnes is a Delaware corporation registered to do business in the State of Utah. Barnes is the operator of the Barnes Aerospace Ogden Facility, located at 1025 South Depot Drive, Ogden, Utah 84404 (the Facility).
5. The Facility manufactures aircraft, engine, and aftermarket components. Barnes operates the Facility under the provisions of the SHWA, the UOMA, and the Rules.
6. Barnes is a “person” as defined in Utah Code Section 19-1-103(4) and is subject to all applicable provisions of the SHWA, the UOMA, and the Rules.
7. Pursuant to Utah Code Sections 19-6-109 and 19-6-705, authorized representatives of the Director (inspectors) conducted a compliance evaluation inspection at the Facility on July 16, 2024.

8. On January 21, 2025, the Director issued a Request for Information (RFI) to Barnes (the First RFI) to clarify items observed during the compliance evaluation inspection (DSHW-2025-000115).
9. On February 17, 2025, Barnes requested an extension to respond to the First RFI (DSHW-2025-000973). On February 19, 2025, the Director granted the request and provided Barnes until March 24, 2025, to respond to the First RFI (DSHW-2025-000944).
10. On March 24, 2025, the Director received a response to the First RFI (DSHW-2025-001616).
11. On May 8, 2025, the Director issued Notice of Violation and Compliance Order No. 2408112 (NOV/CO) to Barnes (DSHW-2024-008395).
12. On June 2, 2025, Barnes requested an extension to comply with the Compliance Orders 4(a), 4(b), and 4(c) of the NOV/CO (DSHW-2025-002717), which it supplemented on June 5, 2025 (DSHW-2025-002751).
13. On June 6, 2025, the Director approved the extension request to extend the time for Barnes to comply with the Compliance Orders 4(a), 4(b), and 4(c), and pursuant thereto required Barnes to submit monthly reports documenting its efforts toward complying with the NOV/CO (DSHW-2025-002730).
14. On June 6, 2025, the Director received a response to the NOV/CO (DSHW-2025-002800) with corrective actions and a response regarding prevention of future compliance issues.
15. On June 19, 2025, the Director received a hazardous waste manifest and land disposal restriction (LDR) form for the disposal of the drum-top lamp crusher (DSHW-2025-002954). The hazardous waste manifest and LDR form were signed by an employee of GrayMar Environmental. The LDR form did not include the EPA ID number.
16. On June 24, 2025, the Division requested via email a correction to the manifest and LDR form.
17. On July 1, 2025, the Director received from Barnes the first monthly report on its efforts toward complying with the NOV/CO (DSHW-2025-003112).
18. On July 9, 2025, Barnes responded to the Division's June 24, 2025, email but failed to include proper training documentation or proper authorization documentation for a GrayMar employee to sign Barnes hazardous waste manifests and LDR forms (DSHW-2025-005165). Moreover, Barnes' response and further investigation revealed that Barnes had shipped the drum-top lamp crusher waste from the Facility without a manifest, as required by Utah Admin. Code R315-262-20(a)(1). That violation has been added to this SCO for purposes of efficient resolution of the NOV/CO and associated violations.
19. On July 21, 2025, the Director issued a second Request for Information to Barnes (the Second RFI) to clarify Barnes' corporate affiliations and ownership of the Facility (DSHW-2025-003128).
20. On August 1, 2025, the Director received from Barnes the second monthly report on its efforts toward complying with the NOV/CO (DSHW-2025-003559).
21. On August 20, 2025, the Director received a response to the Second RFI clarifying that Barnes operates and generates hazardous waste at the Facility (DSHW-2025-004060). The Director has relied on Barnes' representations in its August 20, 2025, response to facilitate its compliance with the SHWA, UOMA, and the Rules and in negotiating this SCO to resolve the NOV/CO.

22. On September 2, 2025, the Director received from Barnes the third monthly report on its efforts toward complying with the NOV/CO (DSHW-2025-004498).
23. On September 16, 2025, the Director and Barnes, through their respective legal representatives, executed a Tolling Agreement, establishing a tolling period between September 12, 2025, and September 12, 2026 (DSHW-2025-004810).
24. On October 1, 2025, the Director received from Barnes the fourth monthly report on its efforts toward complying with the NOV/CO (DSHW-2025-005044).
25. On November 3, 2025, the Director received from Barnes the fifth monthly report on its efforts toward complying with the NOV/CO (DSHW-2025-005618).
26. On November 3, 2025, the Director also received from Barnes a Decontamination Report, which documented its decontamination steps and supporting analytical data, as required by the NOV/CO (DSHW-2025-005617).
27. In accordance with the Civil Penalty Policy, Utah Admin. Code R315-102 *et seq.*, which considers such factors as the gravity of the violations, the extent of deviation from the Rules, the potential for harm to human health and the environment and harm to the regulatory program, good faith efforts to comply, and other factors, the Director calculated and proposed a penalty based on the violations alleged in the NOV/CO.

STIPULATED COMPLIANCE ORDER

28. This SCO has been negotiated in good faith, and the parties now wish to fully resolve the NOV/CO without further administrative or judicial proceedings.
29. In full settlement of the violations alleged in the NOV/CO, Barnes shall pay a penalty of \$195,020.00 (one hundred ninety-five thousand twenty dollars). Payment shall be made within 30 days of the Effective Date of this SCO. Payment shall be made to the State of Utah, Department of Environmental Quality, c/o Director, Division of Waste Management and Radiation Control, P.O. Box 144880, Salt Lake City, Utah 84114-4880.

EFFECTIVE DATE

30. This SCO shall become effective upon the date of execution by the Director (the Effective Date).

EFFECT OF THE ORDER

31. For the purpose of this SCO, the parties agree and stipulate to the above stated facts. The obligations in this SCO apply to and are binding upon the Division of Waste Management and Radiation Control and upon Barnes and any of Barnes' successors, assigns, or other entities or persons otherwise bound by law.
32. The stipulations contained herein are for the purposes of settlement and shall not be considered admissions by any party and shall not be used by any person related or unrelated to this SCO for purposes other than determining the basis of this SCO. Nothing contained herein shall be deemed to

constitute a waiver by the State of Utah of its right to initiate an enforcement action, including civil penalties, against Barnes in the event of future non-compliance with this SCO, the SHWA, the UOMA, or the Rules; nor shall the State of Utah be precluded in any way from taking appropriate action should such a situation arise again at the Facility. However, entry into this SCO shall relieve Barnes of all liability for violations that arose or could have arisen with respect to the allegations contained in the NOV/CO.

33. As of the Effective Date, this SCO will be a final, non-appealable administrative order subject to the civil enforcement provisions of Utah Code Section 63G-4-501 *et seq.* and other applicable law, including Utah Code Sections 19-6-112 and 19-6-721.1.

PUBLIC PARTICIPATION

34. This SCO shall be subject to public notice and comment for a period of at least 30 days (Comment Period) in accordance with Utah Admin. Code R315-124-34. The Director reserves the right to withdraw or withhold his consent if any comment received during the Comment Period discloses facts or considerations indicating this SCO is inappropriate, improper, or inadequate.

SIGNATORY

35. The undersigned representative of Barnes certifies that the representative is authorized to enter into and execute this SCO and to legally bind Barnes.

