



**DRAFT**  
**REGULATORY IMPACT ANALYSIS**  
**for**  
**Propose Rule for Coal Combustion Residual Dams**  
5/3/18

**A. General Information**

**Agency:** Department of Environmental Quality, Division of Energy, Mineral, and Land Resources (DEMLR)

**Rule Title:** Additional Design Requirements for Dams that Impound Coal Combustion Residuals

**Citation:** 15A NCAC 02K .0224

**Rulemaking Authority:** GS 143-215.3(a)(1); GS 143-215.31; GS 143B-282

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**Impact Summary:**

State government:	Minimal costs
Local government:	None
Regulated utilities	Minimal savings
Federal government:	Minimal savings
Substantial economic impact:	No

**Divisions with Coal Combustion Residuals (CCR) Responsibilities:**

The North Carolina General Assembly has adopted several legislative initiatives that have resulted in a comprehensive program of dealing with coal combustion residuals in the state. Because CCR facilities and units potentially affect the land, air, surface water and groundwater, several divisions in the Department of Environmental Quality (DEQ) have important responsibilities in regulation of CCR facilities. Two divisions, the Division of Waste Management and the Division of Energy, Mineral and Land Resources have substantial regulatory responsibilities. Both of those Divisions are proposing rule changes that relate to CCR responsibilities and each is preparing a regulatory impact analysis. This Regulatory Impact Analysis (RIA) for DEMLR will be on the impacts expected from the changes proposed in the Dam Safety Rules found in 15A NCAC, Subchapter 2K. Similarly, an analysis will be developed on the proposed changes in the Solid Waste Management Rules in 15A NCAC Subchapter 13B, Section .2000.

## **B. Purpose of the Proposed Rule**

The purpose of the proposed DEMLR rule is to include, in the NC Administrative Code, some criteria of the Federal Coal Combustion Residual (CCR) rule requirements that are not presently specified in the current NC Dam Safety statutes or rules. This action has been encouraged because it will enable North Carolina to assume some, if not all, of the elements of the federal CCR program.

## **C. History of State and Federal Regulatory Controls**

The North Carolina General Assembly adopted the “**Dam Safety Law of 1967**” (Law) to prevent property damage, personal injury and loss of life from the failure of dams. The Law also provided for protection of the downstream water quality through control of releases. The Law has been modified several times since its adoption. The Dam Safety program adopted rules in Chapter 15A, Subchapter 2K that provide more specificity for implementing the Law.

The N.C. General Assembly amended the North Carolina Dam Safety Law in **2009** to include jurisdiction over impoundments at the coal-fired power plants, including coal ash ponds. It included requirements that existing coal ash impoundments that are at least 15 feet high and capable of impounding at least 10 acre-feet must be inspected by the N.C. Division of Energy, Mineral and Land Resources’ dam safety inspectors and maintained in good repair. Also, before starting new construction, modification, repair or removal of these impoundments, the individual or company seeking approval is required to receive state approval of engineering plans and specifications under the North Carolina Dam Safety Law.

In **August of 2014**, the NC General Assembly adopted legislation that provided a broad program to address existing and future Coal Combustion Residual (CCR) management. The Law, which is referred to as the Coal Ash Management Act, or CAMA, gave mandates to:

- Require the Department (DEQ) to establish a schedule and process for closure and remediation of all coal combustion residuals (CCR) surface impoundments.
- Require closure and remediation of certain CCR surface impoundments no later than August 1, 2019;
- Require an assessment of the risks to public health, safety, and welfare, the environment, and natural resources of CCR impoundments located beneath CCR landfills to determine the advisability of continued operation;
- Require the assessment of groundwater;
- Require a survey of drinking water supply wells and replacement of contaminated water supplies;
- Require all electric generating facilities to convert to generation of dry fly ash;
- Prohibit disposal of Stormwater to CCR surface impoundments; and,
- Require the Department of Transportation to develop technical specifications for use of coal combustion products.

In **December of 2014**, the USEPA Administrator signed the “Final Rule: Disposal of Coal Combustion Residuals (CCR) for Electric Utilities.” Relative to the dam safety elements of the EPA rule, the North Carolina CCR requirements are very similar to the federal program. In a few aspects, North Carolina has some requirements that are more stringent than the federal CCR rules and in a few places, North Carolina CCR requirements may be less stringent. However, since

impacted units and facilities are required to comply with both programs, the impact of adopting the proposed rule is expected to be minor.

On **July 26, 2016**, the EPA Administrator signed a direct final rule and a companion proposal to extend for certain inactive CCR surface impoundments the compliance deadlines established by the regulations for the disposal of CCR under subtitle D of the Resource Conservation and Recovery Act (RCRA). The comment period for the direct final rule ended on August 22, 2016. Because no adverse comments were received, the rule became effective on October 4, 2016.

