

NCDEQ Coal Ash Impoundment Closure Plan Decision

Roxboro Steam Electric Plant

Attachment 1: Hearing Officer's Report and Public Comments

August 17, 2020



Hearing Officer's Report – Proposed Closure Plan for the Coal Ash Impoundments at Roxboro Steam Electric Plant

Date: August 17, 2020Facility:Roxboro Steam Electric PlantCounty:PersonOwner & Operator:Duke Energy Progress, LLC

Purpose

The purpose of this document is to provide an administrative record of the public input process on the proposed Closure Plan for the subject facility as required by G.S. 130A-309.214(b) of Session Law 2016-95 House Bill 630 (referred to as the Coal Ash Management Act or CAMA).

Regulatory Background Summary

CAMA required that the North Carolina Department of Environmental Quality (NCDEQ) develop proposed classifications for all coal combustion residuals surface impoundments, including active and retired sites, for the purpose of closure and remediation based on these sites' risks to public health and the environment.

On November 13, 2018, DEQ issued a final low-risk classification for the Roxboro Steam Electric Plant based on the determination that Duke Energy met the requirements of G.S. 130A-309.213(d)(1). On April 1, 2019, NCDEQ further determined that coal combustion residuals (CCR) impoundments at the Roxboro Steam Electric Plant required closure via excavation per G.S. 130A-309.214(a)(3)(a). On April 26, 2019, Duke Energy appealed the determination that the impoundments must be excavated.

On December 31, 2019, DEQ received the proposed Closure Plan for the Roxboro Steam Electric Plant per the CAMA deadline. Staff from the NCDEQ's Division of Waste Management; Division of Energy, Mineral, and Land Resources; and Division of Water Resources have reviewed the Closure Plan for completeness and the requirements of G.S. 130A-309.214(a)(4). DEQ also received the proposed Corrective Action Plan for groundwater remediation for the Roxboro Steam Electric Plant. The Division of Water Resources staff also reviewed the Corrective Action Plan as several of its components are part of the Closure Plan.

On December 31, 2019, NCDEQ entered into a Settlement Agreement with Duke Energy and the Community Groups represented by the Southern Environmental Law Center regarding the closure of the Roxboro Steam Electric Plant. The Settlement Agreement added further requirements to the closure efforts and corrective action activities at the site and established some milestone dates for reporting, corrective action, and closure goals.

On January 31, 2020, the parties from the Settlement Agreement filed a Consent Order with the Wake County Superior Court. The Consent Order was subsequently signed by Wake County Superior Court Judge Paul Ridgeway on February 5, 2020.

Site History/Background Summary

The Roxboro Steam Electric Plant (Roxboro Plant) is owned and operated by Duke Energy Progress, LLC (Duke Energy) and is located in Person County, approximately 5 miles southeast of Semora, North Carolina. The Roxboro Plant consists of four coal-fired electric generating units with a combined generating capacity of 2,422 megawatts. The first generating unit (Unit 1) at the Roxboro Plant site went into service in 1966. Duke Energy has historically operated impoundments at the Roxboro Plant site for storing CCR, including the East Ash Basin (EAB), Flue Gas Desulfurization (FGD) Basins, and the West Ash Basin (WAB). Duke Energy prepared separate closure plans for the EAB, WAB and FGD basins. However, this report addresses all three plans in one document.

The EAB was formed by construction of the EAB Main Dam around 1965 (regulated by NCDEQ as PERSO-033), which was subsequently raised in 1973 to the current maximum height of around 70 feet. The EAB originally released outflow through the eastern discharge canal to Hyco Lake, which is a part of the Roanoke River Basin. Outflow is currently released through culverts under Dunnaway Road into the WAB. The existing permitted industrial landfill (NCDEQ Permit No. 7302) is used primarily for disposal of CCR and is located partially within the original EAB extent and on top of sluiced CCR. There is also a permitted land clearing and inert debris (LCID) landfill partially located within the original EAB extent used primarily for construction and asbestos waste material. The CCR boundary of the EAB is designated as the area outside the permitted limits for the existing industrial landfill and LCID landfill. The area enclosed by the CCR boundary of the EAB is estimated to be approximately 71.3 acres, which includes 12.7 acres for the EEI (Eastern Extension Impoundment) area of the EAB. Based on a topographic survey performed in 2014 and other data, the CCR boundary of the EAB is estimated to contain approximately 3.24 million cubic yards of CCR or approximately 3.89 million tons. This estimate includes CCR within the EEI area of the EAB.

