

Legacy Coal Combustion Residuals Surface Impoundments and CCR Management Units Final Rule Briefing



Public Outreach

May 2024

Today's Webinar and Disclaimer

This webinar serves as an overview of the Legacy CCR Surface Impoundments and CCR Management Units final rule published on May 8, 2024.

This webinar is not a substitute for the regulatory text.

Specific details and provisions of the rule can be found in the published version of the rule.

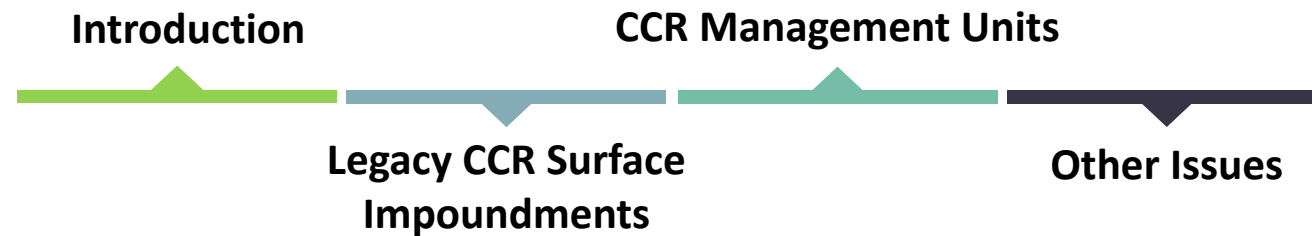
Webinar ground rules.

We will do our best to answer questions but many topics are highly fact-based or site-specific and will need to be addressed later in writing.

Overview

Purpose:

Provide an overview of the final rule to regulate legacy CCR surface impoundment (legacy SI) and CCR management units (CCRMU).



Introduction

- ▶ CCR, also known as coal combustion residuals or coal ash, is generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.
 - CCR includes fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) materials.
- ▶ Regulations established under the authority of RCRA Subtitle D.
- ▶ “Legacy CCR Surface Impoundments” rule was published in the Federal Register on May 8, 2024. The final rule:
 - Establishes requirements for the safe disposal of CCR in legacy SIs.
 - Establishes requirements for CCRMU to address the risks from previously unregulated solid waste management of CCR that involves the direct placement of CCR on the land at CCR facilities.
 - Effective date of rule is Nov 8, 2024.
 - EPA is aware of one inconsistency in the preamble and intends to clarify this in a future notice.

KEY EVENTS IN THE LEGACY CCR RULEMAKING



Legacy Impoundment Definition

- ▶ Final rule establishes regulatory requirements for a newly regulated unit: legacy CCR surface impoundment
 - Legacy SIs are inactive impoundments at inactive facilities

Definition of
“Legacy CCR Surface
Impoundment”

“ ... a CCR surface impoundment that no longer receives CCR but **contained both CCR and liquids on or after October 19, 2015**, and that is located at an **inactive** electric utility or independent power producer. ”

“Liquids” Definition

- ▶ The term “liquids” plays a critical role in determining both:
 - Whether a unit is subject to the regulations, and
 - In the performance standards that apply to impoundments closing with waste in place.
- ▶ Final rule defines “liquids” in accordance with its plain language meaning, consistent with the ordinary dictionary definition.

Definition of “Liquid”

“ ... any fluid (such as water) that has no independent shape but has a definite volume and does not expand indefinitely and that is only slightly compressible. This encompasses all of the various types of liquids that may be present in a CCR unit, including water that was sluiced into an impoundment along with CCR, precipitation, surface water, groundwater, and any other form of water that has migrated into the impoundment, which may be found as free water or standing water ponded above CCR or porewater intermingled with CCR.”

“Contains both CCR and liquids” Definition

- ▶ Final rule relies on a combination of the plain language meaning of the phrase and the closure performance standard in § 257.102(d)(2)(i) to determine whether an impoundment “contains liquid.”
 - If liquids are present in the unit, it will be considered to contain liquids, unless the facility can demonstrate **free liquids** have been eliminated.
 - If free liquids eliminated prior to Oct 19, 2015, unit not a legacy impoundment.