Pursuant to the Utah Solid and Hazardous Waste Act, Utah Code Section 19-6-101 *et seq.*, and the Utah Used Oil Management Act, Utah Code Section 19-6-701 *et seq.*, *in the Matter of Barnes Group Inc. Notice of Violation and Compliance Order No. 2408112*, the parties hereto mutually agree and consent to STIPULATED COMPLIANCE ORDER No. 2509089 as evidenced below:

Barnes Group Inc.

THE STATE OF UTAH
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WASTE MANAGEMENT
AND RADIATION CONTROL

Kristin Layton, General Manager
Barnes Aerospace Division

Ted H. Sonnenburg, Director

Date: _____

Date: _____

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Number: 1

Finding Number: 17

Violation Description: **Failure to label used oil containers with the words “Used Oil.”**

1. Gravity Based Penalty - **\$3,200.00**

(a) Potential for Harm – **MODERATE**

Barnes failed to properly label containers of used oil near a surface grinder at the Facility, which poses a medium risk of exposing humans or other environmental receptors to used oil because not properly labeling containers could lead to mismanagement of the used oil. Failing to properly label used oil containers also poses a medium adverse effect on the statutory or regulatory purposes or procedures for implementing the used oil program because proper labeling is fundamental to the used oil program and the Division’s ability to identify and evaluate compliance with the UOMA and the Rules.

(b) Extent of Deviation – **MODERATE**

Barnes deviated significantly from the regulatory requirement by not properly labeling the used oil collected in two open crates at both ends of a surface grinder with the words “Used Oil.”

(c) Multiple Event/Multi-day - N/A

2. Adjustment Factors (if applicable)

(a) Good Faith - N/A

(b) Willfulness/Negligence - N/A

(c) History of Compliance N/A

(d) History of Noncompliance - N/A

(e) Ability to Pay - N/A

(f) Other Unique Factors - N/A

3. Economic Benefit – Economic benefit was evaluated and determined to be negligible since the cost of labeling containers of used oil with the words “Used Oil” is negligible.

4. Recalculation of Penalty Based on New Information - N/A

TOTAL: \$3,200.00

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Number: 2

Finding Number: 18

Violation Description: **Failure to ensure that containers storing used oil are closed except when adding or removing oil.**

1. Gravity Based Penalty - **\$3,200.00**

(a) Potential for Harm – **MODERATE**

Barnes failed to keep two used oil containers near a surface grinder closed, which poses a medium risk of exposing humans or other environmental receptors to used oil because it could lead to mismanagement of the used oil, could spill, or could be combined with other material or constituents. Failing to keep used oil containers closed also poses a medium adverse effect on the statutory or regulatory purposes or procedures for implementing the used oil program because proper container management is fundamental to the management of used oil.

(b) Extent of Deviation – **MODERATE**

Barnes significantly deviated from the requirement of the regulation because two crates of used oil near the surface grinder were open and used oil was not being added to or removed from those open containers.

(c) Multiple Event/Multi-day - N/A

2. Adjustment Factors (if applicable) - N/A

(a) Good Faith - N/A

(b) Willfulness/Negligence – N/A

(c) History of Compliance – N/A

(d) History of Noncompliance - N/A

(e) Ability to Pay - N/A

(f) Other Unique Factors - N/A

3. Economic Benefit – N/A

4. Recalculation of Penalty Based on New Information – N/A

TOTAL: \$3,200.00

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Number: 3

Finding Number: 19

Violation Description: **Failure to take immediate action to clean up and properly manage released or spilled used oil.**

1. Gravity Based Penalty - **\$2,500.00**

(a) Potential for Harm – **MODERATE**

Barnes failed to take immediate action to clean up and properly manage spilled used oil, which poses a medium risk of exposing humans or other environmental receptors to used oil because not immediately cleaning up a used oil release can cause further releases to the environment and workers to slip, trip, and fall.

Failing to take immediate action to clean up and properly manage spilled used oil also poses a medium adverse effect on the statutory or regulatory purposes or procedures for implementing the used oil program because preventing releases is fundamental to the proper management of used oil.

(b) Extent of Deviation – **MODERATE**

Barnes significantly deviated from the requirement of this regulation because Barnes failed to take immediate action to clean up the release, and rather than fixing the leaks in the surface grinder that were the source of the release, Barnes used non-slip pads and absorbent placed in front of the surface grinder.

(c) Multiple Event/Multi-day - N/A

2. Adjustment Factors (if applicable)

(a) Good Faith – N/A

(b) Willfulness/Negligence - Negotiated

(c) History of Compliance or Noncompliance - N/A

(d) Ability to Pay - N/A

(e) Other Unique Factors - N/A

3. Economic Benefit – N/A

4. Recalculation of Penalty Based on New Information –N/A

TOTAL: \$2,500.00

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATION AND CONSENT ORDER**

NOV/CO # 2408112

Violation Number: 4
Finding Number: 20

Violation Description: **Failure to mark or label containers with an indication of hazards of the contents and the date that each period of accumulation began.**

1. Gravity Based Penalty: **\$4,160.00**

(a) Potential for Harm – **MODERATE**

Barnes failed to properly label containers of hazardous waste with an indication of hazards of the contents and date that each period of accumulation began, which poses a medium risk of exposing humans or other environmental receptors to hazardous waste because, without proper labeling, handlers could mismanage the containers.

Failing to properly label containers of hazardous waste also poses a medium adverse effect on the statutory or regulatory purposes or procedures for implementing the hazardous waste program because it interferes with the Division's ability to inspect the Facility, identify hazardous waste, and evaluate compliance with the SHWA and the Rules.

(b) Extent of Deviation – **MODERATE**

Barnes significantly deviated from the requirements of the regulation because inspectors observed three 55-gallon blue poly drums without an indication of the hazards of the contents or the date that each period of accumulation began.

(c) Multiple Event/Multi-day – N/A

2. Adjustment Factors (if applicable)

(a) Good faith – NA

(b) Willfulness/Negligence – N/A

(c) History of Compliance or Noncompliance – N/A

(d) Ability to pay – N/A

(e) Other Unique Factors – N/A

3. Economic Benefit – Economic benefit was evaluated but determined to be negligible since labels were available.

4. Recalculation of Penalty based on New Information – N/A

TOTAL: \$4,160.00

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Number 5

Finding Number: 21

Violation Description: **Accumulating hazardous waste in containers in poor condition and failing to transfer the hazardous waste to containers in good condition.**

1. Gravity Based Penalty - **\$13,000.00**

(a) Potential for Harm – **MAJOR**

Barnes failed to properly manage hazardous waste containers and accumulated hazardous waste in containers in poor condition, which poses a relatively high risk of exposing humans or other environmental receptors to hazardous waste because containers in poor condition can begin to deteriorate and are more likely to release hazardous waste to groundwater or soil. These releases could expose workers and the environment to hazardous waste and hazardous constituents.

Failing to properly manage hazardous waste containers and accumulating hazardous waste in containers in poor condition also has a relatively high adverse effect on the statutory and regulatory purposes for implementing the hazardous waste program because storing hazardous waste in containers in poor condition undermines the purpose of the program to manage waste from cradle to grave.

(b) Extent of Deviation – **MODERATE**

Barnes deviated from the requirements of this regulation to such an extent that most important requirements were not met, resulting in substantial non-compliance because three 55-gallon blue poly drums of hazardous waste were bulging and leaking. Barnes failed to transfer hazardous waste from the three 55-gallon blue poly drums of hazardous waste in poor condition to containers in good condition.

