

**PETITION BEFORE THE ADMINISTRATOR
IN THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

DUKE ENERGY CORPORATION,	)	
	)	
<i>Petitioner,</i>	)	
	)	PETITION FOR RULEMAKING
	)	DOCKET NO: _____
<i>Filed with:</i>	)	
	)	
MICHEAL REGAN, in his capacity as	)	
EPA Administrator	)	
1200 Pennsylvania Avenue, NW	)	
Washington, DC 20460	)	

**PETITION FOR RULEMAKING TO RECONSIDER SPECIFIC PROVISIONS OF THE
2024 COAL COMBUSTION RESIDUALS (“CCR”) RULE**

Duke Energy Corporation (“Duke Energy”) respectfully petitions the United States Environmental Protection Agency (“EPA”) pursuant to 5 U.S.C. § 553(e) and 42 U.S.C. § 6974(a) for a rulemaking narrowly focused on reconsideration of 40 C.F.R. § 257.101(g)(4) of the final rule entitled Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Legacy CCR Surface Impoundments (“2024 CCR Rule”).¹ Reconsideration is necessary and appropriate to address a unique subset of previously closed CCR units that meet the statutory protectiveness standard in 42 U.S.C. § 6944(a) but have less than 5 feet of separation between the base of the closed unit and the water table and/or some amount of free liquid (even if *de minimis*) in the closed unit.

INTRODUCTION

The 2024 CCR Rule marked the consummation of years of rulemaking effort by EPA to address, among other things, the opinion of the United States Court of Appeals for the District of

¹ 89 Fed. Reg. 38950 (May 8, 2024).

Columbia Circuit in *Utility Solid Waste Activities Group, et al. v. EPA*, 901 F.3d 414 (D.C. Cir. 2018) vacating and remanding portions of EPA’s 2015 final rule entitled Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities.² In finalizing the 2024 CCR Rule, EPA made a number of changes responsive to public comments on the proposed rule, including adjustments to the final compliance time frames for newly regulated legacy CCR surface impoundments (“legacy SI”) and CCR management units (“CCRMU”).³

EPA also created entirely new deferral categories for (1) legacy SI and CCRMU previously closed pursuant to substantially equivalent regulatory authority, and (2) CCRMU located under critical infrastructure.⁴ Importantly, units qualifying for the first deferral category are not exempt from the requirements of the 2024 CCR Rule but instead are temporarily relieved of the obligation “to comply with § 257.102 until a permit authority can evaluate the adequacy of the previously completed closure and determine during permitting whether (as well as what) additional measures are necessary to ensure that the closure is as protective as § 257.102.”⁵ Units in the second deferral category also are not exempt, *per se*, but rather may defer closure “until the infrastructure is no longer needed, EPA or a Participating State Director determines closure is necessary to ensure that there is no reasonable probability of adverse effects on human

² 80 Fed. Reg. 21302 (April 17, 2015). The Advance Notice of Proposed Rulemaking for the 2024 CCR Rule was issued in October 2020, 85 Fed. Reg. 65015 (Oct. 14, 2020), and the Proposed Rule was issued in May 2023, 88 Fed. Reg. 31982 (May 18, 2023).

³ See 89 Fed. Reg. at 39005 (Table 1) and 39061 (Table 2).

⁴ 40 C.F.R. § 257.101(g) and (h), respectively.

⁵ 89 Fed. Reg. at 39025.

health or the environment, or the closure or decommissioning of the facility, whichever occurs first.”⁶

EPA added the newly identified deferral categories in response to examples volunteered by interested stakeholders during the public comment process.⁷ In so doing, EPA made clear that the requirements of previous closures conducted under active State oversight, “even where different, can result in closures that are equally protective as those conducted in accordance with Federal requirements.”⁸ According to EPA:

[These closures] all share certain features such as the risks at the site have been fully evaluated by a regulatory authority. Even though the specific requirements may differ from § 257.102, there is nevertheless reason to believe that the closure will be protective, at least in the interim until a permitting authority can evaluate the adequacy of the closure to the CCR closure requirements.⁹

To obtain a deferral for a previously closed legacy SI or CCRMU under 40 C.F.R. § 257.101(g), the closure must meet the following criteria:

- (1) The owner or operator of the CCR unit must document that a regulatory authority played an active role in overseeing and approving the closure and any necessary corrective action, pursuant to an enforceable requirement. This includes a State or Federal permit, an administrative order, or consent order issued after 2015 under CERCLA or by an EPA-approved RCRA State program.
- (2) The owner or operator of the CCR unit must document that the regulatory authority required or conducted a site-specific risk assessment prior to (or as part of) approving the closure and any necessary corrective action.
- (3) The owner or operator of the CCR unit must document that it installed a groundwater monitoring system and performed groundwater monitoring that meets all of the following:

- (i) Was capable of accurately representing background water quality;

⁶ 40 C.F.R. § 257.101(h).

⁷ 89 Fed. Reg. 39030.

⁸ *Id.*

⁹ 89 Fed. Reg. at 39031.

- (ii) Was capable of accurately representing the quality of water passing the waste boundary;
- (iii) Was capable of detecting contamination in the uppermost aquifer; and
- (iv) Monitored all potential contaminant pathways.

(4) Must document that the closed unit meets either:

- (i) The performance standard in § 257.60; or
- (ii) The performance standard in § 257.102(d)(2)(i).

(5) The owner or operator must include the following statement, signed by the owner or operator or an authorized representative, in the facility evaluation report for CCR management units specified in § 257.75 or applicability report for legacy CCR surface impoundments specified in § 257.100(f)(1) along with all information required by paragraphs (g)(1) through (4) of the section:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.¹⁰

Duke Energy generally supports the newly identified deferral categories. However, as explained in more detail below, Duke Energy respectfully submits that the requirements of § 257.101(g)(4) are unnecessary to meet the statutory protectiveness standard, which requires EPA's criteria to ensure that "there is no reasonable probability of adverse effects on health or the environment,"¹¹ and as a practical matter, will severely limit the availability of deferrals.

ARGUMENT

The deferral criteria in § 257.101(g)(1)-(3) ensure that the previous closure was conducted under active regulatory oversight supported by a site-specific risk assessment and a

¹⁰ 40 C.F.R. § 257.101(g)(1)-(5).