Definition of
“Contains both CCR
and liquids”

“ ... means that both CCR and liquids are present in a CCR surface impoundment, except where the owner or operator demonstrates that the standard in § 257.102(d)(2)(i) has been met. ”

Memo on Free Liquids Identification & Elimination

- ▶ Memo serves as a resource on site-specific strategies and approaches to identify and eliminate free liquids from a CCR unit.
- ▶ Available in the rulemaking docket at [regulations.gov](https://www.regulations.gov) and searching on docket ID number EPA-HQ-OLEM-2020-0107-1068.

MEMORANDUM

DATE: April 22, 2024

SUBJECT: Considerations for the Identification and Elimination of Free Liquids in Coal Combustion Residuals (CCR) Surface Impoundments and Landfills (40 CFR Part 257, Subpart D)

FROM: William C. Brandon
Office of Land and Emergency Management,
Office of Resource Conservation and Recovery (5304-T)

TO: Docket ID No. EPA-HQ-OLEM-2020-0107

Executive Summary

The term “free liquids” is defined in the regulations to mean “liquids that readily separate from the solid portion of a waste under ambient temperature and pressure.” 40 CFR 257.53. Free liquids include freestanding liquids and all readily separable porewater within the CCR unit, whether the porewater was derived from sluiced water, surface water, groundwater that intersects the CCR within the impoundment, or other sources.

Applicability Report

- ▶ Owners and operators of inactive facilities must prepare an applicability report for each legacy SI at the facility
 - Purpose: mechanism to identify the presence of a legacy SI
 - Deadline: must be prepared by Nov 8, 2024 (one exception covered on next slide)
 - Content: includes general information on legacy SI, such as
 - Information about the owner or operator
 - Name of the legacy SI
 - Information to identify the legacy SI, such as a figure showing its location, facility address
 - Identification number of the legacy SI, if one has been assigned by the state
 - Description of site conditions (e.g., when facility operated, when it ceased generating electricity, size of facility, visual description of the legacy impoundment)
- ▶ No applicability report requirements for active facilities because legacy SIs are not located at active facilities by definition
- ▶ Owners and operators required to notify EPA once CCR website is created
 - EPA will use submitted information to expand its current webpage that provides hyperlinks to CCR websites

Applicability Report Extensions

- ▶ Final rule acknowledges that some owners and operators may not currently have records to demonstrate whether their inactive impoundment contains both CCR and liquids, which is necessary for the unit to be subject to regulation as a legacy SI
- ▶ Final rule establishes procedures for owners and operators to conduct a field investigation to assess whether free liquids are currently present in the unit and provides additional time to conduct the investigation
- ▶ Owners and operators must prepare an “applicability extension report” by Nov 8, 2024 in lieu of the “applicability report.” Applicability extension report includes:
 - General information on the potential legacy SI
 - Owner or operator statement stating that available information does not provide a sufficient basis to determine that the unit contained free liquids on or after Oct 19, 2015
 - Written field investigation work plan, which describes the approach the owner or operator intends to follow to determine whether the inactive impoundment contains free liquids
 - E.g., description of the methods and tools that will be employed to determine whether the unit contains free liquids
- ▶ Extensions are limited – maximum time is 18 months, secured in 6-month increments
- ▶ If free liquids are found: New compliance timeframe = requirement deadline + duration of extension

Applicable Requirements

- ▶ Design criteria
 - Compile history of construction, complete hazard potential classification assessments, complete structural stability and safety factor assessments, install permanent marker.
- ▶ Operating criteria
 - Site security, implement fugitive dust controls, inspections by a qualified person, inspections by a professional engineer, maintain hydrologic and hydraulic capacity controls
- ▶ Groundwater monitoring and corrective action
 - Install a GW monitoring system, develop a sampling and analysis program, combined detection and assessment monitoring, conduct corrective action when necessary
- ▶ Closure and post-closure care
- ▶ Recordkeeping, notification, and website posting