(c) Multiple Event/Multi-day - N/A

2. Adjustment Factors (if applicable) - N/A

(a) Good Faith - N/A

(b) Willfulness/Negligence – Negotiated \$1,570.00

(c) History of Compliance - N/A

(d) History of Noncompliance - N/A

(e) Ability to Pay - N/A

(f) Other Unique Factors - N/A

3. Economic Benefit - **Negotiated**

4. Recalculation of Penalty Based on New Information –N/A

TOTAL: \$14,570.00

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATION AND CONSENT ORDER**

NOV # 2408112

Violation Number: 6
Finding Number: 22

Violation Description: **Failure to perform weekly inspections in the central accumulation area.**

1. Gravity Based Penalty: **\$13,000.00**

(a) Potential for Harm – **MAJOR**

Barnes failed to complete weekly inspections in the central accumulation area, which poses a relatively high risk of exposing human or other environmental receptors to hazardous waste because failing to inspect could allow releases to continue unnoticed, containers to deteriorate, and hazardous waste to be mismanaged. Failing to perform weekly inspections in the central accumulation area also poses a relatively high adverse effect on the statutory or regulatory purposes or procedures for implementing the program because weekly inspections are fundamental to ensuring the proper management of hazardous waste that remains on site.

(a) Extent of Deviation – **MAJOR**

Barnes significantly deviated from the requirement of this regulation to such an extent that most of the requirements were not met, resulting in substantial non-compliance because Barnes failed to perform weekly inspections of the CAA prior to February 2024.

(c) Multiple Event/Multi-day – \$48,000.00. Barnes was out of compliance with Utah Admin. Code R315-262-16(b)(2)(iv) for no less than 337 days between March 2023 and February 2024. Despite this prolonged noncompliance, the Director is assessing the multi-day penalty as a weekly penalty for 48 weeks (48 weeks x \$1,000.00 = \$48,000.00).

2. Adjustment Factors (if applicable) – N/A

(a) Good faith – N/A

(b) Willfulness/Negligence – N/A

(c) History of Compliance – N/A

(d) History of Noncompliance – N/A

(e) Ability to pay – N/A

(f) Other Unique Factors – N/A

3. Economic Benefit – **\$600.00**. Barnes saved \$600.00 by avoiding or delaying compliance with this requirement because weekly inspections would take approximately 0.5 hours at \$25/hour for 48 weeks (0.5 hours x \$25/hour x 48 weeks = \$600.00).

4. Recalculation of Penalty based on New Information – N/A

TOTAL: \$61,600.00

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATION AND CONSENT ORDER**

NOV # 2408112

Violation Numbers: 7

Finding Number: 23

Violation Description: **Failure to ensure all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities.**

1. Gravity Based Penalty - **\$13,000.00**

(a) Potential for Harm – **MAJOR**

Barnes failed to ensure all employees were thoroughly familiar with proper waste handling and emergency procedures, which poses a relatively high risk of exposing humans or other environmental receptors to hazardous waste because a lack of requisite knowledge to manage hazardous waste and respond to hazardous waste emergencies could lead to mismanagement of waste and improper emergency response.

Failing to train personnel on their duties to manage hazardous waste also poses a relatively high adverse effect on the statutory and regulatory purposes and procedures of the hazardous waste program because a lack of training can lead to noncompliance with the regulatory requirements, which was observed during the July 16, 2024, inspection.

(b) Extent of Deviation – **MAJOR**

Barnes deviated from the requirements of these regulations to such an extent that most, or important aspects, of the requirements were not met, resulting in substantial non-compliance because the majority of Barnes' personnel who handled hazardous waste were not properly trained or Barnes could not verify that personnel had been properly trained.

(c) Multiple Event/Multi-day – \$2,600.00. Barnes was out of compliance with Utah Admin. Code R315-262-16(b)(9)(iii) for no less than three years, between July 2021 and July 2024. This continued non-compliance warrants a multi-event and multi-day penalty; however, the Director is only assessing one additional, multi-day penalty of \$2,600.00.

2. Adjustment Factors (if applicable) – N/A

(a) Good Faith - N/A

(b) Willfulness/Negligence – Increased 20%. Barnes demonstrated negligent disregard for the requirement under Utah Admin. Code R315-262-16(b)(9)(iii) by submitting to the Division outdated and incorrect personnel training records rather than training its personnel for DOT Awareness, HAZWOPER/RCRA, and the Contingency Plan. Moreover, Barnes failed to take reasonable steps to periodically ensure that its personnel were current on their training, to the extent that most of its personnel were inadequately trained for approximately three years.

(c) History of Compliance - N/A

(d) History of Noncompliance – N/A

(e) Ability to Pay - N/A

(f) Other Unique Factors - N/A

3. Economic Benefit – **\$2,700.00**. Barnes saved \$2,700.00 by delaying or avoiding compliance with the applicable hazardous waste training requirements because hiring a qualified trainer or using an online training program to conduct this training costs \$450 per person on average per year (6 employees x \$450/training = \$2,700.00).

4. Recalculation of Penalty Based on New Information – N/A

TOTAL: \$21,420.00

Proposed

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Numbers: 8, 9
Finding Numbers: 24 and 25

Violation Description: **Failure to make and document arrangements with local police, fire department, and other emergency responders and failure to provide the Quick Reference Guide to local emergency responders or planning committee.**

1. Gravity Based Penalty - **\$10,400.00**

(a) Potential for Harm – **MAJOR**

Barnes failed to make and document arrangements with local emergency responders and failed to submit its Quick Reference Guide to those responders, which poses a relatively high risk of exposing humans or other environmental receptors to hazardous waste and site-specific chemicals because it can harm employees during an emergency, delay or complicate responses to emergencies, and expose those responding to an emergency to unforeseen dangers.

Failing to make and document arrangements with local police, fire department, and other emergency responders and failing to provide a Quick Reference Guide to local emergency planning committees also poses a relatively high adverse effect on the statutory and regulatory purposes or procedures for implementing the hazardous waste program because the regulatory program depends on notification and Quick Reference Guides to ensure compliance during an emergency.

(b) Extent of Deviation – **MODERATE**

Barnes significantly deviated from the requirements of these regulations because, at the time of the inspection, its personnel were unable to demonstrate to inspectors that it had prepared a Quick Reference Guide or document arrangements it had made with the local emergency responders or planning committee. Submission of the Quick Reference Guide to local responders ensures they have critical information to properly respond to emergencies.

(c) Multiple Event/Multi-day – N/A

2. Adjustment Factors (if applicable) – N/A

(a) Good Faith –NA

(b) Willfulness/Negligence - N/A

(c) History of Compliance - N/A

(d) History of Noncompliance – N/A

(e) Ability to Pay - N/A

(f) Other Unique Factors - N/A

3. Economic Benefit – Economic benefit was evaluated and determined to be negligible.
4. Recalculation of Penalty Based on New Information – N/A

TOTAL: \$10,400.00

Proposed

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Number: 10

Finding Number: 26

Violation Description: **Failure to submit a drum-top lamp crusher registration application to the Director and receive the Director's approval prior to operating a drum-top lamp crusher at the Facility.**

1. Gravity Based Penalty - **\$13,000.00**

(a) Potential for Harm – **MAJOR**

Barnes failed to register its drum-top lamp crusher and to operate and maintain the drum-top lamp crusher according to written manufacturer instructions. This poses a relatively high adverse effect on the statutory and regulatory purposes or procedures for implementing the hazardous waste program because drum-top lamp crushers release mercury vapors and dust during operation and this registration is fundamental to ensuring that operating the drum-top lamp crusher would cause the least amount of harm to human health and the environment.