¹¹ 42 U.S.C. § 6944(a). The requirements of 40 C.F.R. § 257.101(g)(4)(i) and (ii) are repeated in § 257.101(h)(1) and (2) for CCRMU under critical infrastructure. However, this Petition is limited to 40 C.F.R. § 257.101(g)(4).

robust groundwater monitoring system with data to confirm the quality of groundwater associated with the unit. In addition, the closure equivalency determination in § 257.101(g)(6) ensures that at the permitting stage, EPA (or the Participating State) will confirm whether the “equivalency” of the closure was successfully demonstrated, including whether the closure met the appropriate Part 257 closure standard. If it did not, then EPA (or the Participating State) must include specific requirements in the permit “necessary for the closed unit to achieve compliance with § 257.102.”

These requirements, taken together, are adequate to meet the statutory protectiveness standard. However, EPA also added § 257.101(g)(4), which requires the owner or operator to document that the closed unit “meets” either the 5-foot aquifer separation requirement in § 257.60 or the requirement to have eliminated free liquids in § 257.102(d)(2)(i). Duke Energy respectfully requests that EPA reconsider § 257.101(g)(4) for each of the following reasons.

First, § 257.101(g)(4) creates a very real risk that previous closures performed under active State oversight that are demonstrated to be safe and protective will nonetheless be disqualified from the deferral option if there is less than 5 feet of separation between the base of the closed unit and the water table or even a *de minimis* amount of free liquid left in the closed unit. This would severely undermine and penalize the significant efforts undertaken by States and utilities to close legacy SI and CCRMU in the past, well before there was any federal regulatory requirement to do so (*i.e.*, prior to the 2024 CCR Rule).

For example, on December 31, 2019, Duke Energy entered into a Settlement Agreement, a copy of which is attached hereto as **Exhibit “A,”** with then-Secretary Michael Regan on behalf of the North Carolina Department of Environmental Quality (“NCDEQ”), and several community groups under which the parties to that agreement consented to the entry of a Consent

Order entered by North Carolina superior court on February 5, 2020 (“Consent Order”), a copy of which is attached hereto as **Exhibit “B,”** under which Duke Energy agreed to, *inter alia*, close the CCR surface impoundments by removal of CCR at seven coal ash sites in North Carolina. At three of the sites subject to the Consent Order—Belews Creek Steam Station (“Belews Creek”), Marshall Steam Station (“Marshall”), and Roxboro Steam Electric Plant (“Roxboro”)—NCDEQ and the community groups expressly agreed that, in exchange for Duke Energy’s agreement to excavate and remove all coal ash from the ash basins, any ash located underneath the overlying fills—each of which will be closed with a final cover system that incorporates a geosynthetic liner—need not be moved.

Under the Consent Order, the parties stipulated and agreed that for these three facilities (as wells as the other four facilities subject thereto),

Duke Energy’s compliance with approved Groundwater Corrective Action Plans, NPDES permits, and SOC’s [special orders by consent], along with the actions required by this Consent Order and *through [NC]DEQ’s administration of the statutes, rules and regulations that it implements*, have resolved or will resolve the remaining alleged groundwater violations and surface water violations (i.e., those caused by impoundment sources) set forth in the Complaints filed in these actions.

Consent Order, Injunctive Relief, at 11 (emphasis added).

To address groundwater protection, as required by the Consent Order, pursuant to a groundwater monitoring plan approved by NCDEQ, following excavation in the footprint of the former ash basins and downgradient of the landfills, Duke Energy must conduct groundwater monitoring (including the installation of new wells if reasonably necessary) and surface water sampling. In this plan, Duke Energy must

propose (1) additional groundwater remedial measures for any coal ash constituent if the data indicate an increasing trend in groundwater concentrations in excess of the [North Carolina] 2L

groundwater standards for four (4) consecutive semi-annual sampling events for that constituent . . . and (2) surface water treatment if the data shows impact from coal ash constituents above the 2B [North Carolina surface water] standards to waters of the State . . .

Consent Order at ¶¶ 29, 45, 55.

And to address groundwater corrective action, Duke Energy submitted a proposed groundwater corrective action plan to NCDEQ for its review and approval, which included active remedial measures “to address any groundwater contamination as required by [North Carolina’s Coal Ash Management Act of 2014] . . ., the 2L groundwater rules, and any other applicable laws, statutes, or regulations . . . Upon approval of the proposed groundwater corrective action plan by NCDEQ, Duke Energy began implementing the plan “to remedy any material violations of the 2L groundwater standards as determined by NCDEQ,” which are attributable to the ash basins, including the ash under the overlying fills. Consent Order at ¶¶ 30, 46, 56.

Updated Corrective Action Plans (“Updated CAPs”) for Marshall, Belews Creek, and Roxboro were submitted to NCDEQ on December 31, 2019, and included a robust corrective action system with groundwater extraction wells, clean water infiltration wells, and treatment of extracted groundwater designed to meet an accelerated time frame specified in the Consent Order. The approved Updated CAPs are comprehensive and included human health and ecological risk evaluations, groundwater fate and transport modeling, surface water evaluations, geochemical modeling, remedial alternative evaluations, fractured bedrock evaluations, and more, to ensure the remedial approach selected was robust, met necessary time frames and requirements in the Consent Order, and was protective of human health and the environment. The Updated CAPs were approved by NCDEQ in 2021. Prior to approval, a separate approval was received by NCDEQ to begin pilot testing of the remediation systems on February 21, 2020.

The pilot systems that were installed were robust and included a total of 96 extraction wells and 31 clean water infiltration wells to meet stringent dates in the Consent Order and assist in optimizing the full-scale system. The pilot test system was substantially constructed and operational in 2021, and each ran for six months to gather necessary data to complete design of the full-scale system, then continued operation during full-scale implementation. **The full-scale system at these three facilities includes a total of 168 extraction wells and 84 clean water infiltration wells with capture zones between 1,200 feet to over 3,000 feet parallel to the CCR units. Additionally, when considering all five remedial systems at Belews Creek, Marshall, Roxboro, and two other Duke Energy coal-fired facilities in North Carolina, over 44 miles of piping have been installed and over 727 million gallons of groundwater have been extracted with over 101 million gallons of clean water infiltrated as of March 2024.** Additional details on these systems can be found in the Duke Energy's comments submitted on December 11, 2023, in response to the November 7, 2023, Notice of Data Availability (Docket No.: EPA-HA-OLEM-2020-0107).

The foregoing demonstrates that the actions Duke Energy has taken and will continue to take pursuant to strict State oversight to close these regulated basins and CCRMUs and remedy any groundwater contamination are protective of human health and the environment and, as such, the deferral option should be available for all of these units.

