



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

A meeting of the Waste Management and Radiation Control Board has been scheduled for July 10, 2025 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 the meeting minutes for the June 12, 2025, Board Meeting (**Board Action Item**).
- V. Petroleum Storage Tanks Update.
- VI. Petroleum Storage Tanks Rules.
 - A. Proposed changes to R311, Petroleum Storage Tanks Rules (Board Information Item).
- VII. Administrative Rules.
 - A. Approval from the Board to proceed with formal rulemaking and public comment on proposed changes to Utah Administrative Code R315-306, R315-307, R315-310, R315-311, R315-314, and R315-319 of the Solid Waste Rules (**Board Action Item**).
- VIII. Director's Report.
- IX. Executive Director's Report.
- X. Other Business.
 - A. Miscellaneous Information Items.
 - B. Scheduling of next Board Meeting.
- 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.

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
June 12, 2025
1:30 p.m.

Board Members Participating at Anchor Location: Brett Mickelson (Chair), Dennis Riding (Vice-Chair), Tim Davis, Mark Franc, Shane Whitney

Board Members Participating Virtually: Dr. Richard Codell, Danielle Endres, Nathan Rich, Vern Rogers

Board Members Excused/Absent: Jeremy Hawk, Steve McIff, Scott Wardle

UDEQ Staff Members Participating at Anchor Location: Brent Everett, Doug Hansen, Morgan Atkinson, Tyler Hegburg, Chris Howell, Larry Kellum, Arlene Lovato, Stevie Norcross, Mike Pecorelli, Elisa Smith, Adam Wingate, Raymond Wixom

Others Attending at Anchor Location: Dan Shrum, Steve Gurr

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

This meeting was recorded and an unedited audio of this meeting can be accessed at:

<https://www.utah.gov/pmn/files/1286245.mp3>

I. Call to Order and Roll Call.

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

II. Public Comments on Agenda Items – None.

III. Declarations of Conflict of Interest.

Vern Rogers declared a conflict of interest and abstained from voting on Agenda Item VI. Low-Level Radioactive Waste (Items A. and B.), EnergySolutions' requests for site-specific treatment variances.

IV. Approval of the meeting minutes for the May 8, 2025, Board meeting (Board Action Item).

It was moved by Dr. Codell and seconded by Shane Whitney and UNANIMOUSLY CARRIED to approve the May 8, 2025, Board meeting minutes.

V. Petroleum Storage Tanks Update.

Brent Everett, Director of the Division of Environmental Response and Remediation (DERR), informed the Board that the cash balance of the Petroleum Storage Tank (PST) Enterprise Fund for the end of May 2025 was \$39,639,881.00. The DERR has received authorization to transfer \$4,000,000.00 to the PST Cleanup Fund. The DERR continues to monitor the balance of the PST Enterprise Fund closely to ensure sufficient cash is available to cover qualified claims for releases.

There were no comments or questions for Mr. Everett.

VI. Low-Level Radioactive Waste.

A. **EnergySolutions' request for a 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 (Board Action Item).**

Tyler Hegburg, Environmental Scientist in the Low-Level Radioactive Section in the Division of Waste Management and Radiation Control, reviewed EnergySolutions' request for a one-time site specific variance request. Mr. Hegburg reminded the Board that during the May 8, 2025, Board meeting, EnergySolutions presented to the Board as an informational item a request for a variance from the treatment standards described in Utah Administrative Code R315-40(a)(2) for the macroencapsulation of approximately 2,000 cubic feet of cemented uranium extraction process residuals that retains several hazardous waste codes D004 (arsenic); D005 (barium); D006 (cadmium); D007 (chromium) D008 (Lead); D010 (Selenium); D011 (Silver); D030 (2,4-dinitrotolunene); D032 (hexachlorobenzene); D033 (hexachlorobutadiene) and F001, F002, and F005 (spent solvents).

This variance is requested for the purpose of safety, security, and transportation of the waste materials.

A notice for public comment was published in the Salt Lake Tribune, the Deseret News and the Tooele Transcript-Bulletin on April 30, 2025. The comment period began May 1, 2025, and ended on May 30, 2025; no comments were received.

The waste associated with the variance is generated from three different points during the recovery process at the generator's facility. These processes include (1) enriched uranium contaminated ash that has been thermally processed and then recovered through an organic solvent extraction process; (2) oxide powders and dried sludges associated with this enriched uranium-thorium fuels; and (3) sludge residue from the bottom of salt baths used in the processing of the uranium. The residual waste from each of these processes is collected in small cans (~ 2 ½ gallons each) and stored at the generator's facility and characterized through a random sampling and analysis process. This is an ongoing process where the generator has accumulated approximately 2,000 cubic feet of the ~ 2 ½ gallons each cans and continues to generate additional cans each year.

The F-listed solvent codes within this waste are derived from rags that are burned in a furnace in order to recover the uranium present within them. None of the F-listed constituents listed previously were present above their respective treatment standard concentrations within the random characterization. The random characterization samples were also analyzed for metals using the Toxicity Characteristic Leaching Procedure (TCLP). These samples detected elevated concentrations of barium (up to 6,740 mg/L TCLP), cadmium (up to 16.4 mg/L TCLP), chromium (up to 15.2 mg/L TCLP), and lead (up to 10.5 mg/L TCLP). Based on these elevated metal concentrations, the appropriate listed waste codes (D005, D006, D007, and D008) were applied to the process residues. Slightly elevated concentrations of arsenic (D004), selenium (D010), silver (D011), 2,4-dinitrotoluene (D030), hexachlorobenzene (D032) and hexachlorobutadiene (D033) were also detected in separate analyses.

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The uranium content within the process residues is enriched. From a health and safety standpoint, the enrichment makes the waste more hazardous to employees managing the waste. Further, the enriched material has increased security concerns and must be managed appropriately. To ensure the enriched uranium concentration limits required for worker safety, security, and transportation of this waste are met, appropriate packaging will be utilized. These packaging procedures include repackaging the 2 ½ gallons cans into 16-gallon drums and filling the void spaces with cement; creating the monolithic form. Formal treatment for the elevated metals concentrations is not performed during this process. The generator has explored other options, including treatment for the hazardous constituents; however, additional processing introduced unacceptable hazards from a health and safety and security viewpoint. Additionally, the waste within the cans is inherently safe from a criticality aspect and the generator concluded that it would be unwise to perform extra processing that could potentially change this aspect.

The waste material packaged within a 16-gallon monolithic forms is inherently safe and is the form that will be shipped and received at the EnergySolutions Clive facility. The characteristic hazardous waste codes associated with the process residues have numerical concentration-based treatment standards based upon the leachability of the contaminants. Treatment of the monolithic form for these concentration-based treatment standards would entail a process that includes shredding of the monolith followed by mixing with a stabilizing reagent in a permitted mixer. Both steps could mobilize the enriched uranium and possibly cause airborne contamination, increasing the potential for releases to the environment as well as the potential for personnel exposure. Furthermore, the shredding process of the solidified uranium ash results in a more accessible form of enriched uranium with potential security risks with the handling of the material.

EnergySolutions proposes to macroencapsulate the waste, with a permitted process that would significantly decrease the leaching of the waste requiring less handling thereby isolating the waste and keeps the uranium monolithic forms encased in an additional layer further restricting access to the enriched uranium thereby 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 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 enriched uranium as the media is contained in an additional layer of cementations fill.

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Final disposal of the waste will occur in the Mixed Waste Disposal Cell at the EnergySolutions Mixed Waste Facility.

Historically EnergySolutions has requested this variance 16 times for this generator dating back to July 2007 when all previous requests have been approved by the Board. Since the previous request, EnergySolutions has received approximately 1,684 cubic feet of this waste within the 16-gallon monoliths and for a total volume of 18,700 cubic feet since the first request was approved.

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. EnergySolutions will handle the monolithic waste forms as debris and final disposal of the waste will occur in the Mixed Waste Disposal Cell.

Danielle Endres asked for further clarification regarding the security concerns associated with this waste and commented that this variance request has been presented to the Board numerous times previously as it is a fairly consistent waste stream and although she is unaware of the location where the uranium recovery is occurring, she questioned if it is related to nuclear energy and asked if the country does more uranium mining and nuclear energy, could the Board potentially see this waste stream potentially increase.

Mr. Hegburg clarified that the security concern is based on the nature of the waste itself, as it is consistent with enriched uranium. The primary objective is to ensure that the waste is controlled and is not released into the environment. Mr. Hegburg also mentioned that the waste generator is the DOE in Oakridge, TN. For the second part of the question regarding the potential increase in this waste stream, due to nuclear energy, Mr. Hegburg deferred to Steve Gurr, *EnergySolutions* representative.

Mr. Gurr, *EnergySolutions* explained that originally the waste stream was stockpiled in cans and *EnergySolutions* has been processing it, and it is a fairly steady waste stream that he anticipates will continue for quite some time.

Dr. Codell remarked that this waste stream is enriched in U235 uranium and briefly discussed circumstances associated with risks related to much higher levels of U235 as they relate to a criticality incident.

Ms. Endres asked for further clarification in terms of “security risk” She specified that she was interpreting “security” in the terms of national security, not in terms of risks to human health and the environment from a criticality incident standpoint and asked if she was misinterpreting the word “security.” Mr. Gurr stated that having enriched uranium is a security concern. However, because the waste is encasing in the cement concrete, it reduces the risk from a security standpoint.

Ms. Endres asked for more specificity regarding the security risk associated with this waste stream.

Larry Kellum, Low-Level Radioactive Waste Program Manager in the Division of Waste Management and Radiation Control, remarked that he believes what Ms. Endres is referring to is defined regulatorily as special nuclear material. Mr. Kellum briefly explained that these are fissile isotopes of uranium or plutonium, and in this instance, the discussion is regarding U235. Mr. Kellum stated that the U.S. Code of Federal Regulation (CFR), Part 37 outlines specific security requirements for the handling and disposal of this special type of materials considered special nuclear materials. Mr. Kellum informed Ms. Endres that *EnergySolutions* is compliant with Part 37 of the CFR. Therefore, generally speaking, the waste will be handled in a manner in which criticality is considered, and *EnergySolutions* is ensuring that criticality safety is followed. Additionally, long-term disposal and security measures are in place to prevent unauthorized access or removal of the waste, making such a situation very unlikely to occur.

Mr. Gurr further commented that once the drums are encapsulated, it becomes almost physically impossible for them to be moved as they are encased in concrete.

There were no additional comments or questions for Mr. Hegburg.

It was moved by Mark Franc and seconded by Nathan Rich and UNANIMOUSLY CARRIED to approve EnergySolutions LLC’s request for a site-specific treatment variance from the Utah Hazardous Waste Management Rules to receive an exemption from the treatment standards for uranium extraction process residues encased in cement for macroencapsulation. (Vern Rogers abstained from voting.)

B. EnergySolutions' request for a site-specific treatment variance from the Utah Hazardous Waste Management Rules. EnergySolutions seeks authorization to receive an exemption for the direct macroencapsulation treatment of lithium and lithium-ion batteries (Board Action Item).

Tyler Hegburg, Environmental Scientist in the Low-Level Radioactive Section in the Division of Waste Management and Radiation Control, reviewed EnergySolutions' request for a one-time site specific variance request. Mr. Hegburg reminded the Board that during the May 8, 2025, Board meeting, EnergySolutions presented to the Board as an informational item a one-time site-specific treatment variance request from Utah Administrative Code R315-268-40 and R315-268-45 for the macroencapsulation treatment and disposal of approximately 1000 lbs. of lithium and lithium-ion batteries that are secondarily contaminated with radioactive components.

A notice for public comment was published in the Salt Lake Tribune, the Deseret News and the Tooele Transcript-Bulletin on April 30, 2025. The comment period began May 1, 2025, and ended on May 30, 2025; 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 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 "[M]acroencapsulation 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 the open air, which could cause an adverse reaction such as an explosion. 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 than the methods previously mentioned.

To date, approximately 600 lbs. of this waste has been received and shipped in small quantities to the EnergySolutions facility within containers that have special 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 four times previously, dating back to 2021. All instances of this request have been reviewed and approved by the Board.

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.

There were no comments or questions for Mr. Hegburg.

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

VII. Administrative Rules.

A. Approval from the Board to proceed with formal rulemaking and public comment on proposed changes to Utah Administrative Code R313-28-20 of the Radiation Control Rules (Board Action Item).

Lisa Mechem, Env. Scientist in the X-ray Section of the Division of Waste Management and Radiation Control, reviewed the request for the Board to proceed with formal rulemaking and public comment on proposed changes to Utah Administrative Code R313-28-20 to amend the definition of Healing Arts Screening for consistency with the rules.

Ms. Mechem informed the Board that during a recent review of the rule, a discrepancy between the definition of Healing Arts Screening and Utah Admin. Code R313-28-400(1)(b) was discovered. This rule amendment adds the words "or condition" to the Healing Arts Screening definition so that it addresses diseases or conditions and is consistent with Utah Admin. Code R313-28-400(1)(b).

Additionally, the Division is fixing typographical and formatting errors found in the rules as requested by the Governor's Office.

This is a Board Action Item and the Director recommends the Board approve proceeding with formal rulemaking and public comment by publishing in the July 1, 2025, *Utah State Bulletin* the proposed changes to Utah Admin. Code R313-28-20 and conducting a public comment period from July 1, 2025, to July 31, 2025.

Danielle Endres asked for clarification on the difference between a disease and a condition, requesting an example of each be provided.

Ms. Mechem explained that a disease involves conducting scans with the CT device to look for an existing heart problem; for example, looking specifically for cardiac disease. Conditions, on the other hand, would not fall under the category of disease but are better detected using, for example, a DEXA Scanner. So, while we are not looking for a disease entity in this case, we are instead examining bone density or muscle fat ratio to determine the best ways to proceed with measures like diet and exercise to prevent disease conditions, such as diabetes.

There were no additional comments or questions.

It was moved by Dennis Riding and seconded by Mark Franc and UNANIMOUSLY CARRIED for the Board to proceed with formal rulemaking by publishing in the July 1, 2025, Utah State Bulletin proposed changes to Utah Administrative Code R313-28-20 of the Radiation Control Rules and to conduct a public comment period from July 1, 2025 to July 31, 2025.

VIII. X-Ray Program.

A. **Approval of Mammography Imaging Medical Physicists (MIMPs) in accordance with UCA 19-3-103.1 (2)(c) of the Utah Code Annotated (Board Action Item).**

Krystal Thomas, Env. Scientist in the X-ray Section of the Division of Waste Management and Radiation Control, reviewed the request for the Board's approval of Mammography Imaging Medical Physicists,

The Division has received three new applications for individuals seeking to be certified as Mammography Imaging Medical Physicists, referred to as MIMPs.

These physicists perform radiation surveys and evaluate the quality control programs of the facilities in Utah providing mammography examinations. Initial MIMP certification must be approved by the Board as required by Utah Code 19-3-103.1.

The June 8, 2025, Board packet contains the list of the names of the applicants who have submitted applications to be certified as MIMPs. Division staff have reviewed the qualifications of each applicant, and they have met the requirements detailed in Utah Admin. Code R313-28-140. The Director of the Division of Waste Management and Radiation Control recommends the Board issue a certificate of approval for the applicants reviewed and presented to the Board.