The WAB was formed by construction of the EAB Main Dam (regulated by NCDEQ as PERSO-038) around 1973. In 1986, The WAB Main Dam was raised by 13 feet to the current maximum height of 70 feet. Raising of the WAB Main Dam also included construction of WAB Dike No. 1 (regulated by NCDEQ as PERSO-039), saddle dikes and extension of the existing discharge outlet channel (also referred to as the "western discharge canal"). The WAB closure area includes the Southern Extension Impoundment (SEI) area of the WAB. The FGD Basins (also referred to as FGD Ponds) are located within the WAB for storage of wet sluiced FGD process residuals (also CCR). Construction for the current configuration of the FGD Basins (regulated by NCDEQ as PERSO-040, 041, and 042) was completed in 2009, and the FGD Basins have a total surface area of approximately 26.6 acres. The FGD Basins are constructed on CCR deposits and are located on the northwest side of the WAB near the WAB Main Dam. The area enclosed by the CCR boundary of the WAB is estimated to be approximately 225 acres, which includes approximately 42 acres for the SEI area of the WAB. Based on a topographic survey performed in April 2014 and other data, bathymetric survey performed in January 2015, and production data thru July 2019, the WAB closure area is estimated to contain approximately 10.81 million cubic yards of CCR or approximately 12.97 million tons. This estimate includes CCR contained within the FGD Basins and the SEI area of the WAB.

Closure Plan Summary

The closure plan indicates that the coal ash will be excavated from the East Ash Basin, except for coal ash under or within the waste boundary of the Roxboro Landfill. The closure plan indicates that all of the coal ash in the West Ash Basin will be excavated. All excavated coal ash will be placed in an onsite lined landfill. For the coal ash that remains in place under the permitted landfill at the East Ash Basin, additional protective measures, including stabilization features, synthetic covers, and groundwater monitoring will be incorporated. NCDEQ believes 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.

East Ash Basin: Upon approval of a Closure Plan by NCDEQ, additional actions will commence, including finalization of detailed designs, dewatering and removal of interstitial water, contracting and detailed planning for the closure work, stabilization of the existing industrial landfill, development of the lined landfill expansion in conjunction with excavation of the CCR, final grading of the site and landfill, and development of storm water features and vegetative covers. Much of the East Ash Basin CCR will be placed in a new lined landfill expansion within the Station property, located partially within the prior footprint of a portion of the EAB adjacent to Dunnaway Road. The landfill would rise approximately 180 feet above Dunnaway Road. Post-excavation, the East Ash Basin site will resemble the land's valley shape before the basin was created. Soil will be graded to restore contours for stormwater flows, then planted with native grasses for erosion control. The Basin Dam will remain in place, with storm water flows directed under Dunnaway Road to the WAB footprint and on to Hyco Lake.

West Ash Basin: Closure activities for the Basin have already begun with the initiation of decanting under the August 15, 2018 Special Order by Consent. Upon approval of a Closure Plan by NCDEQ, additional actions will commence, including finalization of the detailed designs, dewatering and removal of interstitial water, contracting and detailed planning for the closure work, removal and disposal of CCR from the SEI (Southern Extension Impoundment) area of the WAB, excavation of CCR from the Basin, excavation and removal of CCR from the FGD Ponds, removal of the FGD Pond dikes and related facilities, construction of additional industrial landfill capacity to permanently store the excavated CCR, breaching and partial removal of the WAB Main Dam, complete removal of WAB Dike No. 1, and restoration of disturbed areas. The West Ash Basin CCR will be removed to a new lined landfill expansion within the Station property, located partially within the prior footprint of the EAB, adjacent to Dunnaway Road. The landfill would rise approximately 180 feet above Dunnaway Road. Post-excavation, the Basin site will resemble the land's valley shape before the basin was created. Soil will be graded to restore contours for stormwater flows, then planted with native grasses for erosion control. The West Ash Basin Dam will be removed, allowing Hyco Lake to reach back into the footprint.