Second, in the original 2015 rule, failure to meet the 5-foot aquifer separation standard triggered closure of the unit. However, EPA has now flipped the standard so that even a previously closed unit would need to meet the separation standard to obtain a deferral. This means that the primary impetus for many previous closures would now be grounds to deem them ineligible for the deferral option *even if* they were otherwise safe and protective.

Third, EPA's use of the present tense "meets" suggests that the closed unit must be in compliance with one of the two provisions in § 257.101(g)(4) now. However, since the free liquids performance standard is temporally connected to closure (*i.e.*, "prior to installing the final cover system" for the unit being closed), the owner or operator will need to document that the standard was met at the time of closure (which could have occurred years ago), as well as now. This may be difficult if not impossible to demonstrate, thereby limiting if not eliminating the availability of the deferral option.

Fourth, the closure equivalency process in 40 C.F.R. § 257.101(g)(6) indicates that EPA (or the Participating State) will impose permit requirements "necessary for the closed unit to achieve compliance with § 257.102" if necessary. This suggests that EPA (or the Participating State) could require further dewatering or other engineering measures to address the closure performance standards if determined to be necessary to meet § 257.102(d)(2)(i) at the time of permitting. However, as written, § 257.101(g)(4) would preclude this scenario.

Finally, one of the overarching goals of the CCR regulatory program is to protect groundwater and thereby meet the statutory protectiveness standard. EPA suggests in the preamble that § 257.101(g)(4) "directly addresses the reason that EPA has concluded that many previously completed closures do not meet the [protectiveness] standard."¹² However, this is not the only option to address EPA's concern. Indeed, a more reasonable and defensible option would be to replace § 257.101(g)(4) with a requirement that the owner or operator document compliance with § 257.96 through § 257.98 with respect to any necessary groundwater corrective action.

¹² 89 Fed. Reg. at 39031.

Duke Energy urges EPA to pursue this proposed approach as part of its reconsideration of the 2024 CCR Rule by amending § 257.101(g)(4) as follows:

(4) Must document that the closed unit meets the groundwater corrective action requirements in § 257.96 through § 257.98, where applicable. ~~either:~~

- ~~(i) The performance standard in § 257.60; or~~
- ~~(ii) The performance standard in § 257.102(d)(2)(i).~~

Alternatively, EPA could simply add the proposed language as a third criterion to the existing § 257.101(g)(4) as follows:

(4) Must document that the closed unit meets either:

- (i) The performance standard in § 257.60; or
- (ii) The performance standard in § 257.102(d)(2)(i); or
- (iii) the groundwater corrective action requirements in § 257.96 through § 257.98, where applicable.

CONCLUSION

Duke Energy respectfully requests that EPA grant this Petition, reconsider 40 C.F.R. § 257.101(g)(4) in the 2024 CCR Rule and initiate a new rulemaking to amend it as proposed herein.

Dated: July 1, 2024

DUKE ENERGY CORPORATION

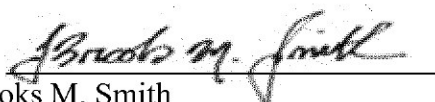
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EXHIBIT A

DUKE ENERGY CAROLINAS, LLC, AND DUKE ENERGY PROGRESS, LLC, Petitioners, v. NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, Respondent, APPALACHIAN VOICES, THE STOKES COUNTY BRANCH OF THE NAACP, MOUNTAINTRUE, THE CATAWBA RIVERKEEPER FOUNDATION, THE SIERRA CLUB, THE WATERKEEPER ALLIANCE, and THE ROANOKE RIVER BASIN ASSOCIATION, Respondent-Intervenors.	SETTLEMENT AGREEMENT
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THIS SETTLEMENT AGREEMENT (the “Agreement”) is entered into on December 31st, 2019 (“Effective Date”) between the Parties, defined as follows:

- “Duke Energy”: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC
- “DEQ”: The North Carolina Department of Environmental Quality
- “Community Groups”: Appalachian Voices, Stokes County Branch of the NAACP, MountainTrue, The Catawaba Riverkeeper Foundation, Waterkeeper Alliance, Sierra Club, Roanoke River Basin Association, Cape Fear River Watch, Inc., Neuse River Foundation/Sound Rivers, Inc., and NC State Conference of the NAACP.¹

The Parties enter into this Settlement Agreement in order to resolve the matters referenced herein.

Background

¹ To the extent some of these Community Groups are not party to this litigation but rather to prior litigation addressing other Duke Energy coal ash facilities, they have been consulted by their counsel and agree to the terms and conditions herein only to the extent applied to the facility or facilities about which they have previously been involved in litigation related to the disposition of coal ash or alleged violations related to coal ash.

1. On April 1, 2019, DEQ issued Coal Combustion Residuals Surface Impoundment Closure Determinations (the “Closure Determinations”) pursuant to the Coal Ash Management Act (“CAMA”) for Duke Energy’s Allen, Belews Creek, Cliffside, Marshall, Mayo, and Roxboro Steam Stations (singular, “Facility”; collectively, the “Facilities”). These Closure Determinations ordered excavation of all coal combustion residuals (“CCR”) impoundments at the Facilities.
2. On April 26, 2019, Duke Energy filed Petitions for Contested Case Hearing in the North Carolina Office of Administrative Hearings (“OAH”) in 19 EHR 2398, 19 EHR 2399, 19 EHR 2401, 19 EHR 2403, 19 EHR 2404, and 19 EHR 2406 challenging DEQ’s Closure Determination for each of the Facilities (“OAH Proceedings”).
3. On May 9, 2019, DEQ issued a letter adjusting certain dates and making certain clarifications related to the Closure Determinations.
4. On May 24, 2019, Duke Energy filed Amended Petitions for each Facility in 19 EHR 2398, 19 EHR 2399, 19 EHR 2401, 19 EHR 2403, 19 EHR 2404, and 19 EHR 2406 challenging DEQ’s May 9, 2019 letter in addition to DEQ’s April 1, 2019 Closure Determinations.
5. In addition to the OAH Proceedings, the Parties are involved in the following litigation relating to the Facilities: the State Enforcement Actions (“State of North Carolina *ex rel.* North Carolina Department of Environmental Quality and Roanoke River Basin Association, Sierra Club, Waterkeeper Alliance, Cape Fear River Watch, Inc., Sound Rivers, Inc. and Winyah Rivers v. Duke Energy Progress, LLC 13 CvS 11032 (Wake County)” and “State of North Carolina *ex rel.* North Carolina Department of Environmental Quality and Catawba Riverkeeper Foundation, Inc., Waterkeeper Alliance, MountainTrue, Appalachian Voices, Yadkin Riverkeeper, Inc., Dan River Basin Association, and