Dennis Riding questioned what DABR stands for. It was clarified that DABR stands for Diplomate of the American Board of Radiology (DABR), which is a certification in the field of radiology.

There were no additional comments or questions.

It was moved by Mark Franc and seconded by Dr. Codell and UNANIMOUSLY CARRIED for the Board to approve the three applications for certification as Mammography Imaging Medical Physicists (MIMPs) in accordance with Utah Code Annotated 19-3-103.1 (2)(c).

IX. Director's Report.

Director Hansen stated that typically when the Division proposes new regulations requiring Board action, the Division provides a presentation to the Board on the proposed rule changes prior to requesting the public comment period and formal rulemaking process.

Director Hansen informed the Board that the Division is in the process of finalizing new regulations on coal combustion residuals. Division staff have been working with the U.S. EPA to ensure the rules are correct ahead of the Division's submission of a state approval packet.

Director Hansen commented that this program has been administered at the state level for a number of years, but recently the U.S. EPA adopted regulations, and the federal government will be administering a program. However, the objective is to keep this as a state program, and in conjunction with that objective, modifications have been made to the state rules to ensure they are consistent with the federal government regulations. Those modifications are now complete.

Director Hansen informed the Board that although the rule changes are complete, unfortunately, Division staff were not able to complete the process of providing it in this month's Board packet for the Board's review. However, next month the proposed rule changes will be submitting to the Board's review with a request for a formal public comment period on the proposed rule changes. Director Hansen stated the proposed rule changes will be brought before the Board next month to ensure established timelines are met as well as to ensure state control of this program is maintained, as currently the federal government could override the state and operate the program.

There were no comments or questions for Director Hansen.

X. Executive Director's Report.

Executive Director Davis reminded the Board that at his initial Board meeting, he had requested at a future meeting to discuss with the Board his goals and priorities for UDEQ. He apologized for his absence from the previous meeting and briefly discussed his outline for his four new priorities as the new Executive Director, which include: (1) creating a proactive and problem-solving culture; (2) building relationships based on trust and communication; (3) continuing to improve environmental protection of air, land, and water, while supporting growth; and (4) focusing on efficiency, transparency, and innovation.

Executive Director Davis informed the Board that the Department's Mission Statement will be revised to better reflect the four priorities. He also stated that these four priorities are now reflected in the Department's revised Draft Strategic Plan, which is before the Governor, and aligns with Governor Cox's initiatives on Government Reform, Innovation & Transparency (GRIT) and the Governor's "Built Here" initiative.

Executive Director Davis also commented that the Governor's Office is also focused on energy development, including nuclear power, and this Board may be involved with this focus. He informed the Board that Governor Cox recently signed Memorandum of Understanding (MOU) along with the governors of Idaho and Wyoming, establishing a regional collaboration on nuclear energy development. The Department will play an active role in working with the Board, the public, and the business community to help in creating a framework for aligning energy-related efforts, and he emphasized the importance of public trust in the safety of nuclear power.

Executive Director Davis also affirmed his commitment to engaging with stakeholders across Utah and informed the Board that he has spent a significant amount of time visiting various facilities around the state. He asked if any of the Board members would like for him to visit them, stating he would be more than willing to do so.

There were no comments or questions for Executive Director Davis.

XI. Other Business.

A. Miscellaneous Information Items – None.

B. Scheduling of next meeting.

The next meeting is scheduled for July 10, 2025, 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-uvs
Or by phone at (US) +1 978-593-3748 PIN: 902 672 356#

XII. Recognition of Retiring Board Member Nathan Rich.

Nathan Rich expressed his appreciation for the opportunity to have served on the Board and to have gotten to know each of the Board members and hopes that he has made a positive difference while participating on the Board. Mr. Rich also thanked those who were able to attend his retirement party and apologized for not being able to attend today's meeting in person.

Chairman Mickelson recognized and thanked Mr. Rich for his dedicated service on the Board and presented him virtually with a recognition plaque; light refreshments were served after the meeting.

Chairman Mickelson stated that along with Executive Director Davis's initiatives regarding building relationships, he highlighted the importance of building relationships, thanking those who attended Mr. Rich's retirement event, and specifically acknowledging the presence of Director Hansen, Dr. Norcross and Arlene Lovato, as their attendance was deeply appreciated and demonstrated goodwill with the regulated community.

XIII. Adjourn.

The meeting adjourned at 2:10 p.m.

PST STATISTICAL SUMMARY													
June 1, 2024 -- May 31, 2025													
PROGRAM													
	June	July	August	September	October	November	December	January	February	March	April	May	(+/-) OR Total
Regulated Tanks	4,836	4,833	4,833	4,832	4,841	4,849	4,855	4,859	4,869	4,886	4,897	4,907	71
Tanks with Certificate of Compliance	4,575	4,609	4,616	4,611	4,644	4,651	4,661	4,668	4,670	4,674	4,682	4,683	108
Tanks without COC	261	224	217	221	197	198	194	191	199	212	215	223	(38)
Cumulative Facilities with Registered A Operators	1,274	1,272	1,270	1,269	1,265	1,265	1,266	1,270	1,262	1,278	1,271	1,272	83.25%
Cumulative Facilities with Registered B Operators	1,285	1,284	1,283	1,283	1,278	1,278	1,279	1,283	1,276	1,280	1,273	1,273	83.31%
New LUST Sites	5	7	8	7	4	4	3	11	2	9	6	4	70
Closed LUST Sites	7	5	12	5	4	3	7	9	6	6	4	5	73
Cumulative Closed LUST Sites	5682	5694	5703	5707	5711	5717	5724	5733	5739	5741	5748	5751	69
FINANCIAL													
	June	July	August	September	October	November	December	January	February	March	April	May	(+/-)
Tanks on PST Fund	2,994	3,006	3,025	3,022	3,032	3,039	3,049	3,056	3,056	3,052	3,064	3,059	65
PST Claims (Cumulative)	732	731	731	735	734	734	734	734	738	738	741	740	8
Equity Balance	\$5,800,921	\$6,577,483	\$8,003,529	\$7,824,588	\$6,991,673	\$7,429,379	\$7,556,156	\$7,848,489	\$8,280,893	\$8,218,397	\$8,511,914	\$9,321,582	\$3,520,661
Cash Balance	\$34,020,958	\$35,777,520	\$37,223,566	\$37,044,625	\$37,309,972	\$37,747,678	\$37,874,455	\$38,166,788	\$38,599,192	\$38,536,696	\$38,830,213	\$39,639,881	\$5,618,923
Loans	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Loans	129	129	129	129	129	129	129	129	129	129	129	129	0
Cumulative Amount	\$6,213,705	\$6,213,705	\$6,213,705	\$6,213,705	\$6,213,705	\$6,213,705	\$6,213,705	\$6,213,705	\$6,213,705	\$6,213,705	\$6,123,705	\$6,123,705	(\$90,000)
Defaults/Amount	0	0	0	0	0	0	0	0	0	1	1	2	2
	June	July	August	September	October	November	December	January	February	March	April	May	TOTAL
Speed Memos	76	79	102	100	135	103	241	78	127	135	199	135	1,510
Compliance Letters	1	7	11	3	17	5	12	13	7	8	11	18	113
Notice of Intent to Revoke	1	0	0	0	0	0	0	0	0	1	0	0	2
Orders	0	1	0	0	0	1	0	1	0	0	0	0	3

Board Information Item
Proposed changes to R311, Petroleum Storage Tank Rules (2025)

The Division of Environmental Response and Remediation (DERR) is currently drafting proposed changes to R311, the Petroleum Storage Tank (PST) rules. These changes are presented as an information item.

Background:

On February 27, 2025, Utah's Governor Spencer Cox signed H.B. 18 Petroleum Storage Tank Amendments, which became effective on May 7, 2025. This bill marks the first changes to the Petroleum Storage Tank Act since the introduction of aboveground petroleum storage tank (APST) regulations in 2021.

Key changes enacted by H.B. 18 include:

- **Notification Requirements for APST Owners/Operators:** Owners and operators of APSTs are now required to notify the DERR of any change in ownership, new installations, or upgrades/repairs to their tanks.
- **Revised Definition of PST Certifications:** The definition of "Underground Storage Tank Removers, Testers and Installers" has been updated to the broader "Petroleum Storage Tank Removers, Testers and Installers" to reflect the inclusion of APSTs.
- **Installation Permit and Fee Requirements:** Petroleum storage tank installation companies must now obtain an install permit for all PST installations, including APSTs, at least 30 days before the installation begins. Associated fees must also be paid at least 30 days prior to the start of the installation.
- **APST Loan Program Eligibility:** Owners and operators of APSTs are now eligible to apply for loans from the Petroleum Storage Tank Fund Loan Program for the purpose of upgrading, replacing, or permanently closing an APST.

Additionally, other minor rule changes are proposed to clarify existing requirements for owners and operators of PSTs, without imposing any new obligations on these entities.

The tentative adoption schedule for the proposed rule changes is:

Informal request for comments from PST Stakeholders	July and August, 2025
Present to Board as informational item with text of proposed changes	July 10, 2025
Request for Board approval for publication and public comment	September 11, 2025
Publication in the Utah State Bulletin (proposed)	September 15, 2025
Public comment period (per admin. rules)	Sept 15 – Oct 15, 2025
Public hearing (date tentative)	October 1, 2025
Board approval for final adoption (tentative)	November 13, 2025
Final effective date of new rules (tentative)	November 14, 2025

The rule templates, including required analysis and the text of the changes will be presented to the Board at the September meeting. This matter does not require Board action at this time.

WASTE MANAGEMENT AND RADIATION CONTROL BOARD
Executive Summary
Proposed Rule Changes
Utah Administrative Code R315-306, 307, 310, 311, 314, and 319
July 10, 2025

<p>What is the issue before the Board?</p>	<p>Approval from the Board to proceed with formal rulemaking and public comment on proposed changes to Utah Administrative Code R315-306, 307, 310, 311, 314, and 319 to amend the solid waste rules with regard to coal combustion residuals.</p>
<p>What is the historical background or context for this issue?</p>	<p>Utah Administrative Code R315-319 established requirements for Coal Combustion Residual (CCR) facilities in Utah based on the corresponding federal rules published in Subpart D of 40 CFR 257 on April 17, 2015. On August 28, 2020, the federal requirements were amended, establishing a revised date of April 11, 2021, by which unlined surface impoundments and units that failed the aquifer location restriction must cease receiving waste and initiate closure or retrofit; including revisions to the alternative closure provisions that would grant certain facilities additional time to develop alternative capacity to manage their waste before they must stop receiving waste and initiate closure of their surface impoundments. The annual groundwater monitoring and corrective action report requirements and the requirements for the publicly accessible internet sites were also amended.</p> <p>On November 12, 2020, the U.S. Environmental Protection Agency (U.S. EPA) further amended the federal requirements allowing a limited number of facilities to demonstrate to U.S. EPA or a Participating State Director that, based on groundwater data and the design of a particular surface impoundment, the unit has and will continue to ensure there is no reasonable probability of adverse effects to human health and the environment and impoundments should be allowed to continue to operate. On May 8, 2024, and March 14, 2025, the federal requirements were again amended, changing regulations for inactive surface impoundments at inactive electric utilities. These changes remove an exemption to the rules for legacy surface impoundments and tailor compliance deadlines for owners and operators of legacy CCR surface impoundments, except for the location restrictions and liner design criteria. None of these legacy CCR surface impoundments exist in Utah, but these rule amendments have been added for consistency.</p> <p>The Division will be seeking approval from the U.S. EPA for the CCR program in Utah and amending these rules so that they are consistent with the federal regulations is part of that process.</p>

	<p>The changes being made to the solid waste rules in Utah Admin. Code R315 do not make any changes to the technical requirements for building and operating a CCR surface impoundment. The changes include removing outdated requirements, adding clarifications, adding definitions, adding optional requirements, changes to the types of information that must be included in reports, facility operating records, and posted to facility web pages, and changing compliance dates. Additional details can be found in the summary section in the attached Administrative Rule Analysis forms.</p> <p>Additionally, the Division is fixing typographical and formatting errors found in the rules as requested by the Governor's Office.</p>
What is the governing statutory or regulatory citation?	<p>The Board is authorized under Subsection 19-6-105 to make rules that establish minimum standards for protection of human health and the environment for the treatment and disposal of solid waste.</p> <p>The rule changes also meet existing UDEQ and state rulemaking procedures.</p>
Is Board action required?	<p>Yes. Board approval is necessary to begin the formal rulemaking process by filing the appropriate documents with the Office of Administrative Rules for publishing the proposed rule changes in the Utah State Bulletin and conducting a public comment period.</p>
What is the Division Director's recommendation?	<p>The Director recommends the Board approve proceeding with formal rulemaking and public comment by publishing in the August 1, 2025, <i>Utah State Bulletin</i> the proposed changes to Utah Admin. Code R315-306, 307, 310, 311, 314, and 319 and conducting a public comment period from August 1, 2025 to September 2, 2025.</p>
Where can more information be obtained?	<p>Please contact Tom Ball by email at tball@utah.gov or by phone at 385-454-5574, or Brian Speer by email at bspeer@utah.gov or by phone at 385-499-0010.</p>

State of Utah
Administrative Rule Analysis
Revised May 2025

NOTICE OF SUBSTANTIVE CHANGE

TYPE OF FILING: Amendment

Rule or section number:

R315-306-1

Filing ID: OFFICE USE ONLY

Date of previous publication (only for CPRs):

Click or tap to enter a date.

Agency Information

1. Title catchline:	Environmental Quality, Waste Management and Radiation Control, Waste Management	
Building:	MASOB	
Street address:	195 N. 1950 W.	
City, state:	Salt Lake City, UT	
Mailing address:	PO Box 144880	
City, state and zip:	Salt Lake City, UT 84114-4880	
Contact persons:		
Name:	Phone:	Email:
Tom Ball	385-454-5574	tball@utah.gov
Brian Speer	385-499-0010	bspeer@utah.gov

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

General Information

2. Rule or section catchline:	
R315-306-1. Applicability.	
3. Are any changes in this filing because of state legislative action?	Changes are not because of legislative action.
If yes, any bill number and session:	HB 1 (2025 General Session), SB 25 (2024 3rd Special Session)
4. Purpose of the new rule or reason for the change:	
<p>Utah Administrative Code R315-319 established requirements for Coal Combustion Residual (CCR) facilities in Utah based on the corresponding federal rules published in Subpart D of 40 CFR 257 on April 17, 2015. On August 28, 2020, the federal requirements were amended, establishing a revised date of April 11, 2021 by which unlined surface impoundments and units that failed the aquifer location restriction must cease receiving waste and initiate closure or retrofit; including revisions to the alternative closure provisions that would grant certain facilities additional time to develop alternative capacity to manage their waste streams (including additional waste - primarily non-CCR wastewater - generated at the facility) before they must stop receiving waste and initiate closure of their surface impoundments. The annual groundwater monitoring and corrective action report requirements and the requirements for the publicly accessible internet sites were also amended. On November 12, 2020, EPA further amended the federal requirements allowing a limited number of facilities to demonstrate to EPA or a Participating State Director that, based on groundwater data and the design of a particular surface impoundment, the unit has and will continue to ensure there is no reasonable probability of adverse effects to human health and the environment such that these CCR surface impoundments should be allowed to continue to operate. On May 8, 2024 and March 14, 2025, the federal requirements were again amended, changing regulations for inactive surface impoundments at inactive electric utilities, referred to as "legacy CCR surface impoundments." These changes remove an exemption to the rules for legacy surface impoundments and tailor compliance deadlines for owners and operators of legacy CCR surface impoundments, except for the location restrictions and liner design criteria. The U.S. EPA and the Division of Waste Management and Radiation Control have not been able to identify any legacy CCR surface impoundments subject to regulation by the Division, but these rule amendments have been added. The August 28, 2020, November 12, 2020, May 8, 2024 and March 14, 2025 amendments to the federal requirements have been incorporated into R315-319 for Utah's CCR facilities.</p>	
5. Summary of the new rule or change:	
This change amends R315-306-1 to state that the standards in R315-306 do not apply to facilities regulated under Rule R315-319.	