Applicable Requirements for Closed Legacy SIs

- ▶ Closed by Removal but has not completed groundwater clean up
 - Applicability Report
 - Fugitive dust (6 months after CCRMU is identified)
 - Groundwater monitoring and corrective action
 - Recordkeeping, notification, and website posting

- ▶ Closed with Waste in Place
 - Applicability Report
 - Fugitive dust
 - Site security
 - Permanent marker
 - History of construction
 - Groundwater monitoring and corrective action
 - Post-closure care
 - Recordkeeping, notification, and website posting

Legacy Compliance Deadlines

Legacy CCR Surface Impoundment Compliance Deadlines	2024		2025										2026										2027										2028									
	NOV	DEC	JAN	FEB	MAR	APR	MAY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	AUG	SEP	OCT	NOV	DEC										
Applicability																																										
Applicability report																																										
Applicability extension reports																																										
Recordkeeping and Internet Posting																																										
Establish the CCR website																																										
Maintain the operating record and website postings																																										
Operating Criteria																																										
Fugitive dust control plan																																										
Implement site security																																										
Weekly inspections of the CCR unit																																										
Monthly monitoring of the CCR unit instrumentation																																										
Annual inspection of the CCR unit																																										
Annual fugitive dust report																																										
Inflow design flood control system plan																																										
Design Criteria																																										
Permanent marker																																										
History of construction																																										
Hazard potential classification assessment																																										
Structural stability assessment																																										
Safety factor assessment																																										
Emergency action plan																																										
Groundwater Monitoring and Corrective Action																																										
Install the GWM system																																										
Groundwater sampling and analysis program																																										
Initiate combined detection and assessment monitoring																																										
Evaluate groundwater monitoring data for SSIs and SSLs																																										
Annual GWMCA report																																										
Closure and Post-Closure Care																																										
Written closure plan																																										
Written post-closure care plan																																										
Initiate closure																																										

*initial due date

Paths to Compliance

1. Subject to the final rule requirements
2. Certification of closure by removal
3. Deferral to Permitting
 - Legacy SIs that closed under certain federal or state requirements
 - Requirement to comply with 40 CFR 257.102 (closure) deferred until federal permitting
 - All other applicable requirements apply (groundwater monitoring, corrective action, etc.)

Certification of Closure by Removal Criteria

- ▶ Must have completed closure by removal in accordance with the performance standards in § 257.102(c) before the effective date of the final rule.
 - All CCR and other contaminated materials must be removed from the unit
 - All areas affected by releases from the unit have been removed or decontaminated
 - All groundwater affected by releases has achieved groundwater protection standards

- ▶ Must have groundwater monitoring data collected no earlier than the year before the initiation of closure demonstrating no Appendix IV constituent concentrations exceed the groundwater protection standard.
 - Groundwater monitoring system must:
 - 1) Accurately represented background water quality;
 - 2) Accurately represented the quality of water passing the waste boundary;
 - 3) Was capable of detecting contamination in the uppermost aquifer;
 - 4) Monitored all potential contaminant pathways;
 - 5) Established background concentrations for Appendix IV constituents and compared collected samples to those concentrations;
 - 6) Utilized wells that were cased, maintained to protect the integrity of the borehole, screened or perforated and packed with sand or gravel (where necessary) to enable collection of the groundwater samples, and sealed between the borehole and well casing to prevent contamination of the sample or groundwater.