Southern Alliance for Clean Energy v. Duke Energy Carolinas, LLC” 13 CvS 14461 (Mecklenburg County); three federal Clean Water Act lawsuits (“Roanoke River Basin Association v. Duke Energy Progress, LLC” No. 1:16-cv-607 (MDNC) (Mayo), “Roanoke River Basin Association v. Duke Energy Progress, LLC” No. 1:17-cv-452 (MDNC) (Roxboro), and “Appalachian Voices et al v. Duke Energy Carolinas, LLC” No. 1:17-cv-1097 (MDNC) (Belews Creek)); and twelve petitions for judicial review (“PJR”) in North Carolina Superior Court petitioning two Orders issued in the OAH Proceedings (Case Nos. 19 CvS 19908, 19 CvS 19909, 19 CvS 19910, 19 CvS 19911, 19 CvS 19912, 19 CvS 19913, 19 CvS 22714, 19 CvS 22715, 19 CvS 22716, 19 CvS 22717, 19 CvS 22718, and 19 CvS 22719).

6. The Parties desire to resolve and settle any disputes between them in connection with the OAH proceedings, the State Enforcement Actions, the federal Clean Water Act lawsuits, and the PJRs in order to ensure that the impoundments are excavated on an expedited basis and to remove the uncertainty associated with litigation. The Community Groups and Duke Energy further agree that the actions to be taken by DEQ and Duke Energy under this Agreement and related Consent Order will resolve the pending issues in the Clean Water Act lawsuits.

The Facilities

7. This Agreement addresses the following impoundments at the Facilities regulated under CAMA.
 - a. At the Allen Steam Station, there are two CCR impoundments, the Retired Ash Basin and the Active Ash Basin. The Retired Ash Basin is approximately 123 acres

and contains approximately 6,100,000 tons of coal ash and the Active Ash Basin is approximately 170 acres and contains approximately 10,480,000 tons of coal ash.²

- b. At the Belews Creek Steam Station, there is one CCR impoundment, the Ash Basin. The Ash Basin is approximately 270 acres and contains approximately 11,970,000 tons of coal ash.
- c. At the Cliffside Steam Station/Rogers Energy Complex, there are two CCR impoundments, the Units 1-5 Inactive Ash Basin and the Active Ash Basin. The Units 1-5 Inactive Ash Basin is approximately 46 acres and contains approximately 2,350,000 tons of coal ash and the Active Ash Basin is approximately 86 acres and contains approximately 5,240,000 tons of coal ash.
- d. At the Marshall Steam Station, there is one CCR impoundment, the Ash Basin. The Ash Basin is approximately 360 acres and contains approximately 17,650,000 tons of coal ash.³

² Note that the tonnage of coal ash includes only the coal ash contained within the impoundments and not coal ash in landfills or structural fills. Duke Energy on the one hand, and DEQ and the Community Groups on the other, have a dispute as to whether coal ash under a lawfully permitted landfill is regulated by CAMA. At Allen, the Retired Ash Basin Landfill and subgrade is 25 acres and contains approximately 1,740,000 tons of coal ash. There is approximately 1,392,000 tons of coal ash beneath the Retired Ash Basin Landfill, and approximately 991,000 tons of coal ash in the area designated as the “DORS” area.

³ Note that the tonnage of coal ash includes only the coal ash contained within the impoundments and not coal ash in landfills or structural fills. Duke Energy on the one hand, and DEQ and the Community Groups on the other, have a dispute as to whether coal ash under a lawfully permitted landfill is regulated by CAMA. At Marshall, the Structural Fill beneath solar panels contains approximately 6,490,000 tons of coal ash. The subgrade fill beneath Industrial Landfill (“ILF”) Cells 1 and 2 contains approximately 460,000 tons of coal ash. The subgrade fill beneath ILF Cells 3 and 4, contains approximately 409,000 tons of coals ash. The Old Ash Fill (1804 Phase I Landfill) contains approximately 626,000 tons of coal ash. The Retired Landfill (1804 Phase II Landfill) contains approximately 4,870,000 tons of coal ash. The ILF (Permit 18-12) contains approximately 2,050,000 tons of coal ash. The Marshall ILF continues to receive production ash and these tonnages represent the approximate tonnages as of the Effective Date.

- e. At the Mayo Steam Station, there is one CCR impoundment, the Ash Basin. The Ash Basin is approximately 153 acres and contains approximately 6,630,000 tons of coal ash.
 - f. At the Roxboro Steam Station, there are two CCR impoundments, the East Ash Basin and the West Ash Basin. The West Ash Basin is approximately 225 acres and contains approximately 12,970,000 tons of coal ash and the East Ash Basin is approximately 71 acres and contains approximately 7,100,000 tons of coal ash.⁴
- 8. Each of these impoundments is a CCR impoundment as defined by CAMA, N. C. Gen. Stat. § 130A-309.201(6), and the Federal CCR Rule 40 CFR Parts 257 and 261.
 - 9. The total approximate amount of the coal ash set forth in paragraph 7 is estimated to be 80.5 million tons.

Facility-Specific Obligations of Duke Energy.

Allen

- 10. **Closure of Coal Ash Impoundments.** At the Allen Steam Station, Duke Energy will excavate and remove all coal ash from the Retired Ash Basin and Active Ash Basin, either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious

⁴ Note that the tonnage of coal ash includes only the coal ash contained within the impoundments and not coal ash in landfills or structural fills. Duke Energy on the one hand, and DEQ and the Community Groups on the other, have a dispute as to whether coal ash under a lawfully permitted landfill is regulated by CAMA. For Roxboro, the Roxboro Monofill contains approximately 6,818,000 tons of coal ash one portion of the landfill and an additional 7,635,000 tons of coal ash in a separate portion of that landfill. The Roxboro Monofill continues to receive production ash and these tonnages represent the approximate tonnages as of the Effective Date.

process is to be used, Duke Energy will provide reasonable notice to the Community Groups and DEQ. Duke Energy shall remove or permanently close all pipes currently running through or beneath the Retired Ash Basin and Active Ash Basin. Duke Energy will thereafter stabilize and close the area where the Retired Ash Basin and Active Ash Basin are located pursuant to applicable law. The total impoundment ash that will be excavated is estimated to be approximately 16,632,000 tons of coal ash.