Fiscal Information

6. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:
A. State budget:
It is not anticipated that this amendment will result in any cost or savings to the state budget because it does not add any new requirements or remove any existing requirements for state agencies. This amendment makes it clear that Rule R315-306

does not apply to facilities regulated under Rule R315-319.

B. Local governments:

It is not anticipated that this amendment will result in any cost or savings for local governments because it does not add any new requirements or remove any existing requirements for local governments. This amendment makes it clear that Rule R315-306 does not apply to facilities regulated under Rule R315-319.

C. Small businesses ("small business" means a business employing 1-49 persons):

It is not anticipated that this amendment will result in any cost or savings for small businesses because it does not add any new requirements or remove any existing requirements for small businesses. This amendment makes it clear that Rule R315-306 does not apply to facilities regulated under Rule R315-319.

D. Non-small businesses ("non-small business" means a business employing 50 or more persons):

It is not anticipated that this amendment will result in any cost or savings for non-small businesses because it does not add any new requirements or remove any existing requirements for non-small businesses. This amendment makes it clear that Rule R315-306 does not apply to facilities regulated under Rule R315-319.

E. Persons other than small businesses, non-small businesses, state, or local government entities ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an **agency**):

It is not anticipated that this amendment will result in any cost or savings for persons other than small businesses, non-small businesses, state, or local governments because it does not add any new requirements or remove any existing requirements. This amendment makes it clear that Rule R315-306 does not apply to facilities regulated under Rule R315-319.

F. Compliance costs for affected persons:

There are no additional compliance costs for affected persons above the costs that already exist for persons who must comply with Rule R315-306 because the amendment does not add any new requirements.

G. Regulatory Impact Summary Table (This table includes only fiscal impacts the agency was able to measure. If the agency could not estimate an impact, it is excluded from this table but described in boxes A through F.)

Regulatory Impact Summary Table					
Fiscal Cost	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Cost	\$0	\$0	\$0	\$0	\$0
Fiscal Benefits	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Benefits	\$0	\$0	\$0	\$0	\$0
Net Fiscal Benefits	\$0	\$0	\$0	\$0	\$0

H. Department head comments on fiscal impact and approval of regulatory impact analysis:

The Executive Director of the Department of Environmental Quality, Tim Davis, has reviewed and approved this regulatory impact analysis.

Citation Information

7. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:

Section 19-6-104	Section 19-6-108	

Incorporation by Reference Information

8. Incorporation by Reference (if this rule incorporates more than two items by reference, please include additional tables):

A. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated

by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

B. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

Public Notice Information

9. The public may submit written or oral comments to the agency identified in box 1.

A. Comments will be accepted until:	09/02/2025	
B. A public hearing (optional) will be held (The public may request a hearing by submitting a written request to the agency, as outlined in Section 63G-3-302 and Rule R15-1.):		
Date:	Time (hh:mm AM/PM):	Place (physical address or URL):
Click or tap to enter a date.		
To the agency: If more than one hearing is planned to take place, continue to add rows.		

10. This rule change MAY become effective on:	09/15/2025
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NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.

Agency Authorization Information

To the agency: Information requested on this form is required by Sections 63G-3-301, 63G-3-302, 63G-3-303, and 63G-3-402. The office may return incomplete forms to the agency, possibly delaying publication in the *Utah State Bulletin* and delaying the first possible effective date.

Agency head or designee and title:	Douglas J. Hansen, Director	Date:	Click or tap to enter a date.
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R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.

R315-306. Incinerator Standards.

R315-306-1. Applicability.

- (1) These standards apply to any incinerator facility as specified in Subsections R315-306-2(1) and R315-306-3(1).
- (2) These standards do not apply to:
 - (a) an incineration facility ~~which~~ that is required to obtain a state or federal hazardous waste plan approval;
 - (b) a facility burning only untreated woodwaste;
 - (c) the flaring of gases recovered at a landfill; ~~or~~
 - (d) a facility that incinerates or cremates exclusively human or animal remains; ~~or~~
 - (e) facilities regulated under Rule R315-319.

KEY: solid waste management, waste disposal

Date of Last Change: January 16, 2024

Notice of Continuation: November 30, 2022

Authorizing, and Implemented or Interpreted Law: 19-6-104; 19-6-105; 19-6-108

State of Utah
Administrative Rule Analysis
Revised May 2025

NOTICE OF SUBSTANTIVE CHANGE

TYPE OF FILING: Amendment

Rule or section number:

R315-307-1

Filing ID: OFFICE USE ONLY

Date of previous publication (only for CPRs):

Click or tap to enter a date.

Agency Information

1. Title catchline:	Environmental Quality, Waste Management and Radiation Control, Waste Management	
Building:	MASOB	
Street address:	195 N. 1950 W.	
City, state:	Salt Lake City, UT	
Mailing address:	PO Box 144880	
City, state and zip:	Salt Lake City, UT 84114-4880	
Contact persons:		
Name:	Phone:	Email:
Tom Ball	385-454-5574	tball@utah.gov
Brian Speer	385-499-0010	bspeer@utah.gov

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

General Information

2. Rule or section catchline:	
R315-307-1. Applicability.	
3. Are any changes in this filing because of state legislative action?	Changes are not because of legislative action.
If yes, any bill number and session:	HB 1 (2025 General Session), SB 25 (2024 3rd Special Session)
4. Purpose of the new rule or reason for the change:	
<p>Utah Administrative Code R315-319 established requirements for Coal Combustion Residual (CCR) facilities in Utah based on the corresponding federal rules published in Subpart D of 40 CFR 257 on April 17, 2015. On August 28, 2020, the federal requirements were amended, establishing a revised date of April 11, 2021 by which unlined surface impoundments and units that failed the aquifer location restriction must cease receiving waste and initiate closure or retrofit; including revisions to the alternative closure provisions that would grant certain facilities additional time to develop alternative capacity to manage their waste streams (including additional waste - primarily non-CCR wastewater - generated at the facility) before they must stop receiving waste and initiate closure of their surface impoundments. The annual groundwater monitoring and corrective action report requirements and the requirements for the publicly accessible internet sites were also amended. On November 12, 2020, EPA further amended the federal requirements allowing a limited number of facilities to demonstrate to EPA or a Participating State Director that, based on groundwater data and the design of a particular surface impoundment, the unit has and will continue to ensure there is no reasonable probability of adverse effects to human health and the environment such that these CCR surface impoundments should be allowed to continue to operate. On May 8, 2024 and March 14, 2025, the federal requirements were again amended, changing regulations for inactive surface impoundments at inactive electric utilities, referred to as "legacy CCR surface impoundments." These changes remove an exemption to the rules for legacy surface impoundments and tailor compliance deadlines for owners and operators of legacy CCR surface impoundments, except for the location restrictions and liner design criteria. The U.S. EPA and the Division of Waste Management and Radiation Control have not been able to identify any legacy CCR surface impoundments subject to regulation by the Division, but these rule amendments have been added. The August 28, 2020, November 12, 2020, May 8, 2024 and March 14, 2025 amendments to the federal requirements have been incorporated into R315-319 for Utah's CCR facilities.</p>	
5. Summary of the new rule or change:	
This change amends R315-307-1 to state that the standards in R315-307 do not apply to facilities regulated under Rule R315-319.	

Fiscal Information

6. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:
A. State budget:
It is not anticipated that this amendment will result in any cost or savings to the state budget because it does not add any new requirements or remove any existing requirements for state agencies. This amendment makes it clear that Rule R315-307

does not apply to facilities regulated under Rule R315-319.

B. Local governments:

It is not anticipated that this amendment will result in any cost or savings for local governments because it does not add any new requirements or remove any existing requirements for local governments. This amendment makes it clear that Rule R315-307 does not apply to facilities regulated under Rule R315-319.

C. Small businesses ("small business" means a business employing 1-49 persons):

It is not anticipated that this amendment will result in any cost or savings for small businesses because it does not add any new requirements or remove any existing requirements for small businesses. This amendment makes it clear that Rule R315-307 does not apply to facilities regulated under Rule R315-319.

D. Non-small businesses ("non-small business" means a business employing 50 or more persons):

It is not anticipated that this amendment will result in any cost or savings for non-small businesses because it does not add any new requirements or remove any existing requirements for non-small businesses. This amendment makes it clear that Rule R315-307 does not apply to facilities regulated under Rule R315-319.

E. Persons other than small businesses, non-small businesses, state, or local government entities ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an **agency**):

It is not anticipated that this amendment will result in any cost or savings for persons other than small businesses, non-small businesses, state, or local governments because it does not add any new requirements or remove any existing requirements. This amendment makes it clear that Rule R315-307 does not apply to facilities regulated under Rule R315-319.

F. Compliance costs for affected persons:

There are no additional compliance costs for affected persons above the costs that already exist for persons who must comply with Rule R315-307 because the amendment does not add any new requirements.

G. Regulatory Impact Summary Table (This table includes only fiscal impacts the agency was able to measure. If the agency could not estimate an impact, it is excluded from this table but described in boxes A through F.)

Regulatory Impact Summary Table					
Fiscal Cost	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Cost	\$0	\$0	\$0	\$0	\$0
Fiscal Benefits	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Benefits	\$0	\$0	\$0	\$0	\$0
Net Fiscal Benefits	\$0	\$0	\$0	\$0	\$0

H. Department head comments on fiscal impact and approval of regulatory impact analysis:

The Executive Director of the Department of Environmental Quality, Tim Davis, has reviewed and approved this regulatory impact analysis.

Citation Information

7. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:

Section 19-6-104	Section 19-6-108	Section 19-6-105

Incorporation by Reference Information

8. Incorporation by Reference (if this rule incorporates more than two items by reference, please include additional tables):

A. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated

by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

B. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

Public Notice Information

9. The public may submit written or oral comments to the agency identified in box 1.

A. Comments will be accepted until:	09/02/2025	
B. A public hearing (optional) will be held (The public may request a hearing by submitting a written request to the agency, as outlined in Section 63G-3-302 and Rule R15-1.):		
Date:	Time (hh:mm AM/PM):	Place (physical address or URL):
Click or tap to enter a date.		
To the agency: If more than one hearing is planned to take place, continue to add rows.		

10. This rule change MAY become effective on:	09/15/2025
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NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.

Agency Authorization Information

To the agency: Information requested on this form is required by Sections 63G-3-301, 63G-3-302, 63G-3-303, and 63G-3-402. The office may return incomplete forms to the agency, possibly delaying publication in the *Utah State Bulletin* and delaying the first possible effective date.

Agency head or designee and title:	Douglas J. Hansen, Director	Date:	Click or tap to enter a date.
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R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.

R315-307. Landtreatment Disposal Standards.

R315-307-1. Applicability.

(1) These standards apply to any facility that engages in the landtreatment, landfarming, or landspreading disposal of solid waste in a manner that has a reasonable agronomic benefit to soils.

(2) These standards do not apply to:

(a) a facility that uses sewage sludge, woodwaste, or other primarily organic sludge in recycling operations as specified in Section R315-312-4;

(b) agricultural solid wastes resulting from the operation of a farm, including farm animal manure and agricultural residues; ~~or~~

(c) inert waste or demolition waste; ~~or~~

(d) facilities regulated under Rule R315-319.

(3) The landtreatment of domestic sewage sludge and septage is exempt from the requirements of Rule R315-307 but is regulated under the applicable requirements of Rule R317-8 and 40 CFR 503 by the Utah Division of Water Quality.

(4) The owner or operator of a landtreatment disposal facility shall meet the standards for performance specified in Section R315-303-2.

(5) The owner or operator of a landtreatment disposal facility shall meet the location standards of Section R315-302-1.

KEY: solid waste management, waste disposal

Date of Last Change: October 15, 2024

Notice of Continuation: November 30, 2022

Authorizing, and Implemented or Interpreted Law: 19-6-104; 19-6-105; 19-6-108

State of Utah
Administrative Rule Analysis
Revised May 2025

NOTICE OF SUBSTANTIVE CHANGE

TYPE OF FILING: Amendment

Rule or section number:

R315-310-12

Filing ID: OFFICE USE ONLY

Date of previous publication (only for CPRs):

Click or tap to enter a date.

Agency Information

1. Title catchline:	Environmental Quality, Waste Management and Radiation Control, Waste Management	
Building:	MASOB	
Street address:	195 N. 1950 W.	
City, state:	Salt Lake City, UT	
Mailing address:	PO Box 144880	
City, state and zip:	Salt Lake City, UT 84114-4880	
Contact persons:		
Name:	Phone:	Email:
Tom Ball	385-454-5574	tball@utah.gov
Brian Speer	385-499-0010	bspeer@utah.gov

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

General Information

2. Rule or section catchline:	
R315-310-12. Contents of a Permit Application for a New or Expanding Coal Combustion Residual Landfill and Coal Combustion Residual Surface Impoundment.	
3. Are any changes in this filing because of state legislative action?	Changes are not because of legislative action.
If yes, any bill number and session:	HB 1 (2025 General Session), SB 25 (2024 3rd Special Session)
4. Purpose of the new rule or reason for the change:	
<p>Utah Administrative Code R315-319 established requirements for Coal Combustion Residual (CCR) facilities in Utah based on the corresponding federal rules published in Subpart D of 40 CFR 257 on April 17, 2015. On August 28, 2020, the federal requirements were amended, establishing a revised date of April 11, 2021 by which unlined surface impoundments and units that failed the aquifer location restriction must cease receiving waste and initiate closure or retrofit; including revisions to the alternative closure provisions that would grant certain facilities additional time to develop alternative capacity to manage their waste streams (including additional waste - primarily non-CCR wastewater - generated at the facility) before they must stop receiving waste and initiate closure of their surface impoundments. The annual groundwater monitoring and corrective action report requirements and the requirements for the publicly accessible internet sites were also amended. On November 12, 2020, EPA further amended the federal requirements allowing a limited number of facilities to demonstrate to EPA or a Participating State Director that, based on groundwater data and the design of a particular surface impoundment, the unit has and will continue to ensure there is no reasonable probability of adverse effects to human health and the environment such that these CCR surface impoundments should be allowed to continue to operate. On May 8, 2024 and March 14, 2025, the federal requirements were again amended, changing regulations for inactive surface impoundments at inactive electric utilities, referred to as "legacy CCR surface impoundments." These changes remove an exemption to the rules for legacy surface impoundments and tailor compliance deadlines for owners and operators of legacy CCR surface impoundments, except for the location restrictions and liner design criteria. The U.S. EPA and the Division of Waste Management and Radiation Control have not been able to identify any legacy CCR surface impoundments subject to regulation by the Division, but these rule amendments have been added. The August 28, 2020, November 12, 2020, May 8, 2024 and March 14, 2025 amendments to the federal requirements have been incorporated into R315-319 for Utah's CCR facilities..</p>	
5. Summary of the new rule or change:	
This change amends R315-310-12 to state that permit applications for a CCR landfill and surface impoundment must include the information required by R315-310-3(2) in addition to the other requirements listed.	