Public Input Summary

In accordance with the requirements of G.S. 130A-309.214(b)(1), the Closure Plan was made available to the public for review and input on January 17, 2020. A copy of the proposed closure plan was available to be reviewed at the Person County Health Department, Person County Public Library, and at the NCDEQ Raleigh Regional Office. The Closure Plan was also made available online at:

https://deq.nc.gov/news/key-issues/coal-ash-excavation/roxboro-power-station-coal-ash-closure-plan

Per G.S. 130A-309.214(b)(2)(a), a notice and summary of the proposed Closure Plan was published in The Courier-Times newspaper for three consecutive weeks beginning on January 25, 2020. Copies of the Notice were provided as required by G.S. 130A-309.214(b)(2)(b) and (c). Per G.S. 130A-309.214(b)(4), the 60-day comment period began on January 20, 2020 and ended on March 11, 2020. Comments could be sent to the NCDEQ via email, mail, and oral and/or written comments submitted during the public hearing.

Public Hearing and Oral Comments Summary

In accordance with the requirements of G.S. 130A-309.214(b)(3), a Public Hearing was held on February 19, 2020 at 6:00 pm in the North Elementary School located at 260 Henderson Road, Roxboro, North Carolina. The purpose of the public hearing was to allow the public to comment on the Roxboro Steam Electric Plant Closure Plan. Interested parties were able to submit oral or written statements regarding the proposed Closure Plan. Persons wishing to speak registered at the hearing. Speaking times were allotted per speaker as time allowed.

Approximately 52 people attended the public hearing including eleven staff members from the Division of Waste Management; Division of Energy, Mineral, and Land Resources; Division of Water Resources, and Division of Air Quality, as well as Public Information Officers and the Hearing Officer. A total of 39 individuals signed the attendance sign-in sheets at the hearing. The Hearing Officer provided opening comments and Ben Jackson of the Division of Waste Management gave a brief overview of the Closure Plan. Nine individuals registered in advance of the hearing to make comments and one additional individual made comments after the nine that registered spoke. Speakers had three minutes for initial presentations and additional time was provided after everyone that registered to speak was finished.

Response to Comments

NCDEQ received ten public comments, consisting of three written comments and seven oral comments. Those comments are summarized and addressed below.

Comment: A few comments thanked NCDEQ for listening to communities, for making sure that all coal ash is cleaned up out of the floodplain and put in safe, dry line landfills onsite, and for protecting Sargents Creek and Hyco Lake from coal ash.

Response: NCDEQ appreciates the participation of the public in the public comment process and looks forward to the completion of the cleanup process of the coal ash at the Roxboro facility.

Comment: One comment requested that NCDEQ require Duke Energy to protect its workers and contractors by creating a safe work environment with protective equipment.

Response: Duke Energy will be required to meet all applicable legal statutes and regulations addressing worker safety at Roxboro. Generally, the statutory authority to regulate worker safety laws is vested in state and federal agencies other than NCDEQ.

Comment: One comment requested that NCDEQ ensure that Duke Energy removes coal ash that is saturated in groundwater by requiring Duke Energy to submit its plan for fully

removing saturated ash now instead of as described in Appendix E, Section 4.3 to Duke Energy's Closure Plan, which states that if Duke encounters saturated ash, "a plan will be submitted to NCDEQ by Duke Energy pertaining to the removal of ash if these conditions or other restricting factors occur."

Response: NCDEQ has determined that the excavation of all coal ash at the site, including coal ash that may be later discovered in saturated groundwater, must be excavated and removed to an onsite landfill or for utilization in approved beneficial reuse activities. It is not known at this time to what extent, if any, fully saturated ash will be present at the site during excavation. Should this condition occur, Duke will need to submit an additional plan to NCDEQ for its removal.

Comment: A few comments criticized excavation and stated that coal ash is naturally occurring and is not a hazard to the public or the environment. One comment went on to request that NCDEQ delay coal ash cleanup until there is irrefutable proof that coal ash is a hazard.

Response: NCDEQ believes that there is substantial scientific evidence demonstrating the danger of coal ash constituents to public health and the environment. CAMA requires that the coal ash basins at Roxboro be closed and, pursuant to the settlement agreement, Duke Energy has agreed to close those ash basins by complete excavation of the West Ash Basin and excavation of all CCR in the East Ash Basin except for coal ash under or within the waste boundary of the Roxboro Landfill. CAMA also includes deadlines for, among other things, NCDEQ's review of Duke Energy's proposed Closure Plan, Duke Energy's implementation of an approved Closure Plan, and ultimate closure of the ash basins.