11. Disposition of Other Coal Ash. Additionally, Duke Energy will excavate and remove coal ash from the Storage Areas, Structural Fills, and Landfill from the top of the Retired Ash Basin, either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy will provide reasonable notice to the Community Groups and DEQ. The total non-impoundment ash that will be excavated is estimated to be approximately 2,731,000 tons of coal ash. The closure plan will provide that ash shall remain for structural stability around the footers for the transmission towers, and that all ash that remains will be covered with a geomembrane layer. The amount of coal ash referred to in this paragraph that shall remain is estimated to be between 30,000 and 50,000 tons and is unsaturated.

12. Deadline for Closure. Duke Energy projects that it will require until December 31, 2037, to complete all excavation as required in Paragraphs 10 and 11 and the Parties understand that Duke Energy will request variances to meet the deadline imposed by this Agreement. Duke Energy shall complete all excavation required in Paragraphs 10 and 11 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be

amended from time to time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2037. For clarity, this paragraph does not constitute a variance of the CAMA deadline for completion of closure. DEQ will approve or disapprove a request for variance at the appropriate time. The parties are aware that the Closure Plan submitted to DEQ for Allen on December 31, 2019, will not contain complete information reflecting the details of this Agreement. Pursuant to its statutory authority under N.C. Gen. Stat. § 130A-309.214(c), DEQ directs that such information shall be submitted no later than 30 days after the Effective Date.

13. **Groundwater Corrective Action Plan.** No later than December 31, 2019, Duke Energy shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan will include active remedial measures designed to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, 15A NCAC Subchapter 2L (the “2L groundwater rules”), and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 51 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 52.

Belews Creek

14. **Closure of Coal Ash Impoundments.** At Belews Creek, Duke Energy will excavate and remove all coal ash from the Ash Basin except the impoundment coal ash under or within the waste boundary of the Pine Hall Road Landfill either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as

environmentally protective. If a process other than a cementitious process is to be used, Duke Energy will provide reasonable notice to the Community Groups and DEQ. Duke Energy shall remove or permanently close all pipes currently running through or beneath the Ash Basin. Duke Energy will thereafter stabilize and close the area where the Ash Basin is located pursuant to applicable law. The total impoundment ash that will be excavated is estimated to be approximately 11,870,000 tons of coal ash. The closure plan will provide that ash shall remain underneath the Pine Hall Road Landfill, which is capped with a geosynthetic cap and has been closed pursuant to permit 8503-INDUS-1984 and stopped receiving coal ash in 2014. The amount of coal ash underneath the Pine Hall Road Landfill is estimated to be no more than 100,000 tons. Provided that, if Duke Energy is not able to demonstrate on or before February 1, 2020, that it is able to meet the requirements of paragraph 17, Duke shall submit an addendum to the closure plan on or before February 15, 2020, providing for the full excavation of this ash.

15. **Deadline for Closure.** Duke Energy projects that it will require until December 31, 2031, to complete all excavation as required in Paragraph 14, and the Parties understand that Duke Energy will request variances to meet the deadline imposed by this Agreement. Duke Energy shall complete all excavation required in Paragraph 14 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2034. For clarity, this paragraph does not constitute a variance of the CAMA deadline for completion of closure. DEQ will approve or disapprove a request for variance at the appropriate time.

16. Structural Stability, Monitoring, and Sampling. The coal ash under and within the waste boundary of the Pine Hall Road Landfill and within the waste boundary of the Ash Basin shall be stabilized with a permanent structure (“stability feature”) for purposes of preserving the structural stability through the use of a wall unless a slope is shown to be as appropriate, so as to prevent lateral movement of the coal ash pursuant to a plan to be submitted for DEQ approval no later than June 30, 2020. Within seven (7) days of completing the stability feature, Duke Energy shall notify DEQ. Additionally, pursuant to a plan approved by DEQ, following excavation in the footprint of the former Ash Basin and downgradient of the Pine Hall Road Landfill, Duke Energy shall conduct groundwater monitoring (including the installation of new wells if reasonably necessary) and, upon re-formation of surface water features that demonstrate DEQ-confirmed intermittent or perennial flows (not merely precipitation), surface water sampling. Consistent with the provisions of Paragraph 51, the plan shall propose (1) additional groundwater remedial measures for any coal ash constituent if the data indicate an increasing trend in groundwater concentrations in excess of the standards set forth in 15A NCAC 2L. 0202 (“2L groundwater standards”) for four (4) consecutive semi-annual sampling events for that constituent, subject to the provisions of Paragraph 52, and (2) surface water treatment if the data shows impact from coal ash constituents above the 2B standards to waters of the State notwithstanding the provisions of Paragraph 52. This plan shall be submitted to DEQ no later than 120 days following completion of the stability feature. If appropriate, the additional monitoring plan will be integrated into the existing site monitoring plan to avoid redundant or conflicting monitoring programs. This paragraph shall not apply if the coal

ash under and within the waste boundary of the Pine Hall Road Landfill and within the waste boundary of the Ash Basin is excavated.

17. **Groundwater Corrective Action Plan.** No later than December 31, 2019, Duke Energy shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan will include active remedial measures designed to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 52. If the coal ash under and within the waste boundary of the Pine Hall Road Landfill and within the waste boundary of the Ash Basin is not excavated, then at a minimum, Duke Energy shall remedy violations that DEQ determines are material violations of the 2L groundwater standards attributable to the Ash Basin at or beyond the geographic limitation as described in Paragraph 52 by December 31, 2029, subject to the provisions of Paragraph 51.

Cliffside/Rogers

18. **Closure of Coal Ash Impoundments.** At Cliffside Steam Station/Rogers Energy Complex, Duke Energy will excavate and remove all coal ash from the Unit 5 Inactive Ash Basin and Active Ash Basin, either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy will provide reasonable notice to the Community Groups and DEQ. Duke Energy shall remove or

permanently close all pipes currently running through or beneath the Unit 5 Inactive Ash Basin and Active Ash Basin. Duke Energy will thereafter stabilize and close the area where the Unit 5 Inactive Ash Basin and Active Ash Basin are located pursuant to applicable law. The total impoundment ash that will be excavated is estimated to be approximately 7,590,000 tons of coal ash.

19. **Deadline for Closure.** Duke Energy projects that it will require until December 31, 2028, to complete all excavation as required in Paragraph 18. Duke Energy shall complete all excavation required in Paragraph 18 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2029.

20. **Groundwater Corrective Action Plan.** No later than December 31, 2019, Duke Energy shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan will include active remedial measures designed to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 50 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 52.