Fiscal Information

6. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:
A. State budget:
It is not anticipated that this amendment will result in any savings to the state budget because it does not remove any existing

requirements for state agencies. The cost of reviewing the information that is required to be included with new permit applications will be minimal and will be absorbed by the current agency budget.

B. Local governments:

It is not anticipated that this amendment will result in any savings for local governments because it does not remove any existing requirements for local governments. Because any new requirements are administrative in nature and multiple options for compliance are available, local governments should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose.

C. Small businesses ("small business" means a business employing 1-49 persons):

It is not anticipated that this amendment will result in any savings for small businesses because it does not remove any existing requirements for small businesses. Because any new requirements are administrative in nature and multiple options for compliance are available, small businesses should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose.

D. Non-small businesses ("non-small business" means a business employing 50 or more persons):

It is not anticipated that this amendment will result in any savings for non-small businesses because it does not remove any existing requirements for non-small businesses. Because any new requirements are administrative in nature and multiple options for compliance are available, non-small businesses should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose.

E. Persons other than small businesses, non-small businesses, state, or local government entities ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an **agency**):

It is not anticipated that this amendment will result in any savings for persons other than small businesses, non-small businesses, state, or local governments because it does not remove any existing requirements. Because any new requirements are administrative in nature and multiple options for compliance are available, persons other than small businesses, non-small businesses, state, or local government entities should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose.

F. Compliance costs for affected persons:

Because any new requirements are administrative in nature and multiple options for compliance are available, affected persons should be able to minimize compliance costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose.

G. Regulatory Impact Summary Table (This table includes only fiscal impacts the agency was able to measure. If the agency could not estimate an impact, it is excluded from this table but described in boxes A through F.)

Regulatory Impact Summary Table					
Fiscal Cost	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Cost	\$0	\$0	\$0	\$0	\$0
Fiscal Benefits	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Benefits	\$0	\$0	\$0	\$0	\$0
Net Fiscal Benefits	\$0	\$0	\$0	\$0	\$0

H. Department head comments on fiscal impact and approval of regulatory impact analysis:

The Executive Director of the Department of Environmental Quality, Tim Davis, has reviewed and approved this regulatory impact analysis.

7. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:		
Section 19-6-105	Section 19-6-108	Section 19-6-109
40 CFR 258		

Incorporation by Reference Information

8. Incorporation by Reference (if this rule incorporates more than two items by reference, please include additional tables):	
A. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. <i>If none, leave blank</i>):	
Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

B. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. <i>If none, leave blank</i>):	
Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

Public Notice Information

9. The public may submit written or oral comments to the agency identified in box 1.		
A. Comments will be accepted until:		09/02/2025
B. A public hearing (optional) will be held (The public may request a hearing by submitting a written request to the agency, as outlined in Section 63G-3-302 and Rule R15-1.):		
Date:	Time (hh:mm AM/PM):	Place (physical address or URL):
Click or tap to enter a date.		
To the agency: If more than one hearing is planned to take place, continue to add rows.		

10. This rule change MAY become effective on:	09/15/2025
NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.	

Agency Authorization Information

To the agency: Information requested on this form is required by Sections 63G-3-301, 63G-3-302, 63G-3-303, and 63G-3-402. The office may return incomplete forms to the agency, possibly delaying publication in the <i>Utah State Bulletin</i> and delaying the first possible effective date.			
Agency head or designee and title:	Douglas J. Hansen, Director	Date:	Click or tap to enter a date.

R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.
R315-310. Permit Requirements for Solid Waste Facilities.

R315-310-12. Contents of a Permit Application for a New or Expanding Coal Combustion Residual Landfill and Coal Combustion Residual Surface Impoundment.

Each application for a coal combustion residual landfill and coal combustion residual surface impoundment permit shall contain the information required in Subsections R315-310-3(1)(a) and R315-310-3(1)(k), R315-310-3(2) and ~~[Section]~~Rule R315-319.

KEY: solid waste management, waste disposal
Date of Last Change: October 15, 2024
Notice of Continuation: November 30, 2022

Authorizing, and Implemented or Interpreted Law: 19-6-105; 19-6-108; 19-6-109; 40 CFR 258

State of Utah
Administrative Rule Analysis
Revised May 2025

NOTICE OF SUBSTANTIVE CHANGE

TYPE OF FILING: Amendment

Rule or section number:

R315-311-2

Filing ID: OFFICE USE ONLY

Date of previous publication (only for CPRs): [Click or tap to enter a date.](#)

Agency Information

1. Title catchline:	Environmental Quality, Waste Management and Radiation Control, Waste Management	
Building:	MASOB	
Street address:	195 N. 1950 W.	
City, state:	Salt Lake City, UT	
Mailing address:	PO Box 144880	
City, state and zip:	Salt Lake City, UT 84114-4880	
Contact persons:		
Name:	Phone:	Email:
Tom Ball	385-454-5574	tball@utah.gov
Brian Speer	385-499-0010	bspeer@utah.gov

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

General Information

2. Rule or section catchline:	
R315-311-2. Permit Modification, Renewal, or Termination.	
3. Are any changes in this filing because of state legislative action?	Changes are not because of legislative action.
If yes, any bill number and session:	HB 1 (2025 General Session), SB 25 (2024 3rd Special Session)
4. Purpose of the new rule or reason for the change:	
<p>Utah Administrative Code R315-319 established requirements for Coal Combustion Residual (CCR) facilities in Utah based on the corresponding federal rules published in Subpart D of 40 CFR 257 on April 17, 2015. On August 28, 2020, the federal requirements were amended, establishing a revised date of April 11, 2021 by which unlined surface impoundments and units that failed the aquifer location restriction must cease receiving waste and initiate closure or retrofit; including revisions to the alternative closure provisions that would grant certain facilities additional time to develop alternative capacity to manage their waste streams (including additional waste - primarily non-CCR wastewater - generated at the facility) before they must stop receiving waste and initiate closure of their surface impoundments. The annual groundwater monitoring and corrective action report requirements and the requirements for the publicly accessible internet sites were also amended. On November 12, 2020, EPA further amended the federal requirements allowing a limited number of facilities to demonstrate to EPA or a Participating State Director that, based on groundwater data and the design of a particular surface impoundment, the unit has and will continue to ensure there is no reasonable probability of adverse effects to human health and the environment such that these CCR surface impoundments should be allowed to continue to operate. On May 8, 2024 and March 14, 2025, the federal requirements were again amended, changing regulations for inactive surface impoundments at inactive electric utilities, referred to as "legacy CCR surface impoundments." These changes remove an exemption to the rules for legacy surface impoundments and tailor compliance deadlines for owners and operators of legacy CCR surface impoundments, except for the location restrictions and liner design criteria. The U.S. EPA and the Division of Waste Management and Radiation Control have not been able to identify any legacy CCR surface impoundments subject to regulation by the Division, but these rule amendments have been added. The August 28, 2020, November 12, 2020, May 8, 2024 and March 14, 2025 amendments to the federal requirements have been incorporated into R315-319 for Utah's CCR facilities.</p>	
5. Summary of the new rule or change:	
<p>This change amends R315-311-2(1)(b) to include facilities subject to Rule R315-319 among permitted facilities that the Director may subject minor permit modification requests to a 45 day public comment period. Additionally, the division is correcting formatting and typographical errors in the rule.</p>	

Fiscal Information

6. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:
A. State budget:
It is not anticipated that this amendment will result in any savings to the state budget because it does not remove any existing

requirements for state agencies. The cost of conducting any potential 45 day comment periods will be minimal and will be absorbed by the current agency budget.

B. Local governments:

It is not anticipated that this amendment will result in any savings for local governments because it does not remove any existing requirements for local governments. Because any new requirements are administrative in nature and multiple options for compliance are available, local governments should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose.

C. Small businesses ("small business" means a business employing 1-49 persons):

It is not anticipated that this amendment will result in any savings for small businesses because it does not remove any existing requirements for small businesses. Because any new requirements are administrative in nature and multiple options for compliance are available, small businesses should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose..

D. Non-small businesses ("non-small business" means a business employing 50 or more persons):

It is not anticipated that this amendment will result in any savings for non-small businesses because it does not remove any existing requirements for non-small businesses. Because any new requirements are administrative in nature and multiple options for compliance are available, non-small businesses should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose.

E. Persons other than small businesses, non-small businesses, state, or local government entities ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an **agency**):

It is not anticipated that this amendment will result in any savings for persons other than small businesses, non-small businesses, state, or local governments because it does not remove any existing requirements. Because any new requirements are administrative in nature and multiple options for compliance are available, persons other than small businesses, non-small businesses, state, or local government entities should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose.

F. Compliance costs for affected persons:

Because any new requirements are administrative in nature and multiple options for compliance are available, affected persons should be able to minimize compliance costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each affected person will choose.

G. Regulatory Impact Summary Table (This table includes only fiscal impacts the agency was able to measure. If the agency could not estimate an impact, it is excluded from this table but described in boxes A through F.)

Regulatory Impact Summary Table					
Fiscal Cost	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Cost	\$0	\$0	\$0	\$0	\$0
Fiscal Benefits	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Benefits	\$0	\$0	\$0	\$0	\$0
Net Fiscal Benefits	\$0	\$0	\$0	\$0	\$0

H. Department head comments on fiscal impact and approval of regulatory impact analysis:

The Executive Director of the Department of Environmental Quality, Tim Davis, has reviewed and approved this regulatory impact analysis.

Citation Information

7. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:

Section 19-6-104	Section 19-6-105	Section 19-6-108

Incorporation by Reference Information

8. Incorporation by Reference (if this rule incorporates more than two items by reference, please include additional tables):

A. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

B. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

Public Notice Information

9. The public may submit written or oral comments to the agency identified in box 1.

A. Comments will be accepted until:

09/02/2025

B. A public hearing (optional) will be held (The public may request a hearing by submitting a written request to the agency, as outlined in Section 63G-3-302 and Rule R15-1.):

Date:	Time (hh:mm AM/PM):	Place (physical address or URL):
Click or tap to enter a date.		

To the agency: If more than one hearing is planned to take place, continue to add rows.

10. This rule change MAY become effective on:

09/15/2025

NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.

Agency Authorization Information

To the agency: Information requested on this form is required by Sections 63G-3-301, 63G-3-302, 63G-3-303, and 63G-3-402. The office may return incomplete forms to the agency, possibly delaying publication in the *Utah State Bulletin* and delaying the first possible effective date.

Agency head or designee and title:	Douglas J. Hansen, Director	Date:	Click or tap to enter a date.
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R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.

R315-311. Permit Approval For Solid Waste Disposal, Waste Tire Storage, Energy Recovery, And Incinerator Facilities.

R315-311-2. Permit Modification, Renewal, or Termination.

(1) A permit may be considered for modification or termination at the request of any interested person, including the permittee, or upon the director's initiative in accordance with Section R315-124-5. Requests for permit modification or termination shall become effective only upon approval by the director and in accordance with Section R315-124-15.

(a) Minor modifications of a permit or plan of operation may not be subject to the 45 day public comment period as required by Section R315-311-3, unless obligatory under Subsection R315-311-2(1)(b). The [following] modifications listed in Subsections R315-311-2(1)(a)(i) through R315-311-2(1)(a)(xvii) shall be considered minor, except that Subsections R315-311-2(1)(a)(vi) and R315-311-2(1)(a)(viii) are not minor modifications for coal combustion residual units.

- (i) Corrections of typographical errors.
- (ii) Changes to the name, address, or phone number of persons or agencies identified in the permit.
- (iii) Changes to administrative or informational items.
- (iv) Making changes to procedures for maintaining the operating record or the location where the operating record is kept.
- (v) Changes are made to provide for more frequent monitoring, reporting, sampling, or maintenance.
- (vi) A compliance date extension request is made for a new date not to exceed 120 days after the date specified in the approved permit.
- (vii) Changes are made to the expiration date of the permit to allow an earlier permit termination.
- (viii) Changes are made to the closure schedule for a unit, to the final closure schedule for the facility, or the closure period is extended.
- (ix) The director determines, in the case of a permit transfer application, that no change in the permit other than the change in the name of the owner or operator is necessary.
- (x) Equipment is upgraded or replaced with functionally equivalent components.
- (xi) Changes are made in sampling or analysis methods, procedures, or schedules and those changes conform with Rule R315-308 if sampling or analyzing groundwater.
- (xii) Changes are made in the construction or groundwater monitoring quality control quality assurance plans that will better certify that the specifications for construction, closure, sampling, or analysis will be met.
- (xiii) Changes are made in the facility plan of operation that conform to guidance or rules approved by the Waste Management and Radiation Control Board or provide more efficient waste handling or more effective waste screening.
- (xiv) Replacement of an existing monitoring well with a new well without changing the location.
- (xv) Changes are made in the design or depth of a monitoring well that provides more effective monitoring.
- (xvi) Changes are made in the statistical method used to statistically analyze the groundwater quality data that conform with Rule R315-308.
- (xvii) Changes are made in any permit condition that are more restrictive or provide more protection to health or the environment.
- (b) The director may subject any minor modification request, including facilities subject to regulation under Rule R315-319, to the 45 day public comment period described in Subsection R315-311-3(1) if justified by conditions and circumstances.
- (c) A permit modification that does not meet the requirements of Subsection R315-311-2(1)(a) for a minor modification shall be a major modification.
- (d) If the director determines that major modifications to a permit or plan of operation are justified, a new operational plan incorporating the approved modifications shall be prepared. The modifications shall be subject to the public comment period as specified in Section R315-311-3.
- (2) An application for permit renewal shall consist of the information required by Section R315-310-9. Upon receipt, the director will review the application in accordance with Section R315-124-3, and a draft permit or a notice of intent to deny will be prepared in accordance with Section R315-124-6. The current permit shall remain in effect until issuance or denial of a new permit. Each permit renewal shall be subject to the public comment requirements of Section R315-311-3.
- (3) The director shall notify, in writing, the owner or operator of any facility of intent to terminate a permit in accordance with Subsections R315-124-5(d) and R315-124-5(e). A permit may be terminated for:
 - (a) noncompliance with any condition of the permit;
 - (b) noncompliance with any applicable rule;
 - (c) failure in the application or during the approval or renewal process to disclose fully each relevant fact;
 - (d) misrepresentation by the owner or operator of any relevant facts at any time; or
 - (e) a determination that the solid waste activity or facility endangers human health or the environment.
- (4) The owner or operator of a facility may appeal any action associated with modification, renewal, or termination in accordance with Section R315-317-3, Title 63G Chapter 4, Administrative Procedures Act, and Rule R305-7.