Certification of Closure by Removal

- ▶ Legacy SIs that meet criteria can certify closure by removal. The certification must be placed in the operating record and on the public CCR website.
 - Certification is due no later than November 8, 2024.
 - No further action is required to comply with the rule.
- ▶ If the owner or operator is unable to complete the certification due to the lack of a groundwater monitoring systems that meets the criteria, they may conduct groundwater monitoring in accordance with §§ 257.90 through 257.95 to demonstrate no exceedances of GWPS.
 - If no exceedances of one or more Appendix IV constituents are detected at SSL above the GWPS, they may complete the certification.
 - Certification is due no later than May 8, 2028
 - If exceedances of one or more Appendix IV constituents are detected at SSL above the GWPS, they become subject to the requirements applicable to legacy SIs that have completed closure by removal.
 - All deadlines for the legacy SI and CCRMU are delayed by the number of months between May 8, 2024 and the date they receive the laboratory analysis documenting the exceedance.

“Substantially Equivalent” Closures - Deferral to Permitting

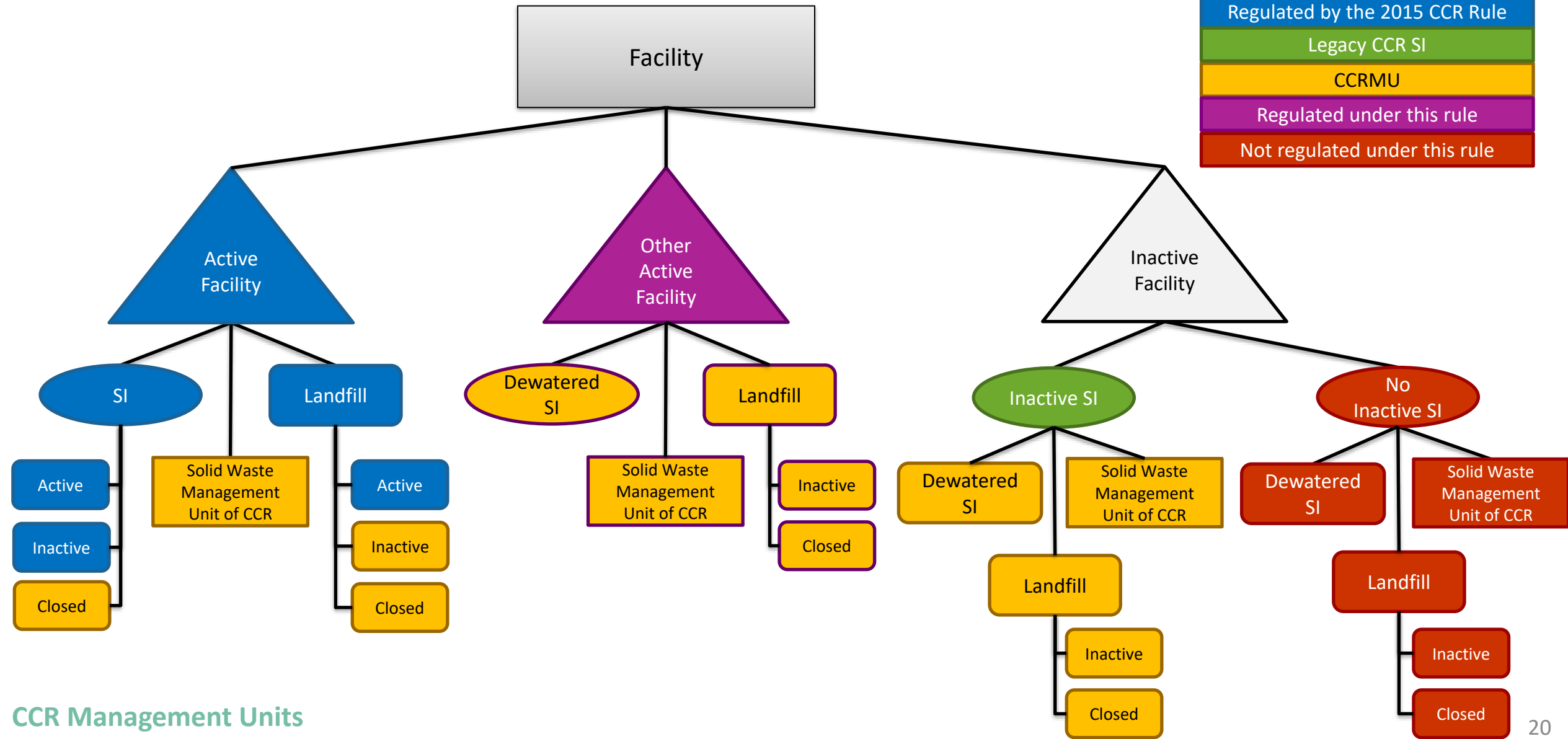
- ▶ A regulatory authority played an active role in overseeing and approving the closure and any necessary corrective action, pursuant to an enforceable requirement
 - Includes a State or Federal permit, an administrative order, or consent order issued after 2015 under CERCLA or by an EPA-approved RCRA State program.
- ▶ The regulatory authority must have required a site-specific risk assessment prior to (or as part of) approving the closure, and any necessary corrective action.
- ▶ Facility must document in the applicability report that it installed a groundwater monitoring system and performed groundwater monitoring that meets a subset of the performance standards in § 257.91(a).
 - 1) Accurately represented background water quality;
 - 2) Accurately represented the quality of water passing the waste boundary;
 - 3) Was capable of detecting contamination in the uppermost aquifer; and
 - 4) Monitored all potential contaminant pathways.
- ▶ Must also document in the applicability report that the closed unit meets either:
 - 1) The standard in § 257.60 that the unit was constructed with a base located no less than 1.52 m (5 feet) above the upper limit of the uppermost aquifer, or must demonstrate that there is no intermittent, recurring, or sustained hydraulic connection between any portion of the CCR unit and the upper limit of the uppermost aquifer or surface water; or
 - 2) The dewatering standard in § 257.102(d)(2)(i) that all free liquids have been eliminated.