Failing to register the drum-top lamp crusher also poses a relatively high adverse effect on the statutory or regulatory purposes or procedures for implementing the program because it inhibits the Division's ability to oversee the operation of the drum-top lamp crusher and evaluate Barnes' compliance with the SHWA and Rules in operating the drum-top lamp crusher.

(b) Extent of Deviation – **MAJOR**

Barnes deviated from the requirements of this regulation to such an extent that most, or important aspects, of the requirements were not met, resulting in substantial non-compliance because Barnes neither applied for a drum-top lamp crusher registration nor received Director approval prior to operating a drum-top lamp crusher at the Facility, and therefore failed to meet a single requirement under this regulation.

(b) Multiple Event/Multi-day – \$2,600.00. Barnes operated the drum-top lamp crusher at the Facility on multiple occasions. Barnes was therefore out of compliance with Utah Admin. Code R315-273-13(d)(3) for no less than one day, and the Director is assessing a multi-day penalty of \$2,600.00.

2. Adjustment Factors (if applicable)

(a) Good Faith –N/A

(b) Willfulness/Negligence – Increased 30%. Barnes demonstrated negligent disregard for the requirement under the Utah Admin. Code R315-273-13(d)(3) by failing to take reasonable steps to operate the drum-top lamp crusher pursuant to the registration requirement under this regulation. Rather, Barnes operated the drum-top lamp crusher at the Facility and could not demonstrate any steps it took to comply with Utah Admin. Code R315-273-13(d)(3)(i)-(x).

(c) History of Compliance - N/A

(d) History of Noncompliance - N/A

(e) Ability to Pay - N/A

(f) Other Unique Factors - N/A

3. Economic Benefit – \$1,700.00. Barnes saved \$1,700.00 by delaying or avoiding compliance with the drum-top crusher registration requirements because proper registration would require professional review fees (\$125.00/hour x 10 hours = \$1,250.00) and insurance for the unit (\$150/year x 3 years = \$450).

4. Recalculation of Penalty Based on New Information – N/A

TOTAL: \$21,980.00

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Number: 11

Finding Number: 27

Violation Description: **Failure to demonstrate successful remediation of areas of the Facility where the drum-top lamp crusher was used and failing to submit a report documenting the decontamination steps and analytical data demonstrating successful remediation.**

1. Gravity Based Penalty - **\$13,000.00**

(a) Potential for Harm – **MAJOR**

Barnes failed to remediate areas where the drum-top lamp crusher was operated and failed to submit documentation, including analytical data, demonstrating successful remediation, which poses a relatively high risk of exposing humans or other environmental receptors to hazardous waste because mercury is a neurotoxin that can harm the nervous system, lungs, and kidneys. Moreover, absent appropriate remediation, mercury vapors can remain airborne for up to a year and unnecessarily and continually expose workers. Failing to properly remediate areas where the drum-top lamp crusher had operated also poses a relatively high adverse effect on the statutory or regulatory purposes or procedures for implementing the program because the Division was not aware of the locations where the drum-top lamp crusher was operated, preventing inspectors from properly assessing environmental compliance at the Facility.

(b) Extent of Deviation – **MAJOR**

Barnes deviated from the requirement of this regulation to such an extent that most, or important aspects, of the requirements were not met, resulting in substantial non-compliance because Barnes had operated the drum-top lamp crusher at the Facility and stored the drum-top lamp crusher at the Facility for no less than four months, likely leading to two areas that required remediation, but Barnes neither documented those areas nor produced evidence that such areas were remediated at the time of the inspection.

(c) Multiple Event/Multi-day – N/A

2. Adjustment Factors (if applicable) - N/A

(a) Good Faith –NA

(b) Willfulness/Negligence - N/A

(a) History of Compliance - N/A

(b) History of Noncompliance - N/A

(c) Ability to Pay - N/A

(d) Other Unique Factors - N/A

3. Economic Benefit - NA
4. Recalculation of Penalty Based on New Information – N/A

TOTAL: \$13,000.00

Proposed

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Number 12

Finding Number: 28

Violation Description: **Failure to provide a closure plan and cost estimate for disposing of the drum-top lamp crusher to the Director.**

1. Gravity Based Penalty – **\$13,000.00**

(a) Potential for Harm – **MAJOR**

Barnes failed to provide a closure plan and cost estimate for disposal of the drum-top lamp crusher, which poses a relatively high risk of exposing humans and other environmental receptors to hazardous waste and hazardous constituents, including mercury, because if the contamination is not properly decontaminated and closure is not implemented according to an approved plan, the workers and environment could be continuously exposed. Failing to provide a closure plan and cost estimate for disposal of the drum-top lamp crusher also poses a relatively high adverse effect on the statutory or regulatory purposes or procedures for implementing the program because the Division was unable to confirm the decontamination and verification procedures and provide oversight of the closure. Without an approved closure plan, an organization would be unprepared for substantial expenses associated with safely dismantling and disposing of a drum-top lamp crusher, leading to unforeseen exposures and financial liabilities that could become the responsibility of a government entity to clean up the contaminated site.

(b) Extent of Deviation – **MAJOR**

Barnes deviated from the requirements of this regulation to such an extent that most, or important aspects of, the requirements for providing a closure plan and cost estimate for disposing of the unit to the Director were not met. Barnes failed to track operations in areas the unit was operated in which would have informed the Director where and how the unit was operated and used to determine contamination during closure activities.

(c) Multiple/Multi-day - N/A

2. Adjustment Factors (if applicable) - N/A

(a) Good Faith – In the process of decontamination.

(b) Willfulness/Negligence - N/A

(c) History of Compliance – N/A

(d) History of Noncompliance - N/A

(e) Ability to Pay - N/A

(f) Other Unique Factors - N/A

3. Economic Benefit – **\$6,000.00** - Barnes saved \$6,000.00 by delaying or avoiding compliance with the requirements under Utah Admin. Code R315-273-13(d)(6) because it was able to avoid the cost of creating a closure plan. The typical cost for a consultant to draft a closure plan ranges from \$150 to \$400 per hour and would ordinarily take approximately 40 hours to draft (40 hours x \$150/hour = \$6,000.00).
4. Recalculation of Penalty Based on New Information – N/A

TOTAL: \$19,000.00

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Number 13

Finding Number: 29

Violation Description: **Failure to demonstrate financial assurance for the cost of disposing of the drum-top lamp crusher, decontaminating the area surrounding the drum-top lamp crusher, and analytical costs to show that decontamination is complete.**

1. Gravity Based Penalty - **\$13,000.00**

(a) Potential for Harm – **MAJOR**

Barnes failed to demonstrate financial assurance for the cost of disposing of the drum-top lamp crusher, decontamination, and analytical costs to verify decontamination, which poses a relatively high risk of exposing humans or other environmental receptors to hazardous waste because there was no financial incentive to ensure proper use of the drum-top lamp crusher or funding to decontaminate the areas where it was used. Failing to demonstrate financial assurance also poses a relatively high adverse effect on the statutory or regulatory purposes of procedures for implementing the program because this failure undermines the “polluter pays” principle and shifts financial responsibility for cleanup and remediation from the polluting entity to the taxpayers, which can result in delayed, incomplete, or underfunded cleanups.