KEY: solid waste management, waste disposal

Date of Last Change: October 15, 2024

Notice of Continuation: November 30, 2022

Authorizing, and Implemented or Interpreted Law: 19-6-104; 19-6-105; 19-6-108

State of Utah
Administrative Rule Analysis
Revised May 2025

NOTICE OF SUBSTANTIVE CHANGE

TYPE OF FILING: Amendment

Rule or section number:

R315-314-1

Filing ID: OFFICE USE ONLY

Date of previous publication (only for CPRs):

Click or tap to enter a date.

Agency Information

1. Title catchline:	Environmental Quality, Waste Management and Radiation Control, Waste Management		
Building:	MASOB		
Street address:	195 N. 1950 W.		
City, state:	Salt Lake City, UT		
Mailing address:	PO Box 144880		
City, state and zip:	Salt Lake City, UT 84114-4880		
Contact persons:			
Name:	Phone:	Email:	
Tom Ball	385-454-5574	tball@utah.gov	
Brian Speer	385-499-0010	bspeer@utah.gov	

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

General Information

2. Rule or section catchline:	
R315-314-1. Applicability.	
3. Are any changes in this filing because of state legislative action?	Changes are not because of legislative action.
If yes, any bill number and session:	HB 1 (2025 General Session), SB 25 (2024 3rd Special Session)
4. Purpose of the new rule or reason for the change:	
<p>Utah Administrative Code R315-319 established requirements for Coal Combustion Residual (CCR) facilities in Utah based on the corresponding federal rules published in Subpart D of 40 CFR 257 on April 17, 2015. On August 28, 2020, the federal requirements were amended, establishing a revised date of April 11, 2021 by which unlined surface impoundments and units that failed the aquifer location restriction must cease receiving waste and initiate closure or retrofit; including revisions to the alternative closure provisions that would grant certain facilities additional time to develop alternative capacity to manage their waste streams (including additional waste - primarily non-CCR wastewater - generated at the facility) before they must stop receiving waste and initiate closure of their surface impoundments. The annual groundwater monitoring and corrective action report requirements and the requirements for the publicly accessible internet sites were also amended. On November 12, 2020, EPA further amended the federal requirements allowing a limited number of facilities to demonstrate to EPA or a Participating State Director that, based on groundwater data and the design of a particular surface impoundment, the unit has and will continue to ensure there is no reasonable probability of adverse effects to human health and the environment such that these CCR surface impoundments should be allowed to continue to operate. On May 8, 2024 and March 14, 2025, the federal requirements were again amended, changing regulations for inactive surface impoundments at inactive electric utilities, referred to as "legacy CCR surface impoundments." These changes remove an exemption to the rules for legacy surface impoundments and tailor compliance deadlines for owners and operators of legacy CCR surface impoundments, except for the location restrictions and liner design criteria. The U.S. EPA and the Division of Waste Management and Radiation Control have not been able to identify any legacy CCR surface impoundments subject to regulation by the Division, but these rule amendments have been added. The August 28, 2020, November 12, 2020, May 8, 2024 and March 14, 2025 amendments to the federal requirements have been incorporated into R315-319 for Utah's CCR facilities.</p>	
5. Summary of the new rule or change:	
<p>This change amends R315-314-1(2) to state that the requirements in R315-314 do not apply to facilities regulated under Rule R315-319.</p> <p>Additionally, the division is correcting formatting and typographical errors in the rule.</p>	

Fiscal Information

6. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:
A. State budget:
It is not anticipated that this amendment will result in any cost or savings to the state budget because it does not add any new

requirements or remove any existing requirements for state agencies. This amendment makes it clear that Rule R315-314 does not apply to facilities regulated under Rule R315-319.

B. Local governments:

It is not anticipated that this amendment will result in any cost or savings for local governments because it does not add any new requirements or remove any existing requirements for local governments. This amendment makes it clear that Rule R315-314 does not apply to facilities regulated under Rule R315-319.

C. Small businesses ("small business" means a business employing 1-49 persons):

It is not anticipated that this amendment will result in any cost or savings for small businesses because it does not add any new requirements or remove any existing requirements for small businesses. This amendment makes it clear that Rule R315-314 does not apply to facilities regulated under Rule R315-319.

D. Non-small businesses ("non-small business" means a business employing 50 or more persons):

It is not anticipated that this amendment will result in any cost or savings for non-small businesses because it does not add any new requirements or remove any existing requirements for non-small businesses. This amendment makes it clear that Rule R315-314 does not apply to facilities regulated under Rule R315-319.

E. Persons other than small businesses, non-small businesses, state, or local government entities ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an **agency**):

It is not anticipated that this amendment will result in any cost or savings for persons other than small businesses, non-small businesses, state, or local governments because it does not add any new requirements or remove any existing requirements. This amendment makes it clear that Rule R315-314 does not apply to facilities regulated under Rule R315-319.

F. Compliance costs for affected persons:

There are no additional compliance costs for affected persons above the costs that already exist for persons who must comply with Rule R315-314 because the amendment does not add any new requirements.

G. Regulatory Impact Summary Table (This table includes only fiscal impacts the agency was able to measure. If the agency could not estimate an impact, it is excluded from this table but described in boxes A through F.)

Regulatory Impact Summary Table					
Fiscal Cost	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Cost	\$0	\$0	\$0	\$0	\$0
Fiscal Benefits	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Benefits	\$0	\$0	\$0	\$0	\$0
Net Fiscal Benefits	\$0	\$0	\$0	\$0	\$0

H. Department head comments on fiscal impact and approval of regulatory impact analysis:

The Executive Director of the Department of Environmental Quality, Tim Davis, has reviewed and approved this regulatory impact analysis.

Citation Information

7. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:

Section 19-6-104	Section 19-6-105	Section 19-6-108

Incorporation by Reference Information

8. Incorporation by Reference (if this rule incorporates more than two items by reference, please include additional tables):

A. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

B. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

Public Notice Information

9. The public may submit written or oral comments to the agency identified in box 1.

A. Comments will be accepted until:	09/02/2025	
B. A public hearing (optional) will be held (The public may request a hearing by submitting a written request to the agency, as outlined in Section 63G-3-302 and Rule R15-1.):		
Date:	Time (hh:mm AM/PM):	Place (physical address or URL):
Click or tap to enter a date.		
To the agency: If more than one hearing is planned to take place, continue to add rows.		

10. This rule change MAY become effective on:	09/15/2025
NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.	

Agency Authorization Information

To the agency: Information requested on this form is required by Sections 63G-3-301, 63G-3-302, 63G-3-303, and 63G-3-402. The office may return incomplete forms to the agency, possibly delaying publication in the *Utah State Bulletin* and delaying the first possible effective date.

Agency head or designee and title:	Douglas J. Hansen, Director	Date:	Click or tap to enter a date.
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R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.

R315-314. Facility Standards for Piles Used for Storage and Treatment.

R315-314-1. Applicability.

(1) The requirements of Rule R315-314 apply to ~~the following~~:

- (a) a pile of solid waste containing garbage that has been in place for more than seven days;
- (b) a pile of solid waste that does not contain garbage that has been in place for more than 90 days;
- (c) a pile of material derived from waste tires if more than 1,000 passenger tire equivalents are stored at one site; and
- (d) a pile of whole waste tires if more than 1,000 tires are stored at one site.

(2) The requirements of Rule R315-314 do not apply to ~~the following~~:

- (a) solid waste stored or treated in piles before recycling including compost piles and wood waste;
- (b) solid waste stored in fully enclosed buildings, provided that no liquids or sludge containing free liquids are added to the waste;
- (c) a pile of inert waste, as defined by Subsection R315-301-2(40); ~~and~~
- (d) a pile of whole waste tires located at a permitted waste disposal facility that is stored for not longer than one year; ~~or~~

(e) coal combustion residuals regulated under Rule R315-319.

(3) A site where crumb rubber, an ultimate product derived from waste tires, or waste tires that have been reduced to materials for beneficial use are stored for not longer than one year may receive a waiver of the requirements of Rule R315-314 from the director on a site specific basis.

(a) No waiver of the requirements of Rule R315-314 will be granted by the director without application from the owner or operator of the storage site.

(b) In granting a waiver of the requirements of Rule R315-314, the director may place conditions on the owner or operator of the storage site as to the sizes of piles, distance between piles, or other operational practices that will minimize fire danger or a risk to human health or the environment.

- (c) The director may revoke a waiver of the [R]requirements of Rule R315-314 if the director finds that:
 - (i) any condition of the waiver is not met; or
 - (ii) the operation of the storage site presents a fire danger or a threat to human health or the environment.

KEY: solid waste management, waste disposal

Date of Last Change: October 15, 2024

Notice of Continuation: November 30, 2022

Authorizing, and Implemented or Interpreted Law: 19-6-104; 19-6-105; 19-6-108

State of Utah
Administrative Rule Analysis
Revised May 2025

NOTICE OF SUBSTANTIVE CHANGE

TYPE OF FILING: Amendment

Rule or section number:

R315-319

Filing ID: OFFICE USE ONLY

Date of previous publication (only for CPRs):

Click or tap to enter a date.

Agency Information

1. Title catchline:	Environmental Quality, Waste Management and Radiation Control, Waste Management	
Building:	MASOB	
Street address:	195 N. 1950 W.	
City, state:	Salt Lake City, UT	
Mailing address:	PO Box 144880	
City, state and zip:	Salt Lake City, UT 84114-4880	
Contact persons:		
Name:	Phone:	Email:
Tom Ball	385-454-5574	tball@utah.gov
Brian Speer	385-499-0010	bspeer@utah.gov

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

General Information

2. Rule or section catchline:	
R315-319. Coal Combustion Residuals Requirements.	
3. Are any changes in this filing because of state legislative action?	Changes are not because of legislative action.
If yes, any bill number and session:	HB 1 (2025 General Session), SB 25 (2024 3rd Special Session)
4. Purpose of the new rule or reason for the change:	
<p>Utah Administrative Code R315-319 established requirements for Coal Combustion Residual (CCR) facilities in Utah based on the corresponding federal rules published in Subpart D of 40 CFR 257 on April 17, 2015. On August 28, 2020, the federal requirements were amended, establishing a revised date of April 11, 2021 by which unlined surface impoundments and units that failed the aquifer location restriction must cease receiving waste and initiate closure or retrofit; including revisions to the alternative closure provisions that would grant certain facilities additional time to develop alternative capacity to manage their waste streams (including additional waste - primarily non-CCR wastewater - generated at the facility) before they must stop receiving waste and initiate closure of their surface impoundments. The annual groundwater monitoring and corrective action report requirements and the requirements for the publicly accessible internet sites were also amended. On November 12, 2020, EPA further amended the federal requirements allowing a limited number of facilities to demonstrate to EPA or a Participating State Director that, based on groundwater data and the design of a particular surface impoundment, the unit has and will continue to ensure there is no reasonable probability of adverse effects to human health and the environment such that these CCR surface impoundments should be allowed to continue to operate. On May 8, 2024, and March 14, 2025, the federal requirements were again amended, changing regulations for inactive surface impoundments at inactive electric utilities, referred to as "legacy CCR surface impoundments." These changes remove an exemption to the rules for legacy surface impoundments and tailor compliance deadlines for owners and operators of legacy CCR surface impoundments, except for the location restrictions and liner design criteria. The U.S. EPA and the Division of Waste Management and Radiation Control have not been able to identify any legacy CCR surface impoundments subject to regulation by the Division, but these rule amendments have been added. The August 28, 2020, November 12, 2020, May 8, 2024, and March 14, 2025, amendments to the federal requirements have been incorporated into R315-319 for Utah's CCR facilities.</p>	
5. Summary of the new rule or change:	
<p>R315-319-1(a) is amended to remove the limitation on rules applicable to Class I, II, and V landfills to be more comprehensive. R315-319-2 is amended by removing the exception for the Director to apply compliance date extensions differently than 40 CFR 256.26. R315-319-50(c) is amended so that it now applies to all inactive CCR surface impoundments at active electric utilities or independent power producers. R315-319-50(e) is being deleted because the corresponding federal regulation no longer exempts generators that ceased operating before October 19, 2015. R315-319-50(f) is amended to clarify that the rule does not apply to CCR generated at sites that are not electric utilities or independent power producers, but that it does apply to generators of electricity that use coal for 50% or more of its mass input.</p>	

R315-319-51 is being amended to incorporate the Waste Management and Radiation Control Board's adoption of Rule R315-319 and published date.

The following definitions are being added to R315-319-53: Eligible unlined CCR surface impoundment, Technically feasible, and Technically infeasible.

Reference to 19-6-102(7) is being corrected to 19-6-102(6) in R315-319-53(a)(18).

R315-319-71(a)(1)(i) is being deleted. This removes the option of a liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

Requirements for an alternate liner demonstration are being added in R315-319-71(d). These requirements are optional.

Requirements for additional information to be included in annual groundwater monitoring and corrective action reports are being added in R315-319-90(e)(6).

R315-319-91(d)(2) is being deleted because it is out of date and no longer needed.

R315-319-95(g)(5) is being amended to apply the provision more broadly and remove retrofit or closure requirements now addressed elsewhere in the rule.

The requirement found in R315-319-95(h)(2) to use background concentrations as the groundwater protection standard for constituents where a groundwater protection standard has not been established in Rule R315-308 is being replaced by a list of constituents.

Timeframes for certain inactive CCR surface impoundments are being added in R315-319-100(e).

R315-319-101(a)(1) is being amended to remove the October 19, 2015 compliance date and associated requirements and replace them with the date of April 11, 2021 by which an owner or operator of an unlined CCR surface impoundment shall stop placing waste into the impoundment and either retrofit or close the impoundment.

R315-319-101(b)(1)(i) is being amended and R315-319-101(b)(1)(ii) is being added to update the requirements for when the owner or operator of an existing CCR surface impoundment that has not demonstrated compliance with location standards shall stop placing waste in the impoundment.

R315-319-102(e)(4)(i) is being deleted because Rule R315-319 now applies to inactive CCR surface impoundments.

R315-319-102(k)(2)(ii)(A)(III) is being added as an additional action or activity that is considered initiation of retrofit activities.

Language is being added throughout R315-319-103 to clarify which rules in this section apply to CCR landfills and not CCR surface impoundments.

Rule citations are being added to the introductory paragraph of R315-319-103 to include all the requirements that owners and operators must meet.

Amendments are being made to R315-319-103(a) and R315-319-103(b) to clarify that they apply to CCR landfills.

R315-319-103(b)(2) and R315-319-103(b)(3) are being deleted because they apply to CCR surface impoundments and R315-319-103(b) applies to CCR landfills.

Site specific alternative deadlines to initiate closure of CCR surface impoundments are being added in R315-319-103(f).

R315-319-104(a)(3) is being deleted because Rule R315-319 now applies to inactive CCR surface impoundments.

The catchline for R315-319-105 is being amended to clarify that this section only contains recordkeeping requirements.

The lists of information that a facility must place in the facility operating record found in R315-319-105(f), R315-319-105(h), and R315-319-105(i) are being expanded to include additional information not previously included.

The catchline for R315-319-106 is being amended to clarify that this section only contains notification requirements.

The lists of information that a facility must provide to the Director found in R315-319-106(f), R315-319-106(h), and R315-319-106(i) are being expanded to include additional information not previously included.