CCRMU Definition and Applicability

- ▶ *CCR management unit* means any area of land on which any noncontainerized accumulation of CCR is received, placed, or otherwise managed at any time, that is not a regulated CCR unit. This includes inactive CCR landfills and CCR units that closed prior to October 19, 2015, but does not include CCR used in roadbed and associated embankments.
 - Only CCRMU that exist on or after the effective date (November 8, 2024) are regulated
 - Below 1 ton is entirely exempt
 - Roadway or roadbed that meets the description in the 2015 CCR Final Rule (80 FR 21353) is out unless it is contaminating groundwater
 - CCR in a thin layer (e.g., six to 12 inches) under a surface that limits the degree to which rainwater can influence the leaching of the CCR.
 - Constructed of several layers with different material properties
 - Constructed with engineering specifications under supervision and approved by State and/or Federal Department of Transportation (DOT) engineers
 - Whether potential CCRMU meets the roadbed definition is a fact-based determination
 - Offsite vs. onsite CCRMU, “Facility”, and “Contiguous”
 - All offsite disposal after October 19, 2015 is covered except MSW landfill
 - Determinations regarding applicability are highly fact-based and needs site-specific determinations
 - Example: An inactive landfill on a parcel located 15 miles away from the active facility or utility, where no regulated unit exists, and is owned by an active utility is still out
 - Example: One plot of land owned by a single entity with a fence separating a portion which has been dedicated to recreational uses. Because it is still owned by the same entity, and contiguous, it is in. By contrast, if they do not own the land outside the fence being using for recreational use or wallboard manufacturing, and it does not have a regulated unit, any CCRMU at that site would not be regulated.
 - Beneficial Use
 - Anything that meets the definition of a CCR pile is not beneficial use.
 - *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.
- ▶ The final rule expands the universe to include CCRMU at active facilities and inactive facilities with a regulated CCR unit, and CCRMU at “**Other Active Facilities**”
 - “Other Active Facilities” are those that: 1) on or after October 19, 2015, were producing electricity for the grid and 2) were not regulated by the 2015 CCR Rule.