(b) Extent of Deviation –**MAJOR**

Barnes deviated from the requirements of this regulation to such an extent that most, or important aspects, of the requirements were not met, resulting in substantial non-compliance because it failed to meet a single financial assurance requirement or demonstrate it had appropriate funding to dispose, clean-up, and decontaminate after it had completed its use of the drum-top lamp crusher.

(c) Multiple/Multi-day - N/A

2. Adjustment Factors (if applicable)

(a) Good Faith – N/A

(b) Willfulness/Negligence - N/A

(c) History of Compliance – N/A

(d) History of Noncompliance - N/A

(e) Ability to Pay - N/A

(f) Other Unique Factors - N/A

3. Economic Benefit – **\$750.00** - Barnes saved at least \$450.00 by delaying or avoiding compliance with the requirements under Utah Admin. Code R315-273-13(d)(7) because the cost of preparing financial assurance documents costs range from \$150 to 400/hour; the savings of \$150/hour x 5 professional hours=\$750.00
4. Recalculation of Penalty Based on New Information – N/A

TOTAL: \$13,750.00

Proposed

**NARRATIVE EXPLANATION TO SUPPORT
PENALTY AMOUNT FOR PROPOSED STIPULATED COMPLIANCE ORDER**

NOV # 2408112

Violation Number 14

Violation Description: **Failure to prepare a manifest before offering for transport a hazardous waste for offsite treatment, storage, or disposal, as required by Utah Admin. Code R315-262-20(a)(1).**

1. Gravity Based Penalty - **\$4,160.00**

(a) Potential for Harm – **MODERATE**

Barnes offered a container for transport that included a drum-top lamp crusher using a bill of lading, rather than a hazardous waste manifest. The drum-top lamp crusher at the point of generation was hazardous waste because it contained mercury waste; mercury is characteristically toxic (EPA waste code D009). The drum-top lamp crusher was not mercury containing equipment under Utah Admin. Code R315-273-4, universal waste lamps under Utah Admin. Code R315-273-5, nor merely crushed lamps that could be managed under Utah Admin. Code R315-273-13(d)(8). Barnes failed to prepare a manifest before offering the drum-top lamp crusher for transport for offsite treatment, storage, or disposal, which poses a medium risk of exposing humans or other environmental receptors to hazardous waste because failing to manifest waste could lead to mismanagement of the waste.

Failing to prepare a manifest before offering hazardous waste for transport, such as the drum-top lamp crusher, also poses a medium adverse effect on the statutory or regulatory purposes or procedures for implementing the hazardous waste program because manifests are fundamental to ensuring hazardous waste is managed from cradle to grave because it enables the regulated community and regulators to track the hazardous waste from the time it is generated to the time it is treated, stored, or disposed of.

(b) Extent of Deviation – **MODERATE**

Barnes significantly deviated from the requirements of the regulation because it failed to prepare a hazardous waste manifest for the drum-top lamp crusher and relied on a representative of the transporter to prepare a manifest after the hazardous waste had been shipped offsite. Although Barnes significantly deviated from the requirements of the regulation, the waste was transported to and accepted by the destination facility for offsite treatment, storage, or disposal.

(c) Multiple/Multi-day - N/A

2. Adjustment Factors (if applicable)

(a) Good Faith – N/A

(b) Willfulness/Negligence - Increased 50%. Barnes demonstrated a negligent disregard for the requirement under Utah Admin. Code R315-262-20(a)(1) because it failed to undertake reasonable actions to appropriately manage the drum-top lamp crusher as a hazardous waste, despite being aware of the waste being hazardous as demonstrated by:

1. The NOV/CO ordering Barnes to dispose of the waste at a permitted hazardous waste TSDF and to provide to the Director the manifests and waste profiles from that disposal;
2. Barnes' request for extension dated June 2, 2025, indicating that it had obtained a waste profile and will dispose of the waste at a permitted TSDF; and
3. Barnes' request for an extension dated June 5, 2025, stating that it agreed to provide "a copy of the manifest signed by the transporter" for the drum-top lamp crusher and associated wastes.

(c) History of Compliance – N/A

(d) History of Noncompliance - N/A

(e) Ability to Pay - N/A

(f) Other Unique Factors - N/A

3. Economic Benefit – N/A

4. Recalculation of Penalty Based on New Information – This violation arose on or about June 6, 2025, when Barnes, in an effort to comply with the terms of the NOV/CO, shipped a drum-top lamp crusher and its contents offsite without a hazardous waste manifest. The Director is proposing to include this violation in this SCO to streamline the settlement of the NOV/CO and violations arising therefrom.

TOTAL: \$6,240.00



State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Tim Davis
Executive Director

DIVISION OF WASTE MANAGEMENT
AND RADIATION CONTROL

Douglas J. Hansen
Director

May 8, 2025

Kristin Layton, General Manager
BDO Barnes, L.C., DBA Barnes Aerospace Ogden
Barnes Group Inc.
1025 Depot Drive
Ogden, UT 84404

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7022 0410 0001 4513 5074

Chase Jensen, Registered Agent
BDO Barnes, L.C., DBA Barnes Aerospace Ogden
101 South 200 East, Suite 200
Salt Lake City, UT 84111

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7022 0410 0001 4513 5081

RE: Notice of Violation and Compliance Order No. 2408112
UTR000010025

Dear Ms. Layton and Mr. Jensen:

Enclosed is a **NOTICE OF VIOLATION AND COMPLIANCE ORDER (NOV/CO)** No. 2408112, based on findings documented by the Division of Waste Management and Radiation Control (Division) inspectors regarding a compliance evaluation inspection conducted on July 16, 2024. Please be advised that compliance with the attached ORDER is mandatory and will not relieve BDO Barnes, L.C. DBA Barnes Aerospace Ogden of liability for past violations.

You have 30 days from the signature date of the attached NOV/CO to contest it in the manner and within the time period prescribed by Utah Administrative Code R305-7-303.

If you have any questions, please contact Sally Kaiser by email at skaiser@utah.gov or by phone at 385-499-4929, or have your attorney call Brenden Catt, Assistant Attorney General, by email at bcatt@agutah.gov or by phone at 385-379-2591.

Sincerely,

Douglas J. Hansen, Director
Division of Waste Management and Radiation Control

(Over)

DJH/SHK/wa

Enclosure: Notice of Violation and Compliance Order No. 2408112

c: Scott Braeden, Weber-Morgan Health Department
Ryan Klinge, Weber-Morgan Health Department
Annette Maxwell, U.S. EPA, Region 8
Megan Gardner, HSE Manager, Barnes Aerospace Ogden (Email)
Ben Nadolski, Mayor, City of Odgen (Email)
Tim Davis, Executive Director, Utah Department of Environmental Quality (UDEQ)
Stevie Norcross, PhD, Assistant Director,
Division of Waste Management and Radiation Control, UDEQ
Brenden Catt, Assistant Attorney General, Utah Attorney General's Office

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In the Matter of:	:	NOTICE OF VIOLATION AND COMPLIANCE ORDER
	:	
BDO Barnes, L.C.	:	No. 2408112
DBA Barnes Aerospace Ogden	:	
UTR000010025	:	

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This **NOTICE OF VIOLATION AND COMPLIANCE ORDER (NOV/CO)** is issued by the Director of the Division of Waste Management and Radiation Control (Director) pursuant to the Utah Solid and Hazardous Waste Act (SHWA), Utah Code Section 19-6-101 *et seq.*, the Used Oil Management Act (UOMA), Utah Code Section 19-6-701 *et seq.*, and Utah Administrative Code R315 (the Rules). The Director has authority to issue such NOTICES and ORDERS in accordance with Utah Code Sections 19-6-112, 19-6-705, and 19-6-721.