Marshall

21. **Closure of Coal Ash Impoundments.** At the Marshall Steam Station, Duke Energy will excavate and remove all coal ash from the Ash Basin, except the coal ash under or within the waste boundaries of the PV Structural Fill and the 1804 Phase II Landfill, either (1) to

lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy will provide reasonable notice to the Community Groups and DEQ. Duke Energy shall remove or permanently close all pipes currently running through or beneath the Ash Basin. Duke Energy will thereafter stabilize and close the area where the Ash Basin is located pursuant to applicable law. The total ash that will be excavated is estimated to be approximately 16,800,000 tons of coal ash.

22. **Disposition of Other Coal Ash.** Additionally, as part of its groundwater Corrective Action Plan for the Marshall site, Duke Energy will excavate and remove approximately 626,000 tons of coal ash from the 1804 Phase I Landfill (sometimes referred to as the “old ash fill”) adjacent to the Ash Basin either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy will provide reasonable notice to the Community Groups and DEQ. Such excavation shall be complete no later than December 31, 2024. An approximate depiction of this excavation is attached as **Exhibit A**. The total ash that will be excavated from the 1804 Phase I Landfill is approximately 626,000 tons of coal ash.

23. **Deadline for Closure.** Duke Energy projects that it will require until December 31, 2034, to complete all excavation as required in Paragraph 21, and the Parties understand that Duke Energy will request variances to meet the deadline imposed by this Agreement. Duke Energy shall complete all excavation required Paragraph 21 by the statutory deadline set

forth in the CAMA, as amended by House Bill 630, or as may further be amended from time to time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2035. For clarity, this paragraph does not constitute a variance of the CAMA deadline for completion of closure. DEQ will approve or disapprove a request for variance at the appropriate time.

24. Structural Stability, Monitoring, and Sampling. The coal ash under and within the waste boundary of the PV Structural Fill and the 1804 Phase II Landfill and within the waste boundary of the Ash Basin shall be stabilized with a permanent structure (“stability feature”) for purposes of preserving the structural stability through the use of a wall unless a slope is shown to be as appropriate, so as to prevent lateral movement of the coal ash pursuant to a plan to be submitted for DEQ approval no later than June 30, 2020. Within seven (7) days of completing the stability feature, Duke Energy shall notify DEQ. Additionally, pursuant to a plan approved by DEQ, following excavation in the footprint of the former Ash Basin and downgradient of the PV Structural Fill and the 1804 Phase II Landfill, Duke Energy shall conduct groundwater monitoring (including the installation of new wells if reasonably necessary) and, upon re-formation of surface water features that demonstrate DEQ-confirmed intermittent or perennial flows (not merely precipitation), surface water sampling. Consistent with the provisions of Paragraph 51, the plan shall propose (1) additional groundwater remedial measures for any coal ash constituent if the data indicate an increasing trend in groundwater concentrations in excess of the 2L groundwater standards for four (4) consecutive semi-annual sampling events for that constituent, subject to the provisions of Paragraph 52, and (2) surface water treatment if the data shows impact from coal ash constituents above the 2B standards to waters of the

State notwithstanding the provisions of Paragraph 52. This plan shall be submitted to DEQ no later than 120 days following completion of the stability feature. If appropriate, the additional monitoring plan will be integrated into the existing site monitoring plan to avoid redundant or conflicting monitoring programs.

25. Groundwater Corrective Action Plan. No later than December 31, 2019, Duke Energy shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. As part of the Corrective Action Plan, Duke Energy shall install a geosynthetic cap over the PV Structural Fill and 1804 Phase II Landfill by December 31, 2024. The Corrective Action Plan will include active remedial measures designed to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 51 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 52. At a minimum, Duke Energy shall remedy any material violations of the 2L groundwater standards as determined by DEQ that is attributable to the Ash Basin at or beyond the geographic limitation as described in Paragraph 52 by December 31, 2029, subject to the provisions of Paragraph 50.

Mayo

26. Closure of Coal Ash Impoundments. At the Mayo Steam Station, Duke Energy will excavate and remove all coal ash from the Ash Basin either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as

environmentally protective. If a process other than a cementitious process is to be used, Duke Energy will provide reasonable notice to the Community Groups and DEQ. Duke Energy shall remove or permanently close all pipes currently running through or beneath the Ash Basin. Duke Energy will stabilize and close the area where the Ash Basin is located pursuant to applicable law. The total ash that will be excavated is estimated to be approximately 6,630,000 tons of coal ash.

27. **Deadline for Closure.** Duke Energy projects that it will require until December 31, 2028, to complete all excavation as required in Paragraph 26. Duke Energy may request variances to meet the deadline imposed by this Agreement. Duke Energy shall complete all excavation required in Paragraph 26 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2029.

28. **Groundwater Corrective Action Plan.** No later than December 31, 2019, Duke Energy shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan will include remedial measures designed to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 50 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 52.

Roxboro

29. **Closure of Coal Ash Impoundments.** At the Roxboro Steam Station, Duke Energy will excavate and remove all coal ash from the West Ash Basin (and its extension impoundment area, sometimes referred to as the “Southern Extension Impoundment”) and all coal ash from the East Ash Basin (and its extension impoundment area, sometimes referred to as the “Eastern Extension Impoundment”) except the coal ash under or within the waste boundary of the Roxboro Monofill, Permit No. 7302-INDUS-1988. The excavated ash will be either (1) disposed of at lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) used for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy will provide reasonable notice to the Community Groups and DEQ. The scope of excavation is approximately depicted on **Exhibit B** to this agreement. Duke Energy shall remove or permanently close all pipes currently running through or beneath the West Ash Basin and East Ash Basin except those associated with the Roxboro Monofill. Duke Energy will thereafter stabilize and close the area where the West Ash Basin and East Ash Basins are located pursuant to applicable law. The total ash that will be excavated is estimated to be approximately 16,860,000 tons of coal ash. Additionally, Duke Energy will remove all coal ash fill from the Gypsum Pad area following retirement of the coal-fired generating units at Roxboro.
30. **Disposition of Other Coal Ash.** No later than 2 years and 6 months after the retirement of the coal-fired units at Roxboro, the remaining coal ash at the site will be closed and covered with a cap system that meets the requirements of North Carolina and federal law.

31. **Deadline for Closure.** Duke Energy projects that it will require until December 31, 2035, to complete all excavation as required in Paragraph 29, and that the Parties understand that Duke Energy will request variances to meet the deadline imposed by this Agreement. Duke Energy shall complete all excavation required in Paragraph 29 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2036. For clarity, this paragraph does not constitute a variance of the CAMA deadline for completion of closure. DEQ will approve or disapprove a request for variance at the appropriate time.

