



NCDEQ Coal Ash Impoundment Closure Plan Decision

Roxboro Steam Electric Plant

August 14, 2020



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On December 31, 2019, Duke Energy submitted its proposed Closure Plan for the East and West Ash Basins at the Roxboro Steam Electric Plant (“Roxboro”) as required by the Coal Ash Management Act (“CAMA”). The North Carolina Department of Environmental Quality (“NCDEQ”) conducted a thorough evaluation of this proposed Closure Plan. In addition to its own evaluation, NCDEQ held a public hearing, circulated the proposed closure plan for public comment, reviewed written public comments and analyzed site specific information provided by Duke Energy and the public.¹ Based on this evaluation, NCDEQ finds that the proposed Closure Plan is protective of public health, safety, and welfare; the environment; and natural resources and otherwise complies with the requirements of CAMA. Consequently, NCDEQ hereby approves the proposed Closure Plan for Roxboro.

Background:

CAMA sets forth a process for closure of coal combustion residuals (“CCR”) impoundments in North Carolina. Based on certain statutory factors, impoundments must be classified low, intermediate or high risk. N.C. Gen. Stat. § 130A-309.213. For impoundments classified as “low risk,” such as the CCR impoundments at Roxboro, NCDEQ must elect one of three closure options: (1) excavation; (2) cap-in-place; or (3) closure under the federal CCR Rule. N.C. Gen. Stat. § 130A-309.214(a). Prior to making its Closure Determination, NCDEQ received public input on these closure options. In February 2020, NCDEQ held public meetings near Roxboro, and took public comment into March 2020 regarding the closure options considered at Roxboro.

On April 1, 2019, NCDEQ elected excavation as the closure option for the CCR impoundments at Roxboro (“Roxboro Closure Determination”) “because removing the coal ash from unlined CCR surface impoundments at Roxboro is more protective than leaving the material in place.” Roxboro Closure Determination, p. 1. NCDEQ determined that excavation “is the most appropriate closure method because removing the primary source of groundwater contamination will reduce uncertainty and allow for flexibility in the deployment of future remedial measures.” Roxboro Closure Determination, p. 1.

Based on its analysis of the available information regarding the groundwater plume at Roxboro, NCDEQ also concluded in its Roxboro Closure Determination that a cap-in-place or hybrid closure option could not be incorporated into an approvable Closure Plan. CAMA requires that a closure plan for any impoundment where ash is left in place must “prevent, upon the plan’s full implementation, post-closure exceedances of groundwater quality standards beyond the compliance boundary.” N.C. Gen. Stat. § 130A-309.214(a)(3)b. NCDEQ did not believe that this

¹ The Hearing Officer’s Report with NCDEQ response to comments is included as Attachment 1. Public comments are included in the Hearing Officer’s Report. Additional information reviewed by NCDEQ includes, among other things, environmental data contained in the comprehensive site assessment and proposed corrective action plan, permit requirements, the closure options analysis, ongoing groundwater monitoring, groundwater modeling provided by Duke Energy, NCDEQ’s Closure Determination for Roxboro, and other data relevant to the CAMA requirements.

requirement could be met with respect to Roxboro. NCDEQ’s overall conclusion was that “based on the current geographic scope and vertical extent of the groundwater contamination plume, and the modeled extent of the plume in the future, NCDEQ does not believe these two closure options [closure-in-place and hybrid] can meet the requirements of CAMA” Roxboro Closure Determination, p. 7.

Duke Energy challenged NCDEQ’s Roxboro Closure Determination along with the closure determinations for six other Duke Energy facilities in the North Carolina Office of Administrative Hearings. After extensive discovery, Duke Energy and NCDEQ reached a settlement and executed an agreement to resolve that litigation on December 31, 2019 (“Settlement Agreement”). On February 5, 2020, the Wake County Superior Court entered a consent order consistent with the terms of the Settlement Agreement (“Consent Order”). Pursuant to the terms of the Settlement Agreement and Consent Order, Duke Energy agreed to excavate the coal ash in the CCR Impoundments at Roxboro to lined onsite landfills. The Closure Plan for Roxboro complies with the terms of the Settlement Agreement and Consent Order.