FINDINGS

1. BDO Barnes, L.C., DBA Barnes Aerospace Ogden (Barnes) is a limited liability company registered to do business in the State of Utah. Barnes is a wholly owned subsidiary of Barnes Group Inc., a Delaware corporation.
2. Barnes manufactures components for engines, nacelles, and airframes at its facility located at 1025 South Depot Drive, Ogden, Utah 84404 (the Facility).
3. Barnes operates the Facility under the provisions of the SHWA, UOMA, and the Rules.
4. Barnes is a "person" as defined in Utah Code Section 19-1-103(4) and is subject to all applicable provisions of the SHWA, UOMA, and the Rules.
5. On June 30, 2008, Barnes notified as a Large Quantity Generator and was assigned EPA ID Number UTR000010025.
6. On February 28, 2018, Barnes completed an EPA RCRA Subtitle C Form 8700-12 to register as a Small Quantity Generator and obtain or update an EPA ID number for an on-going regulated activity.
7. On August 17, 2023, Barnes notified of an unplanned episodic event to dispose of 247,500 lbs. of a nitric acid and hydrofluoric acid solution that was released into secondary containment due to a tank failure. That unplanned episodic event began on August 16, 2023.
8. On December 14, 2023, the United States Environmental Protection Agency forwarded to the Division of Waste Management and Radiation Control (Division) an anonymous complaint (FY24-290504-3709-CV). The complaint generally concerned (1) a hole or breach in a containment system for two etch tanks that compromised the containment system, (2) thousands of gallons of acidic water spilling into the compromised containment system and remaining in the compromised containment system for more than 36 hours, (3) ongoing spills into the compromised containment system, and (4) Barnes' unresponsive approach to complaints from staff regarding possible exposure to hazardous waste and hazardous constituents.

9. On January 8, 2024, and February 9, 2024, authorized representatives of the Director (inspectors) followed up on the anonymous complaint by visiting the Facility.
10. On March 18, 2024, the Director sent a letter to Barnes (DSHW-2024-004716) requesting it provide, among other information, “[a] schedule of the etching tank replacement before the tanks are removed from the Facility” to the Director by April 1, 2024. Barnes did not provide the Director with the requested schedule.
11. On June 21, 2024, Barnes renotified as a Large Quantity Generator via RCRA Subtitle C Form 8700-12, because Barnes failed to remove all episodic hazardous waste off site within 60 days of the unplanned episodic event that began on August 16, 2023.
12. Pursuant to Utah Code Sections 19-6-109 and 19-6-705(2)(a), inspectors conducted a compliance evaluation inspection at the Facility on July 16, 2024.
13. On January 21, 2025, the Director sent Barnes a Request for Information (the RFI) requesting additional information following the July 16, 2024, inspection (DSHW-2025-000115).
14. On March 24, 2025, Barnes’ legal counsel responded to the RFI (the Response) on Barnes’ behalf (DSHW-2025-001616).
15. Based on observations made during the July 16, 2024 inspection and information provided in the Response, Barnes was a Large Quantity Generator in February 2024 and June through August 2024. Prior to February 2024, Barnes was a Small Quantity Generator.
16. Barnes is also a Small Quantity Handler of Universal Waste, according to Utah Admin. Code R315-273-9(n), and Used Oil Generator, according to Utah Code Section 19-6-703(24) and Utah Admin. Code R315-15-2.1(a).
17. Utah Admin. Code R315-15-2.3(c)(1) states “[c]ontainers and aboveground tanks used to store used oil at generator facilities shall be labeled or marked clearly with the words ‘Used Oil.’”
 - 17.1. During the July 16, 2024 inspection, inspectors observed two FliPak containers that were used for collecting used oil from the surface grinder at the Facility.
 - 17.2. During the July 16, 2024 inspection, inspectors observed that neither of the two FliPak containers were labeled or marked clearly with the words “Used Oil.”
18. Utah Admin. Code R315-15-2.3(b)(3) requires containers used to store used oil at generator facilities to be closed “except when adding or removing oil.”
 - 18.1. During the July 16, 2024 inspection, inspectors observed that one of the two FliPak containers used to collect used oil from the surface grinder was open, even though used oil was not being added or removed from that FliPak container.
19. Utah Admin. Code R315-15-9.1(a)(1)-(4) requires the person responsible for used oil at the time of a release to immediately “take appropriate action to minimize the threat to human health and the environment” by stopping the release, containing the release, cleaning up and properly managing the release, and, if necessary, repairing or replacing any leaking used oil tanks, containers, and ancillary equipment.

- 19.1. During the July 16, 2024 inspection, inspectors observed a release or spill of what appeared to be, and what a Barnes representative later confirmed was, used oil located near the surface grinder at the Facility.
- 19.2. During the July 16, 2024 inspection, inspectors observed that Barnes failed to take immediate action to clean up and properly manage the released or spilled used oil.
20. Utah Admin. Code R315-262-17(a)(5)(i)(B)-(C) requires a large quantity generator to mark or label its containers with an indication of the hazards of the contents and the date upon which each period of accumulation begins clearly visible for inspection of each container.
 - 20.1. During the July 16, 2024 inspection, inspectors observed three 55-gallon blue poly drums of hazardous waste located in the Conex container at the Facility, two of which contained ferric chloride and the third contained hydrochloric acid.
 - 20.2. Barnes failed to mark or label the three 55-gallon drums with an indication of the hazards of the contents of the drums.
 - 20.3. Barnes also failed to mark or label the three 55-gallon drums with the date upon which each period of accumulation began.
21. Utah Admin. Code R315-262-17(a)(1)(ii) states “[i]f a container holding hazardous waste is not in good condition, or if it begins to leak, the large quantity generator shall immediately transfer the hazardous waste from this container to a container that is in good condition, or immediately manage the waste in some other way.”
 - 21.1. During the July 16, 2024 inspection, inspectors observed three 55-gallon blue poly drums of hazardous waste located in the Conex container at the Facility that were bulging and leaking.
 - 21.2. Barnes did not immediately transfer the hazardous waste from the three bulging and leaking 55-gallon drums to containers in good condition or immediately manage them in some other way.
22. Utah Admin. Code R315-262-16(b)(2)(iv) states “[a]t least weekly, the small quantity generator shall inspect central accumulation areas. The small quantity generator shall look for leaking containers and for deterioration of containers caused by corrosion or other factors.”
 - 22.1. During the July 16, 2024 inspection and in the Response, Barnes failed to demonstrate that it performed weekly inspections of the Facility’s hazardous waste central accumulation areas prior to February 2024.
23. Utah Admin. Code R315-262-16(b)(9)(iii) states “[t]he small quantity generator shall ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.”
 - 23.1. During the July 16, 2024 inspection and in the Response, Barnes failed to provide personnel training records demonstrating its employees were thoroughly familiar with waste handling and emergency procedures prior to February 2024.
24. Utah Admin. Code R315-262-256(a) states “[t]he large quantity generator shall attempt to make arrangements with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, and local hospitals, taking into account the types and quantities of hazardous wastes handled at the facility.”