Comment: Several comments expressed concern about the environmental benefit of excavation due to increased air pollution and impacts to the community from truck traffic.

Response: To minimize impacts to the community and to air quality, coal ash will be excavated and placed in *onsite* landfills and Duke Energy is responsible for controlling fugitive dust.

Comment: One comment asked for an assurance from NCDEQ that it would not ask Duke Energy to move the coal ash again if "best science practices" change in the future.

Response: This comment is beyond the scope of NCDEQ's review of proposed Closure Plans under CAMA.

Comment: Several comments expressed concern about cost recovery and utility rates.

Response: The North Carolina Utilities Commission has statutory authority to determine who will pay the costs associated with cleanup of coal ash at the site, including those costs associated with storage of excavated coal ash in a lined landfill. These cleanup costs will be the subject of future rate cases before the North Carolina Utilities Commission. The public will have an opportunity to provide comments during those rate case hearings.

Comment: A few comments expressed the opinion that there is a "war on coal" and that some are trying to kill the coal industry. One comment wanted to know if Roxboro could be converted to co-generation of coal and natural gas.

Response: The topics raised in these comments are not within the scope of NCDEQ's review of proposed Closure Plans for coal ash impoundments under CAMA.

Hearing Officer Recommendations

Based on my review of the record and in consultation with subject matter experts in NCDEQ, I recommend approval of the submitted Closure Plan for the coal ash impoundments at Duke

Energy's Roxboro Steam Electric Plant located in Person County. I conclude that the Closure Plan is protective of public health, safety and welfare, the environment and natural resources and otherwise complies with the requirements of CAMA.

<u>Denise Hayes</u>

Denise Hayes, Hearing Officer

08/17/2020

Date

From:	<u>pj@pjgentry.com</u>
То:	Roxborocomments
Subject:	[External] Roxboro coal ash clean up
Date:	Thursday, February 20, 2020 6:16:12 PM

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While residents appreciate most efforts to protect our environment many of us remain skeptical of the dangers of leaving coal ash undisturbed. There is too much political fodder involved and too much scientific 'opinion'. After all, these elements came from the earth. The byproducts of coal ash have been used for many things like roads, runways and other material uses. Coal ash has been sitting in numerous sites undisturbed for years without problems.

The hysteria over the coal ask accidents and the knee jerk reactions to eliminating coal ash is mind boggling. Like the climate, when we are dealing with probabilities and not realities it's always prudent to step back and access, re-access and then re-access. Rushing forward to clean up coal ash creates another whole set of environmental issues, like more diesel trucks on the roads, more air pollution due to the increased truck traffic and then the need for new landfill sites, etc.

I respectfully request that you slow down or delay this process of coal ash clean up until there is unrefutable proof that coal ash is a hazard to the community or the environment.

PJ Gentry

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From:	Jennifer Doucette
То:	Roxborocomments
Cc:	Nick Torrey; Holman, Sheila; Lane, Bill F
Subject:	[External] SELC Comments - Roxboro Power Station Closure Plans
Date:	Wednesday, March 11, 2020 12:22:57 PM
Attachments:	2020-03-11 Comment Letter - Roxboro.pdf

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Good afternoon Ms. Hughes,

Please find attached comments on the Roxboro Power Station closure plans, on behalf of the Roanoke River Basin Association.

Sincerely,

Jennifer Doucette Legal Administrative Assistant North Carolina State Bar Certified Paralegal | <u>Southern Environmental Law Center [southernenvironment.org]</u> 601 West Rosemary Street, Suite 220 | Chapel Hill, NC 27516-2356 T: 919-967-1450 | F: 919-929-9421 | Email: jdoucette@selcnc.org

Southern Environmental Law Center

Telephone 919-967-1450

601 WEST ROSEMARY STREET, SUITE 220 CHAPEL HILL, NC 27516-2356 Facsimile 919-929-9421

March 11, 2020

VIA EMAIL AND U.S. MAIL

N.C. Department of Environmental Quality Louise Hughes 1601 Mail Service Center Raleigh, NC 27699-1601 *roxborocomments@ncdenr.gov*

Re: Comments on Closure Plan – Roxboro Power Plant

Dear Ms. Hughes:

On behalf of the Roanoke River Basin Association, we support Duke Energy's plan to excavate the unlined coal ash basins at its Roxboro power plant in Person County.

