



*Environmental
Quality*

Draft Proposed
Impoundment Classification

BACKGROUND

Under the historic Coal Ash Management Act (CAMA) of 2014, all coal ash impoundments in North Carolina are required to be closed. The deadlines for closure depend on the classification of each impoundment as low, intermediate, or high. CAMA requires the Department of Environmental Quality, or DEQ, to make available to the public the initial draft proposed classifications no later than Dec. 31, 2015. These draft proposed classifications are based on the information available to the department as of December 2015. They are of critical importance because of the environmental impact and closure costs associated with each classification. Impoundments classified as intermediate or high must be excavated at a potential cost of up to \$10 billion for all impoundments, while environmentally protective, less costly options are available for low priority impoundments. Closure costs could be passed on to the ratepayer. It is also important to note that these are not the final proposed classifications. After the release of the draft proposed classifications, CAMA requires the following process:

- DEQ must make available a written declaration that provides the documentation to support the draft proposed classifications within 30 days, which will be made available on the DEQ website. The written declaration will provide the technical and scientific background data and analyses and describe in detail how each impoundment was evaluated.
- DEQ will publish a summary of the declaration weekly for three consecutive weeks in a newspaper in each county where a coal ash facility is located.
- The declaration will be provided to each local health director and made available in a library in each county where a coal ash facility is located.
- The summary of the declaration will be provided to each person who makes a request.
- A public meeting will held in each county where a coal ash facility is located.
- Following completion of the public meetings and the submission of comments, the department will consider the comments and develop final proposed classifications.

Public input and involvement is a critically important part of the classification process. All draft proposed classifications are subject to change based on public comment, including consideration of scientific and technical data gained through the public input process outlined above.

FACTORS

Four of Duke’s 14 facilities are designated as high-risk by the coal ash law. Under CAMA, the department is required to consider the following factors, at a minimum, in proposing classifications for the remaining ten:

1. Any hazards to public health, safety, or welfare resulting from the impoundment.
2. The structural condition and hazard potential of the impoundment.
3. The proximity of surface waters to the impoundment and whether any surface waters are contaminated or threatened by contamination as a result of the impoundment.
4. Information concerning the horizontal and vertical extent of soil and groundwater contamination for all contaminants confirmed to be present in groundwater in exceedance of groundwater quality standards and all significant factors affecting contaminant transport.
5. The location and nature of all receptors and significant exposure pathways.
6. The geological and hydrogeological features influencing the movement and chemical and physical character of the contaminants.
7. The amount and characteristics of coal combustion residuals in the impoundment.
8. Whether the impoundment is located in an area subject to a 100-year flood.
9. Any other factor the department deems relevant to the establishment of risk.

The department incorporated all of the preceding criteria into three primary categories that were used to evaluate each impoundment:

- Structural Integrity
- Impact to Surface Water
- Impact to Groundwater

A brief summary of these three categories and how they factored into the department’s draft proposed classifications is presented below. Comprehensive details and information regarding how the factors were applied to each impoundment will be made available in the subsequent written declaration that is required to be released within 30 days. It is important to note that the draft classification process was iterative and occurred over a series of months. Recommendations regarding the impoundments were amended and updated as additional scientific and technical information was received, reviewed and verified.

Structural Integrity

This category included criteria regarding the current and future threat to public safety, welfare, or the environment resulting from a structural failure of an impoundment or from the failure of a component of an impoundment (e.g. riser and decant structures). Following the February 2014 coal ash spill at the Dan River facility, DEQ conducted comprehensive inspections of all impoundments and required Duke Energy to conduct similar inspections, including video inspections of all structures. While no imminent threats to the structural integrity were found, DEQ did issue a number of Notice of Deficiencies (NODs) that required the utility to take action to correct the cited deficiencies.

Subsequent to passage of CAMA, the federal Environmental Protection Agency (EPA) issued its long-awaited Coal Combustion Residuals (CCR) rule that established new federal requirements for the safe storage of coal ash. The CCR rule includes provisions that are applicable to some, but not all, of the impoundments covered under CAMA. Like North Carolina law, many of the CCR provisions are designed to ensure continued structural integrity of the impoundments. The additional review and requirements imposed under the federal CCR were also considered in the classification analyses.

Comprehensive review of all 32 impoundments, the corrective action taken under the NODs, and the implementation of state law requirements, CAMA, and federal CCR supports a finding that none of the 32 impoundments would be considered intermediate or high risk based on structural integrity concerns alone.

Impacts to Surface Waters

This category incorporated criteria regarding the location of the impoundments relative to surface waters, the best use of the nearby surface waters, and the impoundments' current impact or potential future impact on these surface waters. Factors taken into consideration regarding surface waters include landscape position and 100-year floodplain; siting of the pond; classification of the receiving waters; and proximity to water supply intake, among others.

The federal CCR rule relies on the existing NPDES permitting program for protection of surface waters.

Impacts to Groundwater

This category included criteria related to the horizontal and vertical extent of any groundwater

contamination associated with the impoundment that exceeds North Carolina's groundwater quality standards and the potential threat to any public or private drinking water supplies. This category was a critical factor in the department's proposed classifications because exceedances of the groundwater standards were measured in the groundwater beneath all 14 Duke facilities. In particular, the department was highly concerned about the potential threat to the environment and public health that could be caused by contaminated groundwater to nearby private or public drinking water wells. Some of the contaminants detected in nearby wells are naturally occurring in North Carolina and also [appear in municipal drinking water supplies](#). As with public drinking water supplies throughout the state, these levels comply with [federal drinking water standards](#).

The federal CCR rule emphasizes the importance of groundwater protection from coal ash contamination.

The coal ash law contains aggressive deadlines for Duke to submit to DEQ data on the extent of groundwater contamination and its impact on private and public wells. CAMA's requirement that Duke provide to DEQ Corrective Action Plans (CAPs) that include a "description of all exceedances of the groundwater quality standards, including any exceedances that the owner asserts are the result of natural background conditions" was of particular importance for the department to accurately assess the risk associated with groundwater. CAPs for each facility were due to the department in early December. After reviewing the CAP submissions, department staff concluded that Duke had failed to provide

sufficient information for some impoundments to support a definitive conclusion as to whether the exceedances of groundwater standards near the coal ash impoundments are the result of natural

background. The department notified Duke of the deficiencies in their CAPS and DEQ continues to review information submitted by Duke after the CAMA deadline.

DRAFT PROPOSED CLASSIFICATIONS

The department has sufficient information at this time to issue draft proposed classifications for some of the impoundments at the remaining 10 facilities. The draft proposed classification for the H.F. Lee (five impoundments), Cape Fear (five impoundments), Weatherspoon (one impoundment) and Roxboro (East basin) facilities is intermediate. The draft proposed classification for the Cliffside Plant (two non-active basins), Roxboro Plant (West

basin) and the Mayo Plant (one impoundment) is low. For the remaining impoundments, the department only has enough information to narrow the classification to between low and intermediate. The draft proposed classification for the Allen Plant (two impoundments); Belews Creek Plant (one impoundment); Buck Plant (three impoundments); Cliffside (active impoundment); and Marshall Plant (one impoundment) is low-to-intermediate.

NEXT STEPS

In accordance with CAMA, the department will make available, within the 30 days, a written declaration that includes findings of fact that document and support the department's initial draft proposed classifications. This written declaration will be widely distributed and the department will

hold multiple hearings and solicit comments. **Every draft proposed classification is subject to change based on public comment, including scientific and technical data gained through the public input process.**