The catchline for R315-319-107 is being amended to clarify that this section only contains requirements for information that must be posted on a publicly accessible internet site.

Language was added to R315-319-107(a) to make it clarify the accessibility requirements for data posted to the internet site.

The lists of information that a facility must post on the internet site found in R315-319-107(f), R315-319-107(h), and R315-319-107(i) are being expanded to include additional information not previously included.

Additionally, the division is correcting formatting and typographical errors in the rule.

Fiscal Information

6. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:

A. State budget:

It is not anticipated that this amendment will result in any savings to the state budget because it does not remove any existing requirements for state agencies. The cost of reviewing any information or data required to be submitted or posted by permittees will be minimal and will be absorbed by the current agency budget.

B. Local governments:

It is not anticipated that this amendment will result in any cost or savings for local governments because there are no local governments operating CCR units in Utah.

C. Small businesses ("small business" means a business employing 1-49 persons):

Because any new requirements are administrative in nature and multiple options for compliance are available, small businesses should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose. It is not anticipated that there will be any savings for small businesses because the amendments do not remove any existing requirements from the rules.

D. Non-small businesses ("non-small business" means a business employing 50 or more persons):

Because any new requirements are administrative in nature and multiple options for compliance are available, non-small businesses should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each facility will choose. It is not anticipated that there will be any savings for non-small businesses because the amendments do not remove any existing requirements from the rules.

E. Persons other than small businesses, non-small businesses, state, or local government entities ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an **agency**):

Because any new requirements are administrative in nature and multiple options for compliance are available, persons other than small businesses, non-small businesses, state, or local government entities should be able to minimize costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each person will choose. It is not anticipated that there will be any savings for persons other than small businesses, non-small businesses, state, or local governments because the amendments do not remove any existing requirements from the rules.

F. Compliance costs for affected persons:

Because any new requirements are administrative in nature and multiple options for compliance are available, affected persons should be able to minimize compliance costs by selecting the alternative that they determine to be most cost effective. There is no effective method for determining the costs because the Division cannot predict which options each affected person will choose.

G. Regulatory Impact Summary Table (This table includes only fiscal impacts the agency was able to measure. If the agency could not estimate an impact, it is excluded from this table but described in boxes A through F.)

Regulatory Impact Summary Table					
Fiscal Cost	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Cost	\$0	\$0	\$0	\$0	\$0
Fiscal Benefits	FY2026	FY2027	FY2028	FY2029	FY2030
State Budget	\$0	\$0	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0	\$0	\$0
Total Fiscal Benefits	\$0	\$0	\$0	\$0	\$0
Net Fiscal Benefits	\$0	\$0	\$0	\$0	\$0

H. Department head comments on fiscal impact and approval of regulatory impact analysis:

The Executive Director of the Department of Environmental Quality, Tim Davis, has reviewed and approved this regulatory impact analysis.

Citation Information

7. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:

Section 19-6-108		

Incorporation by Reference Information

8. Incorporation by Reference (if this rule incorporates more than two items by reference, please include additional tables):

A. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	

Issue Date	
Issue or Version	

B. This rule adds or updates the following title of material incorporated by reference (a copy of the material incorporated by reference must be submitted to the Office of Administrative Rules. *If none, leave blank*):

Official Title of Materials Incorporated (from title page)	
Publisher	
Issue Date	
Issue or Version	

Public Notice Information

9. The public may submit written or oral comments to the agency identified in box 1.

A. Comments will be accepted until:

09/02/2025

B. A public hearing (optional) will be held (The public may request a hearing by submitting a written request to the agency, as outlined in Section 63G-3-302 and Rule R15-1.):

Date:

Time (hh:mm AM/PM):

Place (physical address or URL):

Click or tap to enter a date.

To the agency: If more than one hearing is planned to take place, continue to add rows.

10. This rule change MAY become effective on:

09/15/2025

NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.

Agency Authorization Information

To the agency: Information requested on this form is required by Sections 63G-3-301, 63G-3-302, 63G-3-303, and 63G-3-402. The office may return incomplete forms to the agency, possibly delaying publication in the *Utah State Bulletin* and delaying the first possible effective date.

Agency head or designee and title:

Douglas J. Hansen, Director

Date:

Click or tap to enter a date.

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 ~~in accordance with Rules R315-302 through 307~~ 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 ~~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 ~~at the time of~~ when the application is submitted~~at~~.

(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 ~~the~~ director approvals required in Sections R315-319-60 through ~~R315-319-107~~ are satisfied by the issuance of a permit by the ~~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 ~~for director approval except as the extensions allowed by 40CFR 256.26 may be applied by the Director~~.

R315-319-50. Scope and Applicability.

- (a) Rule R315-319 establishes criteria for purposes of managing ~~[coal combustion residuals]~~ 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 ~~[coal combustion residuals]~~ CCR.
- (c) Rule R315-319 applies to inactive CCR surface impoundments ~~[that have not closed prior to the effective date of Rule R315-319]~~ 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 ~~[coal combustion residuals]~~ CCR ~~[prior to]~~ before October 19, 2015.
- (e) ~~[Rule R315-319 does not apply to electric utilities or independent power producers that have ceased producing electricity prior to October 19, 2015]~~ 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 ~~[fuels, including other]~~ 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. ~~[-Disposal of these solid wastes are covered by Rules R315-301 through 307.]~~
- (g) Rule R315-319 does not apply to practices that meet the definition of a beneficial use of CCR~~[coal combustion residuals]~~.
- (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 ~~[coal combustion residuals]~~ CCR.

R315-319-51. Effective Date.

The effective date of Rule R315-319 ~~[will be based on the approval of the Waste Management and Radiation Control Board after publication in the Utah State Bulletin]~~ 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 ~~[coal combustion residuals]~~ CCR landfill, ~~[coal combustion residuals]~~ CCR surface impoundment, or lateral expansion of a ~~[coal combustion residuals]~~ CCR unit to comply with ~~[all]~~ other applicable federal, state, tribal, or local laws or other requirements.
- (b) Any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit continues to be subject to the requirements in Section R315-302-~~[2]~~1.

R315-319-53. Definitions.

- (a) The ~~[following]~~ 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~~[-means of]~~ gravitational influence. Areas of mass movement include~~[-but are not limited to,]~~ landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.
 - (8) "Beneficial use of CCR" means the CCR meet each of the ~~[following]~~ 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 ~~S[ubs]~~ection R315-319-102 and has initiated post-closure care in accordance with ~~S[ubs]~~ection 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, ~~[which]~~ 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 ~~[paragraph]~~ 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 19-6-102(~~[7]~~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).

(~~2[4]~~2) "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.

(~~2[3]~~3) "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.

(~~2[3]~~4) "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.

(~~2[4]~~5) "Factor of safety," [~~5~~] "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.

(~~2[5]~~6) "Fault" means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side.

(~~2[6]~~7) "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.

(~~2[7]~~8) "Freeboard" means the vertical distance between the lowest point on the crest of the impoundment dike and the surface of the waste contained therein.

(~~2[8]~~9) "Free liquids" means liquids that readily separate from the solid portion of a waste under ambient temperature and pressure.

(~~[29]~~30) "Groundwater" means water below the land surface in a zone of saturation.

(~~3[0]~~1) "Hazard potential classification" means the possible adverse incremental consequences that result from the release of

water or stored contents due to failure of the diked CCR surface impoundment or mis-operation of the diked CCR surface impoundment or its appurtenances. The hazardous potential classifications include high hazard potential CCR surface impoundment, significant hazard potential CCR surface impoundment, and low hazard potential CCR surface impoundment, which terms mean:

(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.

(3)(4)(2) "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.

(3)(2)(3) "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.

(3)(3)(4) "Hydraulic conductivity" means the rate that water can move through a permeable medium, that is, the coefficient of permeability.

(3)(4)(5) "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.

(3)(5)(6) "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.

(3)(6)(7) "Inflow design flood" means the flood hydrograph that is used in the design or modification of the CCR surface impoundments and its appurtenant works.

(3)(7)(8) "In operation" see "Active life."[-]

(3)(8)(9) "Karst terrain" means an area where karst topography, with its characteristic erosional surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features present in karst terranes include[-but are not limited to,] dolines, collapse shafts or sinkholes, sinking streams, caves, seeps, large springs, and blind valleys.

(3)(9)(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.

(4)(0)(1) "Liquefaction factor of safety" means the factor of safety, safety factor, determined using analysis under liquefaction conditions.

(4)(1)(2) "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.

(4)(2)(3) "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.

(4)(3)(4) "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.

(4)(4)(5) "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.

(4)(5)(6) "Operator" means the person responsible for the overall operation of a CCR unit.

(4)(6)(7) "Overfill" means a new CCR landfill constructed over a closed CCR surface impoundment.

(4)(7)(8) "Owner" means the person who owns a CCR unit or part of a CCR unit.

(4)(8)(49) "Poor foundation conditions" mean those areas where features exist that [indicate]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.

(4)(9)(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.

(5)(0)(1) "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.

(5)(1)(2) "Qualified professional engineer" means an individual who is licensed in Utah as a [P]professional [E]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.

(5[2]3) "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.

(5[3]4) "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

(5[4]5) "Representative sample" means a sample of a universe or whole, for example, waste pile, lagoon, and groundwater, [which] 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.

(5[5]6) "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.

(5[6]7) "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.

(5[7]8) "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.

(5[8]9) "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 [U.S.]US Geological Survey (USGS) seismic hazard maps for seismic events with this return period for the region where the CCR surface impoundment is located.

(5[9]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.

(6[0]1) "Slope protection" means engineered or non-engineered measures installed on the upstream or downstream slope of the CCR surface impoundment to protect the slope against wave action or erosion, including [but not limited to] rock riprap, wooden pile, or concrete revetments, vegetated wave berms, concrete facing, gabions, geotextiles, or fascines.

(6[1]2) "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.

(6[2]3) "State" means the State of Utah unless otherwise indicated.

(6[3]4) [-]"Director" means the director of the Division of Waste Management and Radiation Control.

(6[4]5) "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.

(6[5]6) "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.

(6[6]9) "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.

(6[7]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.

(6[8]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 [all]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 [D]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).

R315-319-62. Fault Areas.

(a) New CCR landfills, existing and new CCR surface impoundments, and ~~[all]~~any lateral expansions of CCR units ~~[shall]~~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 [D]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 [I]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 ~~[all]~~any lateral expansions of CCR units ~~[shall]~~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 ~~[all]~~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 [D]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 [F]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 ~~[shall]~~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 ~~[all of]~~the ~~[following]~~ 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 ~~[D]~~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 [F]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) ~~[Prior to]~~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 ~~[all]~~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, ~~[all of]~~the ~~[following]~~ requirements in Subsection 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 ~~[high density polyethylene (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 $1 \times 10^{-7} \text{ cm/sec}$. The hydraulic conductivity for the two feet of compacted soil used in the comparison shall be no greater than $1 \times 10^{-7} \text{ cm/sec}$. 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, ~~which~~ that is derived from Darcy's Law for gravity flow through porous media.

Equation 1

$$Q/A = q = k(h/t + 1)$$

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) ~~[Prior to]~~ 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 ~~[I]~~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 ~~such~~ the unit was constructed with ~~any one of the following~~:

(i) ~~Reserved~~ A liner consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than $1 \times 10^{-7} \text{ cm/sec}$;

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

(iii) ~~[A]~~ 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) ~~[All e]~~ 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 ~~[I]~~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 and/or naturally occurring soil;

(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 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 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 ~~all~~ any surrounding earth likely to be in contact with CCR. Dikes ~~shall~~ may not be constructed on top of the composite liner.

(c) ~~Prior to~~ 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 [F]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 ~~all~~ existing CCR surface impoundments, except for those existing CCR surface impoundments that are incised CCR units. If an incised CCR surface impoundment is subsequently modified, ~~e.g.,~~ 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 ~~which~~ that delineates the downstream area ~~which~~ 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 ~~D~~ 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 ~~ever~~ 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 ~~D~~ 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 ~~D~~ 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 ~~such~~ the periodic hazard potential assessment and submit the EAP to the ~~D~~ 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 ~~D~~ 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 ~~which~~ that are protected with an alternate form ~~{s}~~ 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 [D]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 person[~~(s)~~] owning or operating the CCR unit; the name associated with the CCR unit; and the identification number of the CCR unit if one has been assigned by the state.

(ii) The location of the CCR unit identified on the most recent [~~U.S. Geological Survey (USGS)~~] [71/2]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 ~~[all]~~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 [D]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 ~~[which]~~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 ~~[which]~~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 ~~[all]~~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) ~~[All]~~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 ~~[all]~~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 ~~[which]~~that may negatively affect the operation of the hydraulic structure; and

(vii) For CCR units with downstream slopes ~~[which]~~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 [D]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 [D]director.

(e) Periodic safety factor assessments.

(1) The owner or operator shall conduct and submit to the [D]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 ~~all~~ 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 ~~1.00~~ 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 [D]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 assessment[~~(s)~~] in lieu of the initial assessment[~~(s)~~]. The owner or operator of the CCR unit may elect to use a previously completed assessment to serve as the initial assessment required by Subsections R315-319-73(a)(2), R315-319-73(d), and R315-319-73(e) provided that the previously completed assessment[~~(s)~~]:

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

(ii) ~~Meets~~ meets the applicable requirements of Subsections R315-319-73[~~(a)~~](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 [D]director the assessments required by Subsections R315-319-73[~~(a)~~](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 assessment[~~(s)~~] in lieu of the initial assessment as provided by Subsection R315-319-73[~~(f)~~](f)(2), the date of the report for the previously completed assessment is the basis for establishing the deadline to complete the first subsequent assessment. The owner or operator may complete any required assessment ~~prior to~~ before the required deadline provided the owner or operator submits the assessment to the [D]director and places the completed assessment[~~(s)~~] into the facility's operating record within a reasonable amount of time. In ~~each~~ each case[s], 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 assessment[~~(s)~~] required by Subsections R315-319-73[~~(a)~~](a)(2), R315-319-73(d), and R315-319-73(e) has been submitted and approved by the [D]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)~~](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).

R315-319-81. 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~~ 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~~ 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[ever] 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 [prior to]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 [a]each case[s], 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) [F]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 [probable maximum flood]PMF;

(ii) [F]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) [F]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) [F]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[ever] 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 [prior to]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 [a]each case[s], 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).

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

(a) Inspections by a qualified person.

(1) ~~[All]~~ CCR landfills and any lateral expansion of a CCR landfill shall be examined by a qualified person~~[as follows]~~:

(i) ~~[A]~~at intervals not exceeding seven days, inspect for any appearances of actual or potential structural weakness and other conditions ~~[which]~~that are disrupting or have the potential to disrupt the operation or safety of the CCR unit; and

(ii) ~~[T]~~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]~~a review of available information regarding the status and condition of the CCR unit, including~~[, but not limited to,]~~ files available in the operating record, ~~[e.g.]~~for example, the results of inspections by a qualified person, and results of previous annual inspections; and

(ii) ~~[A]~~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~~[the following]~~:

(i) ~~[A]~~any changes in geometry of the structure since the previous annual inspection;

(ii) ~~[T]~~the approximate volume of CCR contained in the unit when it was inspected~~[at the time of the inspection]~~;

(iii) ~~[A]~~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) ~~[A]~~any other change~~[s]~~ ~~[which]~~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 ~~[prior to]~~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 ~~[all]~~each case~~[s]~~, 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 Subsection R315-319-100 for inactive CCR surface impoundments, ~~[all]~~ CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under Subsections 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 ~~[following]~~ groundwater monitoring requirements listed in Subsections R315-319-90(b)(1)(i) through R315-319-90(b)(1)(iv):

- (i) ~~[F]~~install the groundwater monitoring system as required by ~~S[ubs]~~ection R315-319-91;
- (ii) ~~[D]~~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 ~~S[ubs]~~ection R315-319-93;
- (iii) ~~[F]~~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) ~~[B]~~begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in ~~[a]~~Appendix III ~~[of]~~to Rule R315-319 as required by ~~S[ubs]~~ection R315-319-94.