- 24.1. During the July 16, 2024 inspection, Barnes failed to demonstrate that it attempted to make arrangements with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, and local hospitals while it was a Large Quantity Generator.
- 24.2. In the Response, Barnes confirmed that it had not attempted to make these arrangements while it was a Large Quantity Generator.
25. Utah Admin. Code R315-262-262(b) requires a large quantity generator to submit a quick reference guide of its contingency plan to the local emergency responders identified in Utah Admin. Code R315-262-262(a) or, as appropriate, the Local Emergency Planning Committee.
 - 25.1. During the July 16, 2024 inspection, Barnes failed to demonstrate that it submitted a quick reference guide of its contingency plan to local emergency responders or the Local Emergency Planning Committee while it was a Large Quantity Generator.
 - 25.2. In the Response, Barnes confirmed that it had not submitted a quick reference guide of its contingency plan to local emergency responders or the Local Emergency Planning Committee while it was a Large Quantity Generator.
26. Utah Admin. Code R315-273-13(d)(3) states “[a] small quantity handler of universal waste may crush universal waste lamps using a drum-top lamp crusher designed specifically for crushing lamps after the small quantity handler submits a drum-top lamp crusher registration application to and receives approval from the Director.”
 - 26.1. During the July 16, 2024 inspection, inspectors observed a drum-top lamp crusher at the Facility, and Barnes failed to demonstrate that it applied for and received a drum-top lamp crusher registration approval from the Director.
 - 26.2. In a follow-up email dated July 30, 2024, Barnes’ EHS Manager stated that the drum-top lamp crusher was “mainly used by maintenance and travelled to multiple locations” throughout the Facility.
 - 26.3. In the Response, Barnes indicated that the contents of the drum-top lamp crusher was disposed of as Universal Waste under Manifest No. 017472502, demonstrating that the drum-top lamp crusher was used at the Facility.
 - 26.4. Based on a review of Division records, Barnes failed to submit a drum-top lamp crusher registration application to the Director to operate a drum-top lamp crusher at the Facility and failed to receive approval from the Director to operate a drum-top lamp crusher at the Facility.
27. Utah Admin. Code R315-273-13(d)(5) states “[w]hen a drum-top crusher is no longer used or is relocated, the area where the crusher was located shall be decontaminated of any mercury and other contaminants caused by the use of the drum-top lamp crusher. A report documenting the decontamination steps as well as supporting analytical data demonstrating successful remediation shall be submitted to the Director for approval within 30 days following completion of decontamination.”
 - 27.1. During the July 16, 2024 inspection, inspectors observed a drum-top lamp crusher at the Facility, and Barnes failed to demonstrate that the areas where the drum-top lamp crusher was used were decontaminated.

- 27.2. In a follow-up email dated July 30, 2024, Barnes' EHS Manager stated that the drum-top lamp crusher is no longer being used at the Facility, and when it was used, it was used in "multiple locations" throughout the Facility.
- 27.3. In the Response, Barnes failed to provide documentation demonstrating that the locations where the drum-top lamp crusher was used were decontaminated following use in those areas.
- 27.4. Based on a review of Division records, Barnes has not submitted a report to the Director documenting the decontamination steps and analytical data demonstrating successful remediation.
28. Utah Admin. Code R315-273-13(d)(6) states "[t]he small quantity handler shall provide a closure plan along with a detailed written estimate, in current dollars, of the cost of disposing of the drum-top lamp crusher, decontamination of the area surrounding the drum-top lamp crusher, and any analytical costs required to show that decontamination is complete."
- 28.1. During the July 16, 2024 inspection, inspectors observed a drum-top lamp crusher at the Facility and that Barnes failed to provide a closure plan to the Director that included a detailed written estimate of the cost of disposing of the drum-top lamp crusher, decontamination of the area surrounding the drum-top lamp crusher, and any analytical costs required to show that decontamination is complete.
- 28.2. In the Response, Barnes also failed to provide the Director with a closure plan that included a detailed written estimate of the cost of disposing of the drum-top lamp crusher, decontamination of the area surrounding the drum-top lamp crusher, and any analytical costs required to show that decontamination is complete.
29. Utah Admin. Code R315-273-13(d)(7) requires a small quantity handler to demonstrate financial assurance for the cost estimates of disposing of the drum-top lamp crusher, decontamination of the area surrounding the drum-top lamp crusher, and analytical costs to show that decontamination is complete "using one of the options in Subsections R315-261-143(a) through R315-261-143(e)."
- 29.1. During the July 16, 2024 inspection, inspectors observed a drum-top lamp crusher at the Facility and that Barnes had failed to demonstrate financial assurance for the cost of disposing of the drum-top lamp crusher, decontaminating the area surrounding the drum-top lamp crusher, and analytical costs to show that decontamination is complete in Utah Admin. Code R315-261-143(a-e).
- 29.2. In the Response, Barnes also failed to demonstrate financial assurance for the cost of disposing of the drum-top lamp crusher, decontaminating the area surrounding the drum-top lamp crusher, and analytical costs to show that decontamination is complete using one of the options in Utah Admin. Code R315-261-143(a-e).

DETERMINATION OF VIOLATIONS

In accordance with the SHWA, UOMA, and the Rules, and based on the foregoing FINDINGS, BDO Barnes, L.C. DBA Barnes Aerospace Ogden violated provisions of the SHWA, UOMA, and the Rules. Specifically, BDO Barnes, L.C. DBA Barnes Aerospace Ogden violated the following:

1. Utah Admin. Code R315-15-2.3(c)(1) by failing to label used oil containers with “Used Oil.” (See Finding ¶ 17).
2. Utah Admin. Code R315-15-2.3(b)(3) by failing to ensure that containers used to store used oil are closed except when adding or removing oil. (See Finding ¶ 18).
3. Utah Admin. Code R315-15-9.1(a)(1)-(4) for failing to take immediate action to clean up and properly manage released or spilled used oil. (See Finding ¶ 19).
4. Utah Admin. Code R315-262-17(a)(5)(i)(B)-(C) by failing to mark or label containers with an indication of the hazards of the contents and the date that each period of accumulation began. (See Finding ¶ 20).
5. Utah Admin. Code R315-262-17(a)(1)(ii) by accumulating hazardous waste in containers in poor condition and failing to transfer the hazardous waste to containers in good condition. (See Finding ¶ 21).
6. Utah Admin. Code R315-262-16(b)(2)(iv) by failing to inspect central accumulation areas at least weekly. (See Finding ¶ 22).
7. Utah Admin. Code R315-262-16(b)(9)(iii) by failing to ensure all employees are thoroughly familiar with proper waste handling and emergency procedure, relevant to their responsibilities. (See Finding ¶ 23).
8. Utah Admin. Code R315-262-256(a) by failing to attempt to make arrangements with local emergency responders taking into account the types and quantities of hazardous waste managed. (See Finding ¶ 24).
9. Utah Admin. Code R315-262-262(b) by failing to submit a quick reference guide of the contingency plan to local emergency responders. (See Finding ¶ 25).
10. Utah Admin. Code R315-273-13(d)(3) by failing to submit a drum-top lamp crusher registration application to the Director and receive the Director’s approval prior to operating a drum-top lamp crusher at the Facility. (See Finding ¶ 26).
11. Utah Admin. Code R315-273-13(d)(5) by failing to demonstrate successful remediation of areas of the Facility where the drum-top lamp crusher was used and failing to submit a report documenting the decontamination steps and analytical data demonstrating successful remediation. (See Finding ¶ 27).
12. Utah Admin. Code R315-273-13(d)(6) by failing to provide a closure plan and cost estimate for disposing of the drum-top lamp crusher to the Director. (See Finding ¶ 28).
13. Utah Admin. Code R315-273-13(d)(7) by failing to demonstrate financial assurance for the cost of disposing of the drum-top lamp crusher, decontaminating the area surrounding the drum-top lamp crusher, and analytical costs to show that decontamination is complete. (See Finding ¶ 29).