32. **Structural Stability, Monitoring, and Sampling.** The coal ash under and within the waste boundary of the Roxboro Monofill and within the waste boundary of the East Ash Basin shall be stabilized with a permanent structure (“stability feature”) for purposes of preserving the structural stability through the use of a wall unless a slope is shown to be as appropriate so as to prevent lateral movement of the coal ash pursuant to a plan to be submitted for DEQ approval no later than June 30, 2020. Within seven (7) days of completing the stability feature, Duke Energy shall notify DEQ. Additionally, pursuant to a plan approved by DEQ, following excavation in the footprint of the former East Ash Basin and downgradient of the Roxboro Monofill, Duke Energy shall conduct groundwater monitoring (including the installation of new wells if reasonably necessary) and, upon re-formation of surface water features that demonstrate DEQ-confirmed intermittent or perennial flows (not merely precipitation), surface water sampling. Consistent with the provisions of Paragraph 51, the plan shall propose (1) additional groundwater remedial measures for any coal ash constituent if the data indicate an increasing trend in groundwater

concentrations in excess of the 2L groundwater standards for four (4) consecutive semi-annual sampling events for that constituent, subject to the provisions of Paragraph 52, and (2) surface water treatment if the data shows impact from coal ash constituents above the 2B standards to waters of the State notwithstanding the provisions of Paragraph 52. This plan shall be submitted to DEQ no later than 120 days following completion of the stability feature. If appropriate, the additional monitoring plan will be integrated into the existing site monitoring plan to avoid redundant or conflicting monitoring programs.

33. Groundwater Corrective Action Plan. No later than December 31, 2019, Duke Energy shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan will include active remedial measures designed to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 51 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 52. At a minimum, Duke Energy shall remedy any material violations of the 2L groundwater standards as determined by DEQ that is attributable to the East Ash Basin at or beyond the geographical limitation described in Paragraph 52 by December 31, 2029, subject to the provisions of Paragraph 51.

34. Progress Towards Groundwater Remediation. Subject to the provisions of this Agreement regarding substantial compliance in Paragraph 51, no later than June 30, 2020, Duke Energy shall submit a report for approval by DEQ analyzing the progress required by June 30, 2023 and by June 30, 2026 to achieve such compliance with 2L groundwater standards by December 31, 2029. Subject to the provisions of this Agreement regarding

substantial compliance in Paragraph 50, no later than September 30, 2023 and September 30, 2026, Duke Energy shall submit reports demonstrating sufficient progress toward the goal of achieving compliance with the 2L groundwater standards. If DEQ determines that sufficient progress has not been made towards achieving this goal, Duke Energy shall implement additional remedial measures as required by DEQ.

Additional Obligations of Duke Energy

35. **Submission of Closure Plans.** Duke Energy will submit to DEQ one Closure Plan for each impoundment pursuant to N.C. Gen. Stat. § 130A-309.214(a) for each of the above-referenced Facilities in accord with the provisions of this Agreement on or before December 31, 2019. Within 30 days thereafter, Duke Energy shall submit the supplemental information requested by DEQ in Paragraph 12.

36. **Notice to Community Groups.** During the implementation of the groundwater corrective action plans and any monitoring required by the terms of this Agreement, Duke Energy will provide concurrent copies to the Community Groups of coal ash excavation reports and groundwater monitoring data (including spreadsheets) for the Facilities as these are provided to DEQ. This may occur through U.S. Mail or electronic means to the person designated in Paragraph 67.

Obligations of DEQ

37. **Review of Closure Plans.** DEQ will review these proposed Closure Plans and provide for public participation consistent with N.C. Gen. Stat. § 130A-309.214(b). The parties recognize that DEQ may request the submittal of additional information pursuant to N.C. Gen. Stat. § 130A-309.214(c). After receiving public comment, DEQ will approve or disapprove the proposed closure plans pursuant to N.C. Gen. Stat. § 130A-309.214(c).

DEQ will not disapprove a proposed closure plan on the basis of the closure methodology employed, to the extent that such methodology is consistent with this Agreement.

38. **Timely Review.** In accordance with applicable law, DEQ agrees to conduct an expeditious review and act expeditiously on all applications by Duke Energy for permits necessary for Duke Energy to undertake the actions required under this Agreement as required by N.C. Gen. Stat. § 130A-309.203.

39. **Review of Variance Requests.** DEQ acknowledges that the deadline for closure is a deadline for which the Secretary is authorized to grant a variance provided that the requirements of N.C. Gen. Stat. § 130A-309.215 are satisfied. DEQ acknowledges that an extension of time required to complete excavation ordered by DEQ and mandated by the terms of this Settlement Agreement may be a valid basis for seeking a variance from CAMA deadlines, including requests for variance under Paragraph 45 below for purposes of beneficiation. DEQ will approve or disapprove a request for variance at the appropriate time.

40. **CCR Rule Deadlines.** DEQ agrees to cooperate with (including as appropriate to support) and not oppose Duke Energy's efforts to extend the deadlines imposed by the federal CCR rule in court or before an administrative body to the extent that such an extension is necessary for Duke Energy to meet its obligations under this Agreement.

41. **Further Excavation.** For impoundments, structural fills, and landfills identified in this Agreement, DEQ shall not require additional excavation for CCR-impacted groundwater at Allen, Belews Creek, Cliffside, Marshall, Mayo, and Roxboro unless DEQ determines (1) there are material violations of the 2L groundwater standards or this Agreement within

the meaning of Paragraph 51 and (2) these material violations cannot reasonably be remedied by active remediation.

Obligations of the Community Groups

42. **CAMA Variance Requests.** The Community Groups will not oppose Duke Energy's requests for variances on the closure deadlines set forth in CAMA in court or before an administrative body, provided Duke Energy does not request to extend such deadlines past December 31, 2034 for basins at Belews Creek, December 31, 2035 for basins at Marshall, December 31, 2036 for basins Roxboro, and December 31, 2037 for basins at Allen.
43. **Closure Plans and CAPs.** The Community Groups agree that they will not challenge in court or before an administrative body DEQ's approval of Duke Energy's Closure Plans, CAPs (including application of a Restricted Designation), CAP implementation, landfill construction or operation permits, components or terms of NPDES permits or modifications to NPDES permits to the extent these components or terms are reasonably necessary for the obligations imposed by this Agreement (including, for example, NPDES permits or modifications relating to decanting and dewatering), stormwater permits, dam removal authorizations, or post-closure monitoring plans for Allen, Belews Creek, Cliffside, Marshall, Mayo, and Roxboro, or such other permits as required by this Agreement, provided those Closure Plans and CAPs conform with the terms of this Agreement.
44. **CCR Rule Deadlines.** The Community Groups agree not to oppose Duke Energy's efforts in court or in an administrative proceeding to extend the deadlines imposed by the federal CCR rule to the extent that such an extension is necessary for Duke Energy to meet its

obligations under this Agreement. If appropriate, the Community Groups will support such requests.