(2) New CCR landfills, new CCR surface impoundments, and ~~[all]~~lateral expansions of CCR units. ~~[Prior to]~~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 ~~[all]~~any necessary measures to control the source~~{f}s{}}~~ of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of contaminants into the environment. The owner or operator of the CCR unit shall comply with ~~[all]~~the applicable requirements in ~~S[ubs]~~ections 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 ~~[D]~~director by March 1 of each year. For new CCR landfills, new CCR surface impoundments, and ~~[all]~~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 ~~[such]~~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~~s~~ 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~~[the following information]~~, to the extent available:

- (1) ~~[A]~~a map, aerial image, or diagram showing the CCR unit and ~~[all]~~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) ~~[F]~~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) ~~[F]~~in addition to ~~[all]~~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]~~a narrative discussion of any transition between monitoring programs, ~~[e.g.]for example~~, the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent~~{f}s{}}~~ detected at a statistically significant increase over background levels;~~[and]~~
- (5) ~~[O]~~ther information required to be included in the annual report as specified in Section~~s~~ 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 [a sufficient number of] enough wells, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer that:

(1) [A] 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) [H] hydrogeologic conditions do not allow the owner or operator of the CCR unit to determine what wells are hydraulically upgradient; or

(ii) [S] 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) [A] 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. [A] Each potential contaminant pathway[s] 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) [A] aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and

(2) [S] saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer, including[, but not limited to,] thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities, and effective porosities.

(c) The groundwater monitoring system 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] a minimum of one upgradient and three downgradient monitoring wells; and

(2) [A] 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 [the following factors]:

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

(ii) [H] hydrogeologic setting;

(iii) [S] site history; and

(iv) [E] engineering design of the CCR unit.

[— (2) If the owner or operator elects to install a multiunit groundwater monitoring system, and if the multiunit system includes at least one existing unlined CCR surface impoundment as determined by Subsection R315-319-71(a), and if at any time after October 19, 2015 the owner or operator determines in any sampling event that the concentrations of one or more constituents listed in appendix IV to Rule R315-319 are detected at statistically significant levels above the groundwater protection standard established under Subsection R315-319-95(h) for the multiunit system, then all unlined CCR surface impoundments comprising the multiunit groundwater monitoring system are subject to the closure requirements under Subsection R315-319-101(a) to retrofit or close.]

(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, [i.e.] 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 ~~S[ub]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 ~~S[ub]sections~~ R315-319-90 through R315-319-98, the term constituent refers to both hazardous constituents and other monitoring parameters listed in either ~~[a]Appendix III or IV [of]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 ~~[Subsection]~~ 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 ~~[following]~~ 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 predictional interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval 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 be 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 ~~[Subsection]~~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 ~~[shall]~~ 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 ~~[I]~~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 ~~[a]]~~each groundwater monitoring well[s] consistent with Section R315-319-94. At a minimum, a detection monitoring program shall include groundwater monitoring for ~~the~~~~[a]]~~ constituents listed in ~~[a]]~~Appendix III to Rule R315-319.

(b) Except as provided in Subsection R315-319-94(d), the monitoring frequency for the constituents listed in ~~[a]]~~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 ~~[a]]~~Appendix III and Appendix IV to Rule R315-319 no later than October 17, 2017. For new CCR landfills, new CCR surface impoundments, and ~~[a]]~~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 ~~[a]]~~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 ~~[a]]~~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 ~~[D]]~~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 ~~[following]~~ factors listed in Subsections R315-319-94(d)(1)(i) through R315-319-94(d)(1)(iii):

- (i) ~~[L]]~~lithology of the aquifer and unsaturated zone;
- (ii) ~~[H]]~~hydraulic conductivity of the aquifer and unsaturated zone; and
- (iii) ~~[G]]~~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 [a]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 S[ubs]ection 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 S[ubs]ection 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 [I]nternet 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[ever] a statistically significant increase over background levels has been detected for one or more of the constituents listed in [a]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 [a]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 [a]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[the following factors]:

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

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

(3) The owner or operator 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 [a]Appendix III to Rule R315-319 and for those constituents in [a]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 [a]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 [a]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 [a]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 [a]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) [C]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 S[ubs]ection R315-319-96. Characterization of the release includes the [following] 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 [a]Appendix IV [of] 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 [a]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 S[ubs]ection 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 [a]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 S[ubs]ection R315-319-96.

(5) If an assessment of corrective measures is required under Subsection R315-319-96 by either Subsection R315-319-95(g)(3)(i) or R315-319-95(g)(4), and if the CCR unit is an existing unlined CCR surface impoundment as determined by Subsection R315-319-71(a), then the CCR unit is subject to the closure requirements under Subsection R315-319-101(a) to retrofit or close. In addition, [t]he 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 [a]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, $\mu\text{g/L}$; and

(ii) molybdenum 100 $\mu\text{g/L}$; or [that a ground water protection standard has not been established in Rule R315-308, the background concentration for the constituent established from wells in accordance with Section R315-319-91; 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 [f]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 [a]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 ~~S[ubs]ection~~ 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 ~~[all]~~each of the requirements and objectives of the remedy as described under ~~S[ubs]ection~~ R315-319-97 addressing at least ~~[the following]~~:

(1) ~~[F]~~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) ~~[F]~~the time required to begin and complete the remedy; and

(3) ~~[F]~~the institutional requirements, such as state or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy[{}].

(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 ~~[prior to]~~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 ~~[F]~~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 ~~S[ubs]ection~~ 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 ~~[D]~~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) ~~[B]~~be protective of human health and the environment;

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

(3) ~~[C]~~control the source[{}] of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of constituents in ~~[a]~~Appendix IV to Rule R315-319 into the environment;

(4) ~~[R]~~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) ~~[C]~~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 ~~[following]~~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 remedy[{}], along with the degree of certainty that the remedy will prove successful based on consideration of ~~[the following]~~:

(i) ~~[M]~~the magnitude of reduction of existing risks;

(ii) ~~[M]~~the magnitude of residual risks in terms of likelihood of further releases due to CCR remaining following implementation of a remedy;

(iii) ~~[F]~~the type and degree of long-term management required, including monitoring, operation, and maintenance;

(iv) ~~[S]~~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) ~~[F]~~the time until full protection is achieved;

(vi) ~~[P]~~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) ~~[L]~~the long-term reliability of the engineering and institutional controls; and

(viii) ~~[P]~~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 ~~[following]~~factors listed in Subsections R315-319-97(c)(2)(i) and R315-319-97(c)(2)(ii):

(i) ~~[F]~~the extent to which containment practices will reduce further releases; and

(ii) ~~[F]~~the extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy[~~(f)(s)~~] based on consideration of the[~~following types of~~] factors listed in Subsections R315-319-97(c)(3)(i) through R315-319-97(c)(3)(v):

- (i) [D]degree of difficulty associated with constructing the technology;
 - (ii) [E]expected operational reliability of the technologies;
 - (iii) [N]need to coordinate with and obtain necessary approvals and permits from other agencies;
 - (iv) [A]availability of necessary equipment and specialists; and
 - (v) [A]available capacity and location of needed treatment, storage, and disposal services.
- (4) The degree to which community concerns are addressed by [a]potential remedy[~~(f)(s)~~].

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

- (1) [E]extent and nature of contamination, as determined by the characterization required under Subsection R315-319-95(g);
- (2) [R]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) [A]availability of treatment or disposal capacity for CCR managed during implementation of the remedy;
- (4) [P]potential risks to human health and the environment from exposure to contamination [prior to]before completion of the remedy;

(5) [R]resource value of the aquifer including:

- (i) [C]current and future uses;
- (ii) [P]proximity and withdrawal rate of users;
- (iii) [G]groundwater quantity and quality;
- (iv) [F]the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to CCR constituents;
- (v) [F]the hydrogeologic characteristic of the facility and surrounding land; and
- (vi) [F]the availability of alternative water supplies; and
- (6) [O]other relevant factors as required by the [D]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 [F]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 S[ubs]ection 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) [E]establish and implement a corrective action groundwater monitoring program that:
 - (i) [A]at a minimum, meets the requirements of an assessment monitoring program under S[ubs]ection R315-319-95;
 - (ii) [D]documents the effectiveness of the corrective action remedy; and
 - (iii) [D]demonstrates compliance with the groundwater protection standard pursuant to Subsection R315-319-98(c)[~~;~~] and
- (2) [F]implement the corrective action remedy selected under S[ubs]ection R315-319-97; and
- (3) [F]take any interim measures necessary to reduce the contaminants leaching from the CCR unit, [and/]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 S[ubs]ection R315-319-97. The [following]owner or operator shall consider the factors listed in Subsections R315-319-98(a)(3)(i) through R315-319-98(a)(3)(vii)[~~shall be considered by an owner or operator~~] in determining whether interim measures are necessary:

- (i) [F]time required to develop and implement a final remedy;
- (ii) [A]actual or potential exposure of nearby populations or environmental receptors to any of the constituents listed in appendix IV of Rule R315-319;

(iii) [A]actual or potential contamination of drinking water supplies or sensitive ecosystems;

(iv) [F]further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;

(v) [W]weather conditions that may cause any of the constituents listed in [a]Appendix IV to [this part]Rule R315-319 to migrate or be released;

(vi) [P]potential for exposure to any of the constituents listed in [a]Appendix IV to Rule R315-319 as a result of an accident or failure of a container or handling system; and

(vii) [O]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 [D]director, implement other methods or techniques that could feasibly achieve compliance with the requirements.

(c) Remedies selected pursuant to S[ubs]ection R315-319-97 shall be considered complete when:

(1) [F]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 [all]each point[s] within the plume of contamination that lie beyond the groundwater monitoring well system established under S[ubs]ection R315-319-91 and has received [D]director approval[~~;~~] and

(2) [C]compliance with the groundwater protection standards established under Subsection R315-319-95(h) has been achieved by

demonstrating that concentrations of constituents listed in [a]Appendix IV to Rule R315-319 have not exceeded the groundwater protection standard[~~f~~s] for a period of three consecutive years using the statistical procedures and performance standards in Subsections R315-319-93(f) [~~g~~]and R315-319-93(g).

(3) [~~AH~~]Each action[s] required to complete the remedy have been satisfied.

(d) [~~AH~~]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 [~~ah~~]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 [~~D~~]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 [~~all of~~]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 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 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 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 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 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), ~~if at any time after October 19, 2015 an owner or operator of an existing unlined CCR surface impoundment determines in any sampling event that the concentrations of one or more constituents listed in appendix IV to Rule R315-319 are detected at statistically significant levels above the groundwater protection standard established under Subsection R315-319-95(h) for such CCR unit, within six months of making such determination, the~~ as soon as technically feasible, but before April 11, 2021, an owner or operator of the existing unlined CCR surface impoundment shall ~~cease~~ stop placing CCR and non-CCR wastestreams into ~~such~~ the CCR surface impoundment and either retrofit or close the CCR unit in accordance with the requirements of ~~S[ubs]ection~~ 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 ~~S[ubs]ection~~ 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~~ ~~cease~~ 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), [within six months of determining that] the owner or operator of an existing CCR surface impoundment has not demonstrated compliance with [any] the location standard specified in Subsection[s] R315-319-60(a), 61(a), 62(a), 63(a), and 64(a), the owner or operator of the CCR surface impoundment~~ shall ~~cease~~ stop placing CCR and non-CCR wastestreams into ~~such~~ 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 ~~S[ubs]ection~~ 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 ~~cease~~ stop placing CCR and non-CCR wastestreams into ~~such~~ the CCR unit and close the CCR unit in accordance with the requirements of ~~S[ubs]ection~~ 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 ~~S[ubs]ection~~ 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~~ ~~cease~~ placing CCR and non-CCR wastestreams into ~~such~~ 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 ~~n~~ 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 ~~cease~~ stop placing CCR and non-CCR waste streams into ~~such~~ 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 ~~all~~the activities necessary to satisfy the closure criteria in Section R315-319-102, including an estimate of the year in which ~~all~~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[~~-(j)~~](b)(1) at any time.

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

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

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

(iii) The owner or operator shall amend the closure plan at least 60 days ~~prior to~~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 ~~obtain~~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 ~~all~~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 ~~a~~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) ~~[C]~~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) ~~[P]~~preclude the probability of future impoundment of water, sediment, or slurry;

(iii) ~~[F]~~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) ~~[M]~~minimize the need for further maintenance of the CCR unit; and

(v) ~~[B]~~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)(ii) ~~[prior to]~~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 ~~[commence]~~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 ~~[commence]~~begin closure of the CCR unit no later than 30 days after the date on which the CCR unit either:

(i) ~~[R]~~receives the known final receipt of waste, either CCR or any non-CCR waste stream; or

(ii) ~~[R]~~removes the known final volume of CCR from the CCR unit for ~~[the purpose of]~~beneficial use of CCR.

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

(ii) Notwithstanding 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 ~~[the purpose of]~~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 ~~[the purpose of]~~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) ~~[prior to]~~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 ~~[the purpose of]~~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 ~~[the purpose of]~~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)(~~[I]~~) (~~[I]~~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.

([4]I) Normal plant operations include periods during which the CCR unit does not receive CCR or non-CCR waste streams, such as the alternating use of two or more CCR units whereby at any point in time one CCR unit is receiving CCR while CCR is being removed from a second CCR unit after its dewatering.

([2]II) The CCR unit is dedicated to a coal-fired boiler unit that is temporarily idled, ~~[e.g.]~~for example, CCR is not being generated, and there is a reasonable likelihood that the coal-fired boiler will resume operations in the future.

([3]III) The CCR unit is dedicated to an operating coal-fired boiler, ~~[i.e.]~~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.

([4]IV) The CCR unit currently receives only non-CCR waste streams and those non-CCR waste streams are not generated for an extended period~~[of time]~~, but there is a reasonable likelihood that the CCR unit will again receive non-CCR waste streams in the future.