On **December 16, 2016**, President Obama signed the “Water Infrastructure Improvements for the Nations Act” (WIIN). Section 2301 of that Act, “Approval of State Programs for Control of Coal Combustion Residuals” sets forth procedures to enable states to assume parts or the entirety of the federal CCR program. The Act stipulates that “Each State may submit to the Administrator, in such form as the Administrator may establish, evidence of a permit program or other system of prior approval and conditions under State law for regulation by the State of coal combustion residuals units that are located in the State that, after approval by the Administrator, will operate in lieu of regulation of coal combustion residuals units in the State.” The program does not have to be identical to the current CCR rule but must be “at least as protective as” the CCR rule.

**Significance of Presenting this “History.”** The importance of chronicling the history is to illustrate how North Carolina’s dam safety and coal combustion residual programs in DEMLR and the US EPA’s related CCR program have been progressing on very similar paths for several years and have resulted in CCR-related dam safety requirements that are very similar in requirements and effect.

#### **D. General Summary of Proposed Rule Changes**

- The size specifications to be regulated by the State’s CCR requirements have been reduced which may bring a few impoundments under the jurisdiction of the State’s rules.
- Spillway design requirements have generally been made more restrictive to provide greater safety.
- Conduit inspection requirements have always been in the Dam Safety program but they are more-clearly outlined in these rule changes to provide emphasis.
- Inspections for Structural Stability and Slope Protection have been required by the State dam safety program for years but these requirements are more-specifically dictated in the federal CCR regulations. To make North Carolina’s program more closely match the federal program, the criteria taken from the federal requirements will be included in the State rules.
- The self-inspection requirements are included in the federal rules which are in effect. Adoption of those requirements in State rules will not alter the impacts to the operators of regulated CCR facilities. A portion of the federal rule is adopted by reference.

#### **E. Proposed Rule Changes and Impacts**

The purpose of adopting this rule is to assure that the State’s CCR Dam Safety program is “as protective as” the federal CCR regulations. For most coal combustion dam safety program areas, the State’s laws and rules are requiring the same regulatory elements as existing federal programs. However, the proposed rule contains some elements that are either not presently required or elements that do not contain the specificity of the federal rules.

The proposed rule:

1. Includes a definitions list of terms used in the rule (see paragraph (a)). These do not add additional requirements but only define terms used in the rule.
2. Includes more-specific requirements for inspections and structural stability assessments of CCR units (see paragraph (c)). The proposed rule specifies that the owner of the CCR unit will:
  - inspect the “discharge of all outlets of hydraulic structures that pass underneath the base” of a CCR unit at least once per seven days, and
  - “conduct monitoring of all instrumentation supporting the operation of the CCR unit no less than once per month. . .”, and
  - “conduct a visual inspection of hydraulic structures underlying the base of the CCR unit” during an annual inspection, and
  - Once every five years, conduct structural stability assessments consistent with the federal requirements.

Specific conduit requirement language has been added to emphasize the importance of maintaining structural integrity of conduits underlying the base of impoundments. The additional rule language specifies that when conduits run under impoundments, they must be maintained and inspected on an annual basis by a qualified engineer. This proposed portion of the rule does not change any requirements for CCR facilities regulated under current federal rules. However, it serves a benefit by placing emphasis in the State rules on the need for careful oversight over conduits, including those associated with the entire facility, not just those going through the dike.

3. Includes spillway design flood requirements that in some cases are more stringent than the existing State spillway design requirements (see paragraph (d)). However, all CCR dams in the state must meet these specifications by a certain date because of the federal rules. Therefore, having the state rules reflect the same requirements should not have any effect on the state or on the regulated operations.
4. Includes structural stability assessment specifications that will ensure consistency with federal rule requirements (see paragraph (e)(1) - (e)(3)). The structural stability assessment specifications that are proposed for state rule inclusion are being followed now by all regulated utilities and the State has access to, and reviews, the information. Therefore, having the State rules reflect the same requirements should not have any effect on the State Dam Safety agency or on the regulated operations.
5. Includes stability assessments for CCR units with downstream slopes that may be inundated by the pool of an adjacent water body (see paragraph (e)(4)). Although the State rules may not have specifically noted this requirement, it has always been a practice in approving CCR facilities and has been a requirement of the federal rules. Therefore, having the State rules reflect the same requirements should not have any effect on the State Dam Safety agency or on the regulated operations.
6. Requires that safety factor assessments are supported by specific engineering calculations (see paragraph (e)(5)). Although the utilization of specific engineering calculations has been a State requirement of CCR facilities, some of the factors included in the federal rules are more stringent than those of State rules and statutes. However, the requirement to use the federally-imposed criteria is in effect and is followed in North Carolina. Therefore, having the State rules reflect the same requirements should not have any effect on the State Dam Safety agency or on the regulated operations.
7. Contains language to combine the state lower limits to require compliance with the CCR with the lower limits of the federal CCR rules (see paragraph (b)). The state statutes have a lower limit where the dam safety law applies of 25' height (and 50 ac. ft. volume), except where the