Regulated Universe

Regulated by the 2015 CCR Rule
Legacy CCR SI
CCRMU
Regulated under this rule
Not regulated under this rule



Facility Evaluation

- ▶ Facility evaluation confirms whether any CCRMU (>1 ton of CCR) exist on-site.
 - Rule requires delineation of the lateral and vertical extent of the unit.
- ▶ Facility evaluation is a 2-step process
 - Part 1: Review of reasonably and readily available information and a plan to remedy any data gaps.
 - Part 2: Conduct a physical facility inspection and any necessary field work, such as soil sampling, to fill any data gaps from the information obtained from the Part 1 review.
 - Rule requires owner or operator to prepare a report after each step is completed.
- ▶ We do not expect owner or operators to prove a negative or obtain records that are not reasonably and readily available.
 - Example: Owner or operator of a currently active solar facility purchases site from a former coal-fired EGU, that represented with documentation that the CCR units had been closed by removal. No representation or information is available with respect to the use of CCR as structural fill. The owner or operator must walk the site to look for visible evidence of CCR disposal at the site.
 - If there is no visible evidence of CCR at the site, the O/O must document (and certify) that they are relying on the prior owner's documentation AND the results of their physical inspection of the facility. They need to provide a full narrative description but do NOT need to conduct any sampling or conduct research to confirm the results of the prior owner's documentation.
 - By contrast, if during the inspection the O/O discovers a substantial deposit of material that appears to be CCR, they must either conduct sampling to determine that it is not CCR or treat as a potential CCRMU and proceed with the Facility Evaluation.

Applicable Requirements

- ▶ Facility Evaluation Report Part 1 and Part 2
- ▶ Fugitive dust
- ▶ Groundwater monitoring and corrective action
 - Combined detection monitoring and assessment monitoring
- ▶ Closure and post-closure care
- ▶ Recordkeeping, notification, and website posting

CCRMU Compliance Deadlines

CCR Management Unit Compliance Deadlines	2024		2025					2026					2027					2028					2029												
	NOV	DEC	JAN	FEB	MAR	APR	MAY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	AUG	SEP	OCT	NOV	DEC			
Applicability																																			
Facility Evaluation Report Part 1																																			
Facility Evaluation Report Part 2																																			
Recordkeeping and Internet Posting																																			
Establish the CCR website																																			
Maintain the operating record and website postings																																			
Operating Criteria																																			
Fugitive dust control plan																																			
Groundwater Monitoring and Corrective Action																																			
Install the GWM system																																			
Groundwater sampling and analysis program																																			
Initiate combined detection and assessment monitoring																																			
Evaluate groundwater monitoring data for SSIs and SSLs																																			
Annual GWMCA report																																			
Closure and Post-Closure Care																																			
Written closure plan																																			
Written post-closure care plan																																			
Initiate closure																																			

*initial due date

Paths to Compliance

- ▶ Subject to the final rule requirements
- ▶ Deferral
 - CCRMU between 1-1,000 tons
 - The owner or operator must identify CCRMU in the Facility Evaluation Report (FER), but regulation for these CCRMU would be deferred until permitting.
 - CCRMU closed under certain federal or state requirements
 - Requirement to comply with 40 CFR 257.102 (closure) deferred until federal permitting
 - All other requirements apply (groundwater monitoring, corrective action, etc.)
 - CCRMU beneath critical infrastructure
 - Requirement to close deferred until either:
 - 1) The infrastructure is no longer necessary for the activity to be successful;
 - 2) A permit authority determines closure is necessary to ensure no reasonable probability of adverse effects to human health or the environment from the CCRMU; or
 - 3) The closure or decommissioning of the facility, whichever occurs first.

