EXPLANATION
OF THE
PROPOSED DAM SAFETY RULE

Purpose of the Rule

The North Carolina Division of Energy, Mineral and Land Resources and the Environmental Management Commission (EMC) have been considering supplementing the State’s Dam Safety rules to make North Carolina’s program for regulating coal combustion residual impoundments at least as protective as the federal program for regulating those impoundments. To do that, the N.C. Environmental Management Commission (EMC) has proposed modifying their Dam Safety rules found in Subchapter 15A NCAC 2K. On July 12, 2018, the EMC voted to send a proposed rule, “15A NCAC 02K. 0224 Additional Requirements for Dams that Impound Coal Combustion Residuals,” out to public hearing for comment. The purpose of these hearings are to receive comment on this proposed rule.

Summary of the Proposed Dam Safety Rule Changes

The basic dam safety elements of the federal CCR regulations are essentially identical to the controls required by the State Dam Safety Law and the rules codified in 15A NCAC 2K. However, the DEMLR staff believes that a few changes in the EMC rules will enable the State Dam Safety program to be considered by the EPA “as protective as” the federal requirements. The major changes proposed to the Dam Safety rules are as follows:

1. Lower the height minimum and impoundment size to be regulated by the CCR requirements. Under item (b) of the proposed rule entitled “Requirements for Classification of CCR DAMS”, the proposal is to adopt the more-stringent criteria of the federal regulations that mandate that owners of CCR impoundments that impound CCR to an elevation of five feet or more above the upstream toe of the structure and have a storage volume of 20 acre feet or more, or impound CCR to an elevation of 20 feet or more above the upstream toe of the structure, must provide certain basic information on the history and the hazard potential of the structure. Although the existing state statutes and rules exempt those structures that are less than 25’ in height or have a capacity of less than 50 acre-feet from an automatic requirement to provide this information, the present statutes and rules allow DEMLR to require this information anytime a potential hazard exist. The DEMLR staff sees no practical effect of this change since these smaller impoundments have been under the federal CCR requirement to provide this information to the EPA. The difference in this change would be that the information will now be given to DEMLR.

2. The “Minimum Spillway Design Flood for CCR Units” which include the “Spillway Design Flood” criteria have been modified over what is required under the existing 2K rule. The proposed table in item (d) of the rule has incorporated the federal spillway design flood criteria with the existing North Carolina dam safety requirements. Several of the federal storm or flood
design criterion for CCR facilities are higher than what the existing state statutes and rules would require. However, since the CCR facilities in the State are already having to abide by these requirement, there will be no change to the regulated facilities by including these in the new North Carolina rule.

3. **Conduit Requirements.** Under item (c) of the proposed rule language is added to emphasize the importance of maintaining structural integrity of conduits underlying the base of impoundments or when passing through a dam structure. It specifies that when conduits are used in these situations, they must be maintained and inspected on an annual basis by a qualified engineer. This proposed rule does not change any requirements not presently required for CCR facilities under current rules. However, it serves a benefit by placing emphasis in the State rules on the need for oversight of conduits.

4. **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 federal regulations specifically require periodic assessments of various safety factors for each CCR impoundment. North Carolina rules do not require periodic reporting of this information to the DEMLR but much of the data is collected and analyzed by the operators of CCR facilities to meet the safety provisions of NC laws and rules and reviewed by DEMLR when a dam is built or when a problem is suspected or found in the field. The specific requirement that these tests be run and the test results be submitted is an existing federal requirement for CCR facility operators. The information to be collected includes:

- The calculated static factor of safety for the end-of-construction loading condition;
- The calculated static factor of safety for the long-term, maximum storage pool loading condition;
- The calculated static factor of safety under the maximum surcharge pool loading condition;
- The calculated seismic factor of safety; and,
- The calculated liquefaction factor of safety.

**Additional information** on the proposed rule can be found at: [https://deq.nc.gov/documents/15a-ncac-02k-0224-additional-requirements-dams-impound-coal-combustion-residual](https://deq.nc.gov/documents/15a-ncac-02k-0224-additional-requirements-dams-impound-coal-combustion-residual)

**Comments on the proposed rule should be directed to:** Andrew.brooks@ncdenr.gov
Or, to: Andrew Brooks, PE
NC DEMLR
1612 Mail Service Center
Raleigh, NC 27699-1612

**Questions about the rule can be directed to:**
Andrew Brooks Andrew.brooks@ncdenr.gov 919-707-9219
Daniel Kang daniel.kang@ncdenr.gov 919-707-9239

8/28/18