

Coal Combustion Residuals

May 12, 2016

- ### Federal CCR Rule
- EPA's final rule, "Disposal of Coal Combustion Residuals from Electric Utilities," became effective October 19, 2015.
 - Federal standards:
 - Definitions
 - Location restrictions
 - Design criteria
 - Operating criteria
 - Groundwater monitoring and corrective action requirements
 - Closure and post-closure care requirements
 - Recordkeeping

Applicable Facilities

Federal	Georgia
<ul style="list-style-type: none"> • New CCR Landfill • New Surface Impoundment • Existing CCR Landfill • Existing Surface Impoundment • Inactive Surface Impoundment 	<ul style="list-style-type: none"> • New CCR Landfill • New Surface Impoundment • Existing CCR Landfill • Existing Surface Impoundment • Inactive Surface Impoundment • Inactive CCR Landfill • NPDES-CCR Surface Impoundment • Dewatered Surface Impoundment • Municipal Solid Waste Landfill*

Definitions

Coal Combustion Residuals (CCR)
Fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.

CCR Surface Impoundment
A natural topographic depression, man-made excavation, or diked area owned or operated by an electric utility or independent power producer, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR.

CCR Landfill
An area of land or an excavation owned or operated by an electric utility or independent power producer that receives CCR and which is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this Chapter, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR.

Beneficial Use of CCR Definition

Revision: The definition of beneficial use of CCR regarding the unencapsulated use of CCR will be more stringent than the federal rule.

(4) "For unencapsulated use of CCR, the user **must demonstrate to the Division and provide documentation to the Division** that environmental releases to groundwater, surface water, soil, and air are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, soil, and air will be at or below relevant regulatory and health based benchmarks for human and ecological receptors during use."

Georgia CCR Rule

Incorporation of federal requirements

Federal Regulation Reference	Georgia Rule Reference
40 C.F.R. Part 257.53	391-3-4-.10(2)
40 C.F.R. Parts 257.60-257.64	391-3-4-.10(3)
40 C.F.R. Parts 257.70-257.74	391-3-4-.10(4)
40 C.F.R. Parts 257.80-257.84	391-3-4-.10(5)
40 C.F.R. Parts 257.90-257.98	391-3-4-.10(6)
40 C.F.R. Parts 257.100-257.104	391-3-4-.10(7)
40 C.F.R. Parts 257.105-107	391-3-4-.10(8)

Permits
Financial Assurance
Variances

Rule 391-3-4-.10 will be designated specifically for CCR units

Location Restrictions

Incorporate 40 CFR 257.60 – 257.64:

- Placement above the uppermost aquifer
- Wetlands
- Fault areas
- Seismic impact zones
- Unstable areas

New and lateral expansions of CCR units:

- The hydrogeological evaluation must be performed by a **qualified groundwater scientist**
- Based on the data, EPD may specify **greater separation distances** to protect groundwater
- Must provide a 200-foot undisturbed **buffer** between the waste disposal boundary and the property line and a minimum 500-foot buffer between the waste disposal boundary and any occupied dwelling and the dwelling's operational private, domestic water supply well in existence on the date of the permit application

Design Criteria

Incorporate 40 CFR 257.70 – 257.74:

- Liner design for CCR landfills and CCR surface impoundments
- Structural integrity for surface impoundments

Operating Criteria

Incorporate 40 CFR 257.80 – 247.84:

- Air criteria
- Run-on and run-off controls
- Hydrologic and hydraulic capacity
- Inspection requirements

The operation and use of the CCR unit shall be as stipulated in the solid waste handling permit

Groundwater Monitoring & Corrective Action

Incorporate 40 CFR 257.90 – 257.98:

- Groundwater monitoring systems
- Groundwater sampling and analysis
- Detection monitoring
- Assessment monitoring
- Selection of remedy
- Implementation of corrective action