Public process for the proposed Closure Plan:

CAMA required that NCDEQ put the proposed Closure Plan to public notice and conduct a public meeting to explain the Plan. NCDEQ held the public meeting for Roxboro on February 19, 2020 and conducted a public comment period through March 11, 2020. During that hearing, seven individuals made comments on the Closure Plan. Additionally, NCDEQ received three written comments regarding the Closure Plan during the public comment period. Several of the commenters expressed support for excavating and relocating coal ash into lined landfills. The comments also included some concerns about the plan for the saturated ash on the site, the portion of ash that will remain, groundwater contamination and the economic concerns in Person County. A discussion of the substantive concerns raised in these comments is included as part of the hearing officer’s report.

Evaluation of Closure Plan:

CAMA establishes criteria for NCDEQ’s evaluation of Closure Plans. Specifically, CAMA provides that NCDEQ “shall disapprove a proposed Coal Combustion Residuals Surface Impoundment Closure Plan unless the Department finds that the Closure Plan is protective of public health, safety, and welfare; the environment; and natural resources and otherwise complies with the requirements of this Part.” N.C. Gen. Stat. § 130A-309-214(c). CAMA sets forth a list of required contents for Closure Plans, including engineering drawings, schematics, and specifications for the proposed Closure Plan, a description of the provisions for the final disposition of the coal combustion residuals, groundwater modeling, and a description of the plan for post-closure monitoring and care for an impoundment for a minimum of 30 years.

NCDEQ finds that under CAMA Duke Energy’s proposed Closure Plan for Roxboro is protective of public health, safety, welfare, the environment, and natural resources. In the Closure Plan, Duke Energy proposes to excavate most of the coal ash in the CCR impoundments, which NCDEQ has determined is the most environmentally protective closure option. Because most of the coal ash will be excavated, there will not be substantially less of the primary contaminant

source remaining that can continue to leach contaminant into groundwater. Further, with the majority of the coal ash excavated, there will be additional options available for remediating contaminated groundwater. As explained in the Roxboro Closure Determination, “removing the primary source of groundwater contamination will reduce uncertainty and allow for flexibility in the deployment of future remedial measures.” Roxboro Closure Determination, p. 1.

Since all of the coal ash that will be excavated will be placed in lined onsite landfills, the need to transport coal ash over public roads or by rail car will be minimized. Such onsite disposal also obviates the need to locate additional communities to accept coal ash. Consequently, NCDEQ finds that disposal of coal ash to onsite lined landfills is protective of public health and safety and significantly diminishes the environmental impact of excavation.

For the limited area of coal ash that remains in place under the permitted structural fill and permitted landfill, additional protective measures, including stabilization features, synthetic covers, and monitoring will be incorporated. NCDEQ finds that these additional protective measures will ensure that the coal ash remaining in place will not adversely affect public health, safety, and welfare, the environment, and natural resources.

NCDEQ further finds that Duke Energy’s proposed Closure Plan for Roxboro complies with the other requirements of CAMA. Specifically, NCDEQ has determined that Duke Energy has adequately included all required elements of a Closure Plan (either directly or through incorporation by reference of the proposed Corrective Action Plan for Roxboro),² including the following:

- site history and history of site operations;
- site maps;
- results of a hydrogeologic, geologic, and geotechnical investigation of the site;
- results of groundwater modeling at the site;
- engineering drawings, schematics, and specifications for the proposed Closure Plan;
- a description of the construction quality assurance and quality control program to be implemented in conjunction with the Closure Plan;
- a description of the provisions for disposal of wastewater and management of stormwater and the plan for obtaining all required permits;
- a list of required permits;
- a description of the provisions for the final disposition of the coal combustion residuals;
- a description of the plan for post-closure monitoring and care for an impoundment for a minimum of 30 years;
- an estimate of the milestone dates for all activities related to closure and post-closure;
- projected costs of assessment, corrective action, closure, and post-closure care; and
- a description of the anticipated future use of the site and the necessity for the implementation of institutional controls following closure.

N.C. Gen. Stat. § 130A-309.214(a)(4).

² Note that this document does not constitute an approval of the proposed corrective action plan for Roxboro or any element thereof, NCDEQ will review and take action on that proposal in a separate decisional document.

Conclusion:

NCDEQ approves the proposed Closure Plan for Roxboro based on its finding that this Plan “is protective of public health, safety, and welfare; the environment; and natural resources and otherwise complies with the requirements of CAMA.”