This result is required by the North Carolina Coal Ash Management Act. As the Department set out in its April 1, 2019 Closure Determination, the ongoing contamination and the risks associated with leaving millions of tons of coal ash permanently within the designated floodplain and saturated in groundwater are too great, and full excavation is the right solution to ensure that groundwater and downstream surface waters are protected.

The closure plan removes approximately 17 million tons of coal ash from the leaking, unlined lagoons at Roxboro and disposes of it onsite in lined, dry storage. This solution also restores the natural channel of Sargents Creek, a tributary of the Hyco River. This cleanup protects both Sargents Creek and Hyco Lake and the Hyco River from coal ash contamination, while removing all coal ash from the designated floodplain. This represents an enormous victory for Person County, Hyco Lake, and the Roanoke and Dan River watersheds.

We have two requests for the Department:

Each of Duke Energy's coal ash sites contain millions of tons that are saturated in groundwater, and DEQ must ensure Duke Energy removes all of this ash. Appendix E of the closure plan states that if Duke encounters ash saturated in groundwater, "[a] plan will be submitted to NC DEQ by Duke Energy pertaining to the removal of ash if these conditions or other restricting factors occur." Closure Plan, Appendix E, Section 4.3. Because we already know that millions of tons of ash are saturated in groundwater at every one of these sites, DEQ should require Duke Energy to submit its plan for fully removing saturated ash now, to ensure the plan is adequate and all saturated ash will be removed.

In addition, DEQ must continue to protect North Carolinians by ensuring the safety of the workers who are cleaning up the coal ash. DEQ should require Duke Energy to protect its workers *and* contractors by creating a safe work environment with protective equipment.

We are grateful to Secretary Regan and the whole Department of Environmental Quality for your work to implement CAMA and ensure these sites will be cleaned up once and for all. We fully support this closure plan.

Thank you for your consideration of these comments.

Sincerely, Withlan (and

Nicholas S. Torrey Senior Attorney

cc: Sheila Holman, Assistant Secretary for the Environment Bill Lane, General Counsel

From:	Emmy Grace
То:	Roxborocomments
Subject:	[External] Thank you
Date:	Saturday, February 1, 2020 12:43:01 PM

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Dear DEQ,

Thank you for listening to communities and for making sure all the coal ash is cleaned up and put into safe, dry lined storage on site.

To do so, I urge you to ensure that ash handling protocols are of the highest measure and are enforced to make sure that workers are safe.

Extensive testing of the materials used should also be done to ensure no contamination of lakes and surrounding areas. Also, no matter how good the lining is, it can be weakened with bad installation so special construction quality measures should be enforced.

Lastly, I am concerned about leaching. Please put in place the necessary measures to prevent leaching and a protocol of the highest standards for what will be done with the leachate.

Thank you again.

Sincerely, Emmy Grace Durham, NC 27701

Emmy Grace emmy.a.grace@gmail.com 847.975.4985

SOU THERN ENVIR ON MENTAL LAW CENTER

Telephone 919-967-1450

601WEST ROSEMARY STREET, SUITE 220 CHAPEL HILL, NC 27516-2356 Facsimile 919-929-9421

March 11, 2020

VIA EMAIL AND U.S. MAIL

N.C. Department of Environmental Quality Louise Hughes 1601 Mail Service Center Raleigh, NC 27699-1601 roxborocomments@ncdenr.gov

Re: Comments on Closure Plan – Roxboro Power Station

Dear Ms. Hughes:

Please find enclosed comments on the Roxboro Power Station closure plans. If you have any questions, please do not hesitate to get in touch.

Sincerely,

1 Doucette

Jennifer Doucette Legal Administrative Assistant Southern Environmental Law Center

Enclosure

Charlottesville • Chapel Hill • Atlanta • Asheville • Birmingham • Charleston • Nashville • Richmond • Washington, DC

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March 11, 2020

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Nicholas S. Torrey Senior Attorney

cc: Sheila Holman, Assistant Secretary for the Environment Bill Lane, General Counsel