Detection & Assessment Monitoring

<p>Appendix III: Detection Monitoring</p> <ul style="list-style-type: none"> • Boron • Calcium • Chloride • Fluoride • pH • Sulfate • Total dissolved solids (TDS) 	<p>Appendix IV: Assessment Monitoring</p> <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> • Antimony • Arsenic • Barium • Beryllium • Cadmium • Chromium • Cobalt • Fluoride • Lead • Lithium • Mercury </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> • Molybdenum • Selenium • Thallium • Radium 226 and 228 combined </td> </tr> </table>	<ul style="list-style-type: none"> • Antimony • Arsenic • Barium • Beryllium • Cadmium • Chromium • Cobalt • Fluoride • Lead • Lithium • Mercury 	<ul style="list-style-type: none"> • Molybdenum • Selenium • Thallium • Radium 226 and 228 combined
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Additional Groundwater Requirements

- Monitoring system designed by a qualified groundwater scientist
- Semi-annual report to be submitted with semi-annual monitoring results
- Facility must continue to monitor for Appendix I or II constituents if previously detected at statistically significant levels above background concentrations
- EPD must concur with the following:
 - Groundwater monitoring system design
 - Groundwater sampling and analysis plan
 - Groundwater monitoring well installation
 - Alternate source demonstration
 - Selection of remedy
 - Completion of remedy

Closure & Post-Closure Care

Incorporate 40 CFR 257.100 – 257.104:

- Inactive CCR surface impoundments
- Closure or retrofit of CCR units
- Alternative closure requirements
- Post-closure care requirements

<ul style="list-style-type: none"> • Requirement for closure report to be submitted to EPD by a PE 	<ul style="list-style-type: none"> • Inactive surface impoundments that complete closure before April 17, 2018 must also obtain a solid waste handling permit and comply with groundwater monitoring requirements
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Recordkeeping, Notification, and Posting of Information to the Internet

Incorporate 40 CFR 257.105 – 257.107 with addition:
Option for notification by email to a designated EPD recipient

CCR Permits

Applications

- **New CCR units** - prior to the initial receipt of CCR
- **Existing CCR units** - no later than two years from the effective date of the rule

General application requirements

- Application form
- Zoning documentation
- Property boundary survey and legal description
- Financial assurance mechanism
- Certification by PE that all application requirements have been met

Specific application requirements to be designated by facility type

Permitting Process

- Owners/operators may request to change the operational status of a facility.
 - Operating → Closure
 - Closure → Post-Closure
- The change in status may result in permit condition revisions.
- A new CCR permit will include a condition that voids the previous permit, if applicable.

All CCR units must meet the financial assurance requirements in rule 391-3-4-.13.

Variances

- A compliance schedule variance for CCR units not meeting the minimum criteria may be considered based upon the following:
 - A demonstration that no alternative units meeting the minimum requirement either on site or off site can be used to dispose of the CCR or non-CCR wastewater;
 - A demonstration that the owner or operator is unable to use other public or private alternatives to manage the waste in the non-compliant unit; and
 - The schedule of compliance must specify remedial measures and an enforceable sequence of actions or operations leading to compliance within a reasonable time, not to exceed five years from the date of publication of the federal criteria.
- Other variances that may be granted under section 391-3-4-.10 may not allow a requirement which is less stringent than federal rule.

Existing Solid Waste Rules

- 391-3-4-.01: Definitions will be added for CCR, CCR Landfill, CCR Surface Impoundment, CCR Unit, Qualified Groundwater Scientist, Contaminant, Release, and Site.
- 391-3-4-.02: Additions will be made to major and minor modification descriptions.
- 391-3-4-.17: The total volume of CCR disposed in a CCR unit and the CCR removed, recovered, or diverted for beneficial use shall be reported to EPD on July 1st each year.

*** Municipal Solid Waste Landfill Requirements**

- Incorporate a CCR management plan into the design and operation plan
- Appendix III detection monitoring parameters
- Appendix IV assessment monitoring parameters
- Notify the local governing authorities and legal organ of any release of a contaminant that is likely to pose a danger to human health. Compliance shall occur within 14 days of confirmation of such release by the Division.

References

EPA

<https://www.epa.gov/coalash>
<https://www.epa.gov/coalash/coal-ash-rule>

EPD

<https://epd.georgia.gov/stakeholder-events>

Comments

EPD is accepting comments through May 24, 2016.

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