- dams have been classified as “high hazard” and then there is no lower limit whereas the federal rules specify a lower limit of five feet (and 20 ac. ft. volume). Paragraph (b) is written to assure that the rule applies to dams covered by both the state and federal requirements. However, since the state and the federal CCR requirements have both been in effect for years, there should be no impact by modifying the State rules to now include the federal requirements.
8. Contains a requirement that all CCR dams that contain earthen material “shall be designed, constructed, operated, and maintained so that the vegetation meets the conditions outlined in the FEMA 534 guidance document “Technical Manual for Dam Owners: Impacts of Plants on Earthen Dams” (see paragraph (f)). The State has been mandating nearly-equivalent vegetation requirements to the federal guidance for years and since the adoption of the federal CCR rules, CCR facilities have been required to follow these guidelines. Therefore, adopting these specifics into the State rules should not have any impact on the State Dam Safety agency nor the regulated facilities.

## **F. Why are we Seeking these Rule Changes?**

### **What is the problem?**

The Division of Energy, Mineral, and Land Resources sees no significant problem with the dam-safety, coal combustion residuals programs being implemented as they are. The state legislature has adopted several legislative initiatives that have provided a comprehensive program of dealing with coal combustion residuals. The State Dam Safety program could continue operating as it has, with the federal government having a program and the state having a very similar program. However, it has been suggested that having the State rules be supplemented with any, more-specific or more-stringent federal requirements, would serve a benefit to the State and the regulated public. It has also been suggested that the State consider delegation of some, or all, of the federal CCR program as is now allowed by the WIIN Act (Public Law 114-322, December 16, 2016). In order to be considered for delegation of the federal program, the State must first adopt rules that provide equal or better protection as the federal rules.

### **Where might improvements be seen?**

Having the State CCR rules be consistent with those of the EPA would significantly simplify the understanding of what criteria must be met to comply with both State and federal programs. Having State rules that will hopefully contain the requirements for compliance with the federal program will not only be a benefit to all stakeholders, but could serve as a basis for delegation of the federal CCR program to the State.

## **G. Comparison of the Baseline versus State Program Supplemented with Additional Criteria**

Although there are some differences in criteria, the federal Dam Safety CCR program is almost identical in the requirements that are applied to CCR facilities by the North Carolina program. For the federal program, there are no changes proposed from the baseline. For North Carolina’s program, there will be some additional criteria added to match criteria of the of the federal program. However, since there are only a few criteria that differ in the two programs and since the existing, dam-related portions of CCR facilities have been under the requirements of both the State and the federal regulations, we don’t see an increase from the baseline requirements applied to a facility. If the only criteria that had been applied were the State criteria, and additional criteria were added, we could recognize an increase from the baseline. However, the criteria applied to a facility will not change although the State rules will change.

## **H. How will the Changes Affect Environmental Protection?**

The proposed changes in the Dam Safety rules would make them more stringent from the existing rules. However, since the regulated entities are already required to implement these more-stringent standards, having these standards in the State rules should not be expected to affect environmental protection.

## **I. What Will Be the Costs Resulting from the Change?**

- **To State government, any additional cost will be minimal.**  
Some staff have projected that there will be additional information received because of the additional State requirements. However, for most of the facilities, the additional federal information is already being received by the State agency and reviewed. There will be a few inspections where additional data will be collected. However, dealing with the additional data could only add a few minutes to some inspections. Although there may be some minimal cost involved with the proposed rule changes, the existing coal ash-funded positions will easily be able to assume the minor additional work.
- **To local governments, there will be no additional costs.**
- **To federal government, there should be no change in resource needs for overseeing facilities located in North Carolina.**
- **To regulated entities, if they are meeting the existing state and federal requirements, there should be no impact.** Since the regulated entities must comply with both the federal regulations and NC laws and rules related to CCR facilities, the proposed rule changes should not have any adverse fiscal impact. However, if the State agency has authority to enforce the additional, federally-derived requirements, then, a failure of the regulated entity to comply could result in additional resources applied to enforcement.