ORDER

Based on the foregoing findings and determinations and pursuant to the SHWA, UOMA, and the Rules, Barnes is hereby ordered to correct these violations and comply with the following:

1. Within 30 days of the signature date of this NOV/CO, Barnes shall submit to the Director a written statement describing the following information in detail:
 - a. The cause of each violation;
 - b. The specific corrective actions taken, results achieved, and applicable dates;
 - c. If future corrective actions are proposed, the specific corrective actions and proposed completion dates, including intermediate milestones, as applicable; and
 - d. How the corrective actions will prevent similar violations from recurring;
2. Barnes shall immediately cease and desist the operation of any and all unregistered drum-top lamp crushers at the Facility;
3. If Barnes wants to continue operating drum-top lamp crushers at the Facility, Barnes shall:
 - a. Within 30 days of the signature date of this NOV/CO, submit to the Director a detailed and complete registration application in accordance with Utah Admin. Code R315-273-13(d)(3); and
 - b. Not operate drum-top lamp crushers at the Facility until Barnes receives approval from the Director to operate the drum-top lamp crushers;
4. If Barnes does not want to continue operating drum-top lamp crushers at the Facility, Barnes shall:
 - a. Within 30 days of the signature date of this NOV/CO, dispose of any and all drum-top lamp crushers and associated wastes at a permitted hazardous waste treatment, storage, and disposal facility (TSDF);
 - b. Within 30 days of the signature date of this NOV/CO, submit documentation to the Director demonstrating any and all drum-top lamp crushers and associated wastes were disposed of at a permitted TSDF, including any manifests or waste profiles developed during disposal;
 - c. Within 60 days of the signature date of this NOV/CO, decontaminate the area or areas where any and all drum-top lamp crushers and associated wastes were located, which shall include removing any mercury or other contaminants caused by the use of the drum-top lamp crusher; and
 - d. Within 30 days of decontaminating the area or areas where any and all drum-top lamp crushers were located, submit to the Director a report documenting the decontamination steps as well as supporting analytical data demonstrating successful remediation.

COMMUNICATION WITH THE DIRECTOR

For the purpose of compliance with this NOV/CO or to provide additional information, the Director's mailing address is:

Douglas J. Hansen, Director
Division of Waste Management and Radiation Control
P.O. Box 144880
Salt Lake City, UT 84114-4880

Alternatively, documents **OTHER THAN AN ADMINISTRATIVE CONTEST TO THIS NOV/CO** may be submitted electronically to the following email address: dwmrcsubmit@utah.gov. **DO NOT** submit any documents or information via email that is confidential, proprietary, or for which you wish to make a claim of business confidentiality. All such documents and information **MUST** be submitted using the mailing address above.

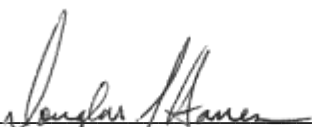
OPPORTUNITY TO CONTEST THIS NOV/CO

This NOTICE OF VIOLATION AND COMPLIANCE ORDER is effective immediately and shall become final unless BDO Barnes, L.C. DBA Barnes Aerospace Ogden administratively contests it. Failure to contest this NOTICE OF VIOLATION AND COMPLIANCE ORDER in the manner and within the time period prescribed by Utah Admin. Code R305-7-303 constitutes a waiver of any right of administrative contest, reconsideration, review, or judicial appeal.

Utah Code Section 19-6-113(2) provides that violation of any order, plan, rule, or other requirement issued or adopted under Title 19, Ch. 6, Pt. 1 may be subject to a civil penalty of up to \$13,000 per day for each day of violation.

Utah Code Section 19-6-721(1) provides that violation of any order, plan, rule, or other requirement issued or adopted under Title 19, Ch. 6, Pt. 7 may be subject to a civil penalty of up to \$10,000 per day for each day of violation.

Dated this 8th day of May, 2025.

By: 
Douglas J. Hansen, Director
Division of Waste Management and Radiation Control

CERTIFICATE OF MAILING

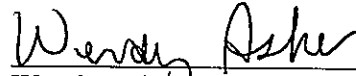
I HEREBY CERTIFY that I mailed a true and correct copy of the foregoing NOTICE OF VIOLATION AND COMPLIANCE ORDER on the 8th day of May, 2025 by US Certified Mail, Return receipt Requested, to:

Kristin Layton, General Manager
BDO Barnes, L.C., DBA Barnes Aerospace Ogden
Barnes Group Inc.
1025 Depot Drive
Ogden, UT 84404

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7022 0410 0001 4513 5074

Chase Jensen, Registered Agent
BDO Barnes, L.C., DBA Barnes Aerospace Ogden
101 South 200 East, Suite 200
Salt Lake City, UT 84111

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7022 0410 0001 4513 5081



Wendy Askee

USPS TRACKING#



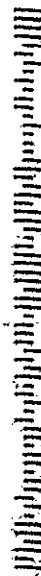
9590 9402 7375 2028 6102 52

**United States
Postal Service**

• Sender: Please print your name, address, and ZIP+4® in this box.

Department of Environmental Quality
Division of Waste Management
and Radiation Control
PO Box 144880
Salt Lake City, UT 84114-4880

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Kristin Layton, General Manager
 BDO Barnes, L.C., DBA Barnes Aerospace Ogden
 Barnes Group Inc.
 1025 Depot Drive
 Ogden, UT 84404



9590 9402 7375 2028 6102 52

2. Article Number (Transfer from service label)

7022 0410 0001 4513 5074

COMPLETE THIS SECTION ON DELIVERY**A. Signature**

[Handwritten Signature]

Agent
 Addressee

B. Received by (Printed Name)

L. MITCHOUISKY

C. Date of Delivery

5-12-25

D. Is delivery address different from item 1? Yes No
 Enter delivery address below: *SOF*

3. Service Type

- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input checked="" type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered Mail Restricted Delivery |
| <input type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Signature Confirmation™ |
| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

USA

USPS TRACKING #



9402 7375 2028 6102 69

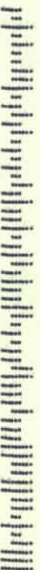
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10



United States
Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box •

Department of Environmental Quality
Division of Waste Management
and Radiation Control
PO Box 144880
Salt Lake City, UT 84114-4880



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Chase Jensen, Registered Agent
 BDO Barnes, L.C., DBA Barnes Aerospace Ogden
 101 South 200 East, Suite 200
 Salt Lake City, UT 84111



9590 9402 7375 2028 6102 69

2. Article Number. (Transfer from service label)

7022 0410 0001 4513 5081

COMPLETE THIS SECTION ON DELIVERY**A. Signature**

Agent
 Addressee

B. Received by (Printed Name)**C. Date of Delivery**

- D. Is delivery address different from item 1?** Yes
 If YES, enter delivery address below: No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

WA