(iii) ~~[In order to obtain]~~To get additional time extension~~[(c)s]~~ 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 ~~[the following]~~ actions or activities listed in Subsections R315-319-102(e)(3)(i) through R315-319-102(e)(3)(iii):

(i) ~~[F]~~taken any steps necessary to implement the written closure plan required by Subsection R315-319-102(b);
(ii) ~~[S]~~submitted a completed application for any required state or agency permit or permit modification; or
(iii) ~~[F]~~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~~[any of the following owners or operators]~~:

(i) [An owner or operator of an inactive CCR surface impoundment closing the CCR unit as required by Subsection R315-319-100(b)]Reserved;

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

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

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

(v) ~~[A]~~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) ~~[prior to]~~before the end of any two-year period. Factors that may support ~~[such a]~~the demonstration include:

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

(B) ~~[F]~~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) ~~[F]~~the geology and terrain surrounding the CCR unit will affect the amount of material needed to close the CCR unit; or

(D) ~~[F]~~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) ~~[In order to obtain]~~ To get additional time extension~~[(t)s]~~ 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 ~~[F]~~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 ~~[all]~~any CCR, including any contaminated soils and sediments from the CCR unit; and

(ii) Comply with the requirements in ~~S[ub]~~section R315-319-72.

(iii) A CCR surface impoundment undergoing a retrofit remains subject to ~~[all]~~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~~[-, all of the following information]~~:

(A) ~~[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]~~a description of the procedures to remove ~~[all]~~the CCR and contaminated soils and sediments from the CCR unit.

(C) ~~[A]~~a estimate of the maximum amount of CCR that will be removed as part of the retrofit operation.

(D) ~~[A]~~a estimate of the largest area of the CCR unit that will be affected by the retrofit operation.

(E) ~~[A]~~a schedule for completing ~~[all]~~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 ~~[prior to]~~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 ~~[following]~~ actions or activities listed in Subsections R315-319-102(k)(2)(ii)(A)(I) through R315-319-102(k)(2)(ii)(A)(III):

(~~[1]~~I) ~~[F]~~taken any steps necessary to implement the written retrofit plan;~~[-and]~~

(~~[2]~~II) ~~[S]~~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~~[ever]~~:

~~(1)~~ ~~[I]~~ ~~[F]~~ there is a change in the operation of the CCR unit that would substantially affect the written retrofit plan in effect; or

~~(2)~~ ~~[I]~~ ~~[B]~~ before or after retrofit activities have commenced, unanticipated events ~~[necessitate]~~ require a revision of the written retrofit plan.

(C) The owner or operator shall amend the retrofit plan at least 60 days ~~[prior to]~~ 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 ~~[all]~~ 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, S~~[ubs]~~ection 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 ~~[ease]~~ stop the retrofit and initiate closure of the CCR unit in accordance with the requirements of S~~[ubs]~~ection 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 ~~[I]~~ 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), ~~[or]~~ 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 ~~[unit]~~ landfill may continue to receive CCR if the owner or operator of the CCR ~~[unit]~~ landfill certifies that the CCR shall continue to be managed in that CCR ~~[unit]~~ 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 ~~[following]~~ 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 ~~[this]~~ s] 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~~[s]~~ 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~~[ease]~~ 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~~[s]~~ R315-319-101(a), R315-319-101(b)(1), and 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~~[s]~~ R315-319-103(b)(2) through 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~~[this]~~ Subsection R315-319-103(b)(1), the

owner or operator of the CCR unit shall document that each of the ~~[following]~~ 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[s] the closure of the coal-fired boiler.

(2) ~~[For a CCR surface impoundment that is 40 acres or smaller, the coal-fired boiler shall stop operation and the CCR surface impoundment shall have finished closure no later than October 17, 2023.]Reserved.~~

(3) ~~[For a CCR surface impoundment that is larger than 40 acres, the coal-fired boiler shall stop operation, and the CCR surface impoundment shall finish closure no later than October 17, 2028.]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 ~~[following]~~ 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)(~~14~~11).

(3) An owner or operator of a CCR ~~[unit]~~ 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 ~~[F]~~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:

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

(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:

(I) 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:

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

(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:

(I) 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 R319-315-102(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:

(J) 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 ~~all~~ 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.

~~[(3) An owner or operator of an inactive CCR surface impoundment that elects to close a CCR unit pursuant to the requirements under Subsection R315-319-100(b) 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, ~~which~~ that shall consist of at least ~~the following~~:

(1) ~~M~~ 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) ~~H~~ 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) ~~M~~ 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~~ 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) ~~T~~ 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~~ a description of the planned uses of the property during the post-closure period. Post-closure use of the property ~~shall~~ may not disturb the integrity of the final cover, liner~~[s]~~, or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in 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 ~~D~~ director that the demonstration has been placed in the operating record and on the owners or operator's publicly accessible ~~I~~ 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~~[ever]~~:
 - (A) ~~[F]~~there is a change in the operation of the CCR unit that would substantially affect the written post-closure plan in effect; or
 - (B) ~~[A]~~after post-closure activities have commenced, unanticipated events ~~[necessitate]~~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 ~~[prior to]~~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 ~~[obtain]~~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 ~~[I]~~internet requirements specified in Subsection R315-319-107(i).

R315-319-105. ~~Recordkeeping, Notification, and Posting of Information to the Internet~~ – 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 ~~[all]~~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 ~~[the provisions of]~~ 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 ~~[D]~~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 ~~following~~ 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) ~~[F]~~the design and construction certifications as required by Subsections R315-319-70(e) and R315-319-70(f)~~[-]~~;
 - (2) ~~[F]~~the documentation of liner type as required by Subsection R315-319-71(a)~~[-]~~;
 - (3) ~~[F]~~the design and construction certifications as required by Subsections R315-319-72(c) and R315-319-72(d)~~[-]~~;
 - (4) ~~[D]~~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) ~~[F]~~the initial and periodic hazard potential classification assessments as required by Subsections R315-319-73(a)(2) and R315-319-74(a)(2)~~[-]~~;
 - (6) ~~[F]~~the ~~[emergency action plan (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) ~~[D]~~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) ~~[D]~~documentation prepared by the owner or operator recording ~~[all]~~each activation~~[s]~~ of the EAP~~[emergency action plan]~~ as required by Subsections R315-319-73(a)(3)(v) and R315-319-74(a)(3)(v)~~[-]~~;
 - (9) ~~[F]~~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) ~~[F]~~the initial and periodic structural stability assessments as required by Subsections R315-319-73(d) and R315-319-74(d)~~[-]~~;
 - (11) ~~[D]~~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) ~~[F]~~the initial and periodic safety factor assessments as required by Subsections R315-319-73(e) and 74(e)~~[-]~~;
 - (13) ~~[F]~~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 following information required by Subsections R315-319-105(g)(1) through R315-319-105(g)(9) in the facility's operating record:

(1) [F]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) [F]the annual CCR fugitive dust control report required by Subsection R315-319-80(c)[-];

(3) [F]the initial and periodic run-on and run-off control system plans as required by Subsection R315-319-81(c)[-];

(4) [F]the initial and periodic inflow design flood control system plan as required by Subsection R315-319-82(c)[-];

(5) [D]documentation recording the results of each inspection and instrumentation monitoring by a qualified person as required by Subsection R315-319-83(a)[-];

(6) [F]the periodic inspection report as required by Subsection R315-319-83(b)(2)[-];

(7) [D]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) [D]documentation recording the results of the weekly inspection by a qualified person as required by Subsection R315-319-84(a)[-]; and

(9) [F]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 following information required by Subsections R315-319-105(h)(1) through R315-319-105(h)(14) in the facility's operating record:

(1) [F]the annual groundwater monitoring and corrective action report as required by Subsection R315-319-90(e)[-];

(2) [D]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) [F]the groundwater monitoring system certification as required by Subsection R315-319-91(f)[-];

(4) [F]the selection of a statistical method certification as required by Subsection R315-319-93(f)(6)[-];

(5) [W]within 30 days of establishing an assessment monitoring program, the notification as required by Subsection R315-319-94(e)(3)[-];

(6) [F]the results of [a]Appendices III and IV to Rule R315-319 constituent concentrations as required by Subsection R315-319-95(d)(1)[-];

(7) [W]within 30 days of returning to a detection monitoring program, the notification as required by Subsection R315-319-95(e)[-];

(8) [W]within 30 days of detecting one or more constituents in [a]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) [W]within 30 days of initiating the assessment of corrective measures requirements, the notification as required by Subsection R315-319-95(g)(5)[-];

(10) [F]the completed assessment of corrective measures as required by Subsection R315-319-96(d)[-];

(11) [D]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) [F]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) [W]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 following information required by Subsections R315-319-105(i)(1) through R315-319-105(i)(20) in the facility's operating record:

(1) [F]the notification of intent to initiate closure of the CCR unit as required by Subsection R315-319-100(c)(1)[-];

(2) [F]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 demonstration~~[s]~~, 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 demonstration~~[s]~~, 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 ~~the following~~ 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 ~~S~~ubsection R315-319-103;
 - (3) ~~the~~ annual progress reports required under the alternative requirements as required by ~~S~~ubsection R315-319-103;
 - (4) ~~the~~ written demonstration~~[s]~~, 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. ~~Recordkeeping, Notification, and Posting of Information to the Internet~~ 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 ~~the~~ 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 ~~the [emergency action plan (EAP)]~~ 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 ~~[emergency action plan]~~ 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); ~~and~~
- (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 [F]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 [F]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 [a]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);[~~and~~]
- (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 [F]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);[~~and~~]
- (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 [F]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. ~~Recordkeeping, Notification, and Posting of Information to the Internet-~~ 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 [H]internet site, CCR [W]web site, containing the information specified in Section R315-319-107. The owner or operator's [W]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 ~~the provisions of~~ Sections R315-319-50 through R315-319-107 may comply with the requirements of Section R315-319-107 by using the same [H]internet site for multiple CCR units provided the CCR [W]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 [W]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 [W]web site.

(d) Unless otherwise required in Section R315-319-107, the information shall be posted to the CCR [W]web site within 30 days of placing the pertinent information required by ~~S[ub]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 [W]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 ~~following~~ information required by Subsections R315-319-107(f)(1) through R315-319-107(f)(23) on the owner or operator's CCR [W]web site:

- (1) [W]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) ~~[N]o~~ 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) ~~[F]the~~ the documentation of liner type specified under Subsection R315-319-105(f)(2)-;
- (4) ~~[F]the~~ the initial and periodic hazard potential classification assessments specified under Subsection R315-319-105(f)(5)-;
- (5) ~~[F]the [emergency action plan-]EAP[.]~~ the [emergency action plan-]EAP[.] specified under Subsection R315-319-105(f)(6), except that only the most recent EAP shall be maintained on the CCR [W]web site irrespective of the time requirement specified in Subsection R315-319-107(c)-;
- (6) ~~[D]documentation~~ 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) ~~[D]documentation~~ documentation prepared by the owner or operator recording any activation of the EAP[emergency action plan] specified under Subsection R315-319-105(f)(8)-;
- (8) ~~[F]the~~ the history of construction, and any revisions of it, specified under Subsection R315-319-105(f)(9)-;
- (9) ~~[F]the~~ the initial and periodic structural stability assessments specified under Subsection R315-319-105(f)(10)-;
- (10) ~~[F]the~~ the documentation detailing the corrective measures taken to remedy the deficiency or release specified under Subsection R315-319-105(f)(11)-;
- (11) ~~[F]the~~ the initial and periodic safety factor assessments specified under Subsection R315-319-105(f)(12)-;
- (12) ~~[F]the~~ 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 following information required by Subsections R315-319-107(g)(1) through R315-319-107(g)(7) on the owner or operator's CCR [W]web site:

(1) [F]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 [W]web site irrespective of the time requirement specified in Subsection R315-319-107(c);

(2) [F]the annual CCR fugitive dust control report specified under Subsection R315-319-105(g)(2);

(3) [F]the initial and periodic run-on and run-off control system plans specified under Subsection R315-319-105(g)(3);

(4) [F]the initial and periodic inflow design flood control system plans specified under Subsection R315-319-105(g)(4);

(5) [F]the periodic inspection reports specified under Subsection R315-319-105(g)(6);

(6) [F]the documentation detailing the corrective measures taken to remedy the deficiency or release specified under Subsection R315-319-105(g)(7); and

(7) [F]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 following information required by Subsections R315-319-107(h)(1) through R315-319-107(h)(11) on the owner or operator's CCR [W]web site:

(1) [F]the annual groundwater monitoring and corrective action report specified under Subsection R315-319-105(h)(1);

(2) [F]the groundwater monitoring system certification specified under Subsection R315-319-105(h)(3);

(3) [F]the selection of a statistical method certification specified under Subsection R315-319-105(h)(4);

(4) [F]the notification that an assessment monitoring programs has been established specified under Subsection R315-319-105(h)(5);

(5) [F]the notification that the CCR unit is returning to a detection monitoring program specified under Subsection R315-319-105(h)(7);

(6) [F]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) [F]the notification that an assessment of corrective measures has been initiated specified under Subsection R315-319-105(h)(9);

(8) [F]the assessment of corrective measures specified under Subsection R315-319-105(h)(10);

(9) [F]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) [F]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 following information required by Subsections R315-319-107(i)(1) through R315-319-107(i)(2) on the owner or operator's CCR [W]web site:

(1) [F]the notification of intent to initiate closure of the CCR unit specified under Subsection R315-319-105(i)(1);

(2) [F]the annual progress reports of closure implementation specified under Subsection R315-319-105(i)(2);

(3) [F]the notification of closure completion specified under Subsection R315-319-105(i)(3);

(4) [F]the written closure plan, and any amendment of the plan, specified under Subsection R315-319-105(i)(4);

(5) [F]the demonstration[€s] for a time extension for initiating closure specified under Subsection R315-319-105(i)(5);

(6) [F]the demonstration[€s] for a time extension for completing closure specified under Subsection R315-319-105(i)(6);

(7) [F]the notification of intent to close a CCR unit specified under Subsection R315-319-105(i)(7);

(8) [F]the notification of completion of closure of a CCR unit specified under Subsection R315-319-105(i)(8);

(9) [F]the notification recording a notation on the deed as required by Subsection R315-319-105(i)(9);

(10) [F]the notification of intent to comply with the alternative closure requirements as required by Subsection R315-319-105(i)(10);

(11) [F]the annual progress reports under the alternative closure requirements as required by Subsection R315-319-105(i)(11);

(12) [F]the written post-closure plan, and any amendment of the plan, specified under Subsection R315-319-105(i)(12);

(13) [F]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 [following] information required by Subsections R315-319-107(j)(1) through R315-319-107(j)(6) on the owner or operator's CCR [W]web site:

- (1) [F]the written retrofit plan, and any amendment of the plan, specified under Subsection R315-319-105(j)(1)[-];
- (2) [F]the notification of intent to comply with the alternative retrofit requirements as required by Subsection R315-319-105(j)(2)[-];
- (3) [F]the annual progress reports under the alternative retrofit requirements as required by Subsection R315-319-105(j)(3)[-];
- (4) [F]the demonstration[(-s)] for a time extension for completing retrofit activities specified under Subsection R315-319-105(j)(4)[-];
- (5) [F]the notification of intent to retrofit a CCR unit specified under Subsection R315-319-105(j)(5)[-]; and
- (6) [F]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.

[Table

Common name(1)
Boron
Calcium
Chloride
Fluoride
pH
Sulfate
Total Dissolved Solids (TDS)

(1) Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

]

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

<u>Selenium</u>
<u>Thallium</u>
<u>Radium 226 and 228 combined</u>
¹ <u>Common names are those widely used in government rules and regulations, scientific publications, and commerce; synonyms exist for many chemicals.</u>

[Table

<u>Common name(1)</u>
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228 combined

(1)Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

]

KEY: permit, solid waste, coal ash

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