“Substantially Equivalent” Closures of CCRMU

- ▶ A regulatory authority played an active role in overseeing and approving the closure and any necessary corrective action, pursuant to an enforceable requirement
 - Includes a State or Federal permit, an administrative order, or consent order issued after 2015 under CERCLA or by an EPA-approved RCRA State program.
- ▶ The regulatory authority must have required a site-specific risk assessment prior to (or as part of) approving the closure, and any necessary corrective action.
- ▶ Facility must document in the FER that it installed a groundwater monitoring system and performed groundwater monitoring that meets a subset of the performance standards in § 257.91(a).
 - 1) Accurately represented background water quality;
 - 2) Accurately represented the quality of water passing the waste boundary;
 - 3) Was capable of detecting contamination in the uppermost aquifer; and
 - 4) Monitored all potential contaminant pathways.
- ▶ Must also document in the FER that the closed unit meets either:
 - 1) The standard in § 257.60 that the unit was constructed with a base located no less than 1.52 m (5 feet) above the upper limit of the uppermost aquifer, or must demonstrate that there is no intermittent, recurring, or sustained hydraulic connection between any portion of the CCR unit and the upper limit of the uppermost aquifer or surface water; or
 - 2) The dewatering standard in § 257.102(d)(2)(i) that all free liquids have been eliminated.

CCRMU Beneath Critical Infrastructure

- ▶ Defer closure of CCRMU under critical infrastructure to permitting.
 - Permitting authority will evaluate whether deferring closure until the overlying structure or operating disposal unit is decommissioned or removed is inconsistent with RCRA 4004(a).
 - Critical infrastructure means infrastructure, large buildings, or other structures that are not readily replaced or relocated AND either:
 - 1) Necessary for the continued generation of power; or
 - 2) Vital to the success or continuation of other on-going site activity for the public welfare. This does not include infrastructure, large buildings, or other structures that solely provide commercial or financial benefit to private entities.
 - CCRMU under active disposal units must also meet either:
 - 1) The standard in § 257.60 that the unit was constructed with a base located no less than 1.52 m (5 feet) above the upper limit of the uppermost aquifer, or must demonstrate that there is no intermittent, recurring, or sustained hydraulic connection between any portion of the CCR unit and the upper limit of the uppermost aquifer or surface water; or
 - 2) The dewatering standard in § 257.102(d)(2)(i) that all free liquids have been eliminated.

- ▶ Owners or operators must document the CCRMU meets the above criteria in the FER

Changes to 2015 CCR Rule

- ▶ Finalization of Closure Performance Standard for all CCR Units
 - Amended § 257.102(d)(2) closure in place performance standards for drainage and stabilization of the unit to apply to all CCR units and CCRMU.
 - Because it can take a significant amount of time to meet the performance standards in § 257.102(d)(2), EPA has extended the closure deadlines applicable to any CCR landfill that needs to meet these standards
 - This does not apply to CCR landfills that have completed closure by November 8, 2024

- ▶ Technical corrections to the existing requirements
 - Extended document retention timeframes for the operating record in § 257.105 and public CCR website in § 257.107
 - Changes are summarized in a table on 89 FR 39090-39093 (May 8, 2024)
 - Many document retention timeframes changed from 5 years after placement/posting to 5 years after the unit completes closure by removal or ends post-closure care

Changes to 2015 CCR Rule (cont)

- ▶ Finalization of Additional Closure Option (Part B Part 2)
 - After the 2015 CCR rule, EPA recognized that there was no extension mechanism in the regulations for CCR units closing by removal that cannot complete groundwater corrective action within the maximum timeframes provided by the closure regulations.
 - In 2020, EPA proposed an additional closure option when closing by removal whereby groundwater remediation would continue until groundwater protection standards are achieved during a post-closure care period; this proposed provision was never finalized.
 - We finalized the additional closure option in the final rule.
 - Legacy Rule is bringing in additional units that would be in this situation where we know they cannot comply with the regulations as they exist.
 - We do not want to discourage units seeking to close by removal.

Questions?

- ▶ We will take any questions at this time.
- ▶ For more information,
 1. Check out [our final rule webpage](#).
 2. For information, contact
 1. Michelle Lloyd: lloyd.michelle@epa.gov or (202) 566-0560
 2. Taylor Holt: holt.taylor@epa.gov or (202) 566-1439
 3. Frank Behan: behan.frank@epa.gov or (202) 566-0531
 3. For press inquiries, contact: press@epa.gov.