- 45. Deadlines for Coal Ash Recycling.** The Community Groups agree not to oppose in court or before an administrative body, extensions to the CAMA closure dates as requested by Duke Energy, for the purposes of completing and beneficiation at Buck, Cape Fear, and HF Lee, through December 31, 2035.

Further Obligations

- 46. Superior Court Consent Order.** The Parties will work together to submit a consent order for injunctive relief incorporating the terms of this Agreement for filing in Wake County and Mecklenburg County Superior Court in Case Nos. 13-CVS-11032 and 13-CVS-14461 (“Consent Order”) on or before January 31, 2020. In order to meet this deadline, the Parties will cooperate in the formation of the Consent Order, including periods for Notices. In the event the Superior Court refuses to enter the Consent Order, the parties agree that all parties shall retain the legal rights and positions that existed as of December 30, 2019 (including as applicable court rulings that constitute the law of the case). This paragraph shall be interpreted and enforced in order to fully effectuate the intent of the parties. To effectuate the intent of this paragraph, the Parties shall not object to the timeliness of any closure plan filed under the provisions of this paragraph and DEQ shall not approve any closure plan submitted under this Agreement prior to the entry of the Consent Order by the Superior Court, provided that DEQ may approve any closure plan on the last day for such approval under CAMA regardless of whether the Consent Order has been entered. It is expressly understood that in the event the Consent Order is not entered, and before the approval of

any closure plan by DEQ, Duke Energy intends to file alternative closure plans. It is further expressly understood that DEQ may not accept or approve these alternative closure plans.

47. Survival of Terms. The Parties intend and agree that the rights and obligations imposed by this Agreement shall be fully incorporated into the Consent Order contemplated by this Settlement Agreement, except for the obligations set forth in Paragraphs 48, 49 and 53. With the exception of the obligations set forth in Paragraph 48 (Dismissal of Related Litigation), Paragraph 49 (Compliance with CAMA), Paragraph 50 (DEQ Only State Entity Bound by this Agreement and Consent Order), and Paragraph 53 (Stipulations Between Only the Parties to this Agreement Regarding Rate Recovery Proceedings) this Settlement Agreement shall expire 90 days after entry of the Consent Order.

48. Dismissal of Related Litigation. Upon entry of the Consent Order by the North Carolina Superior Court and provided that there are no substantive modifications made by the Superior Court to the Consent Order, the Parties agree that Case Nos. 13 CvS 11032 and 13 CvS 14461 would be resolved. Within 15 days of entry of the Consent Order, Duke Energy shall dismiss with prejudice the following cases in the Office of Administrative Hearings: 19 EHR 2398, 19 EHR 2399, 19 EHR 2401, 19 EHR 2403, 19 EHR 2404, and 19 EHR 2406, and the following cases in North Carolina Superior Court: 19 CvS 19908, 19 CvS 19909, 19 CvS 19910, 19 CvS 19911, 19 CvS 19912, 19 CvS 19913, 19 CvS 22714, 19 CvS 22715, 19 CvS 22716, 19 CvS 22717, 19 CvS 22718, and 19 CvS 22719. Duke Energy and the Community Groups agree that the actions to be taken by Duke Energy and DEQ under this Agreement resolve and render moot the issues raised in the Clean Water Act lawsuits and will work cooperatively to prepare a joint motion dismissing those

claims with prejudice to be filed within 30 days of entry of the Consent Order in Superior Court. Each party shall bear its own costs and attorneys' fees in all litigation.

49. Compliance with CAMA. DEQ finds that the provisions of this Agreement satisfy the closure requirements of N.C. Gen. Stat. § 130A-309.214 for Duke Energy's obligations to close the CCR impoundments at the Facilities. In the event of inconsistency between this Agreement and DEQ's April 1 Closure Determinations, the terms of this Agreement shall control.

50. DEQ Only State Entity Bound by this Agreement and Consent Order. The Parties expressly acknowledge and agree to each of the following:

- a. The only State entity bound by this Agreement and any related Consent Order is DEQ.
- b. Nothing in this Agreement or any related Consent Order shall limit the arguments that may be made or conclusions that may be drawn by other State entities in any matter or proceeding concerning recovery through rates of costs incurred by Duke Energy.
- c. Neither resolution of cases or issues pursuant to this Agreement, nor the related Consent Orders, shall have any preclusive or *res judicata* effect against other State entities.

The Parties shall work together to ensure that the Consent Order effectuates the intent of this paragraph.

51. Substantial Compliance. For any term of this Agreement that requires compliance with the 2L groundwater standards, Duke Energy will not be deemed to be in violation of any such term and shall not be subject to civil penalties or enforcement action by DEQ so long as Duke Energy has used best efforts (as described in Paragraph 55) to implement the corrective action plan and post-closure monitoring and care plan unless DEQ determines

that there are multiple and material deviations from such standards at or beyond the geographic limitation set forth in paragraph 52 .

52. Geographic Limitation. Active remediation will not be required in the area within 500 feet of the waste boundary of each impoundments as shown on the most recent NPDES permit for each of the Facilities (except that if a property boundary or body of water is located closer than 500 feet to the waste boundary, that property boundary or body of water shall define the geographic limits for active remediation) (“geographic limitation”), provided that, subject to the provisions of Paragraph 51, coal ash constituents outside the geographic limitation described in this paragraph do not increase beyond the 2L groundwater standards post-closure. It is expressly understood and agreed that DEQ will not assess a civil penalty or pursue an enforcement action for any exceedances of the 2L groundwater standards within the geographical limitation so long as Duke Energy is making best efforts (as defined by paragraph 55) to implement the approved corrective action plan and closure plan as determined by DEQ. The corrective action plans may be periodically updated as required by DEQ if the groundwater cleanup fails to meet projected targets.

53. Stipulations Between Only the Parties to this Agreement Regarding Rate Recovery Proceedings.

- a. DEQ and the Community Groups agree that closing the CCR impoundments at the Allen, Belews Creek, Cliffside, Marshall, Mayo, and Roxboro Steam Stations in accord with this Agreement (including the obligations imposed by the Consent Order contemplated by this Agreement) is reasonable, prudent, in the public interest, and consistent with law. This subparagraph applies only to the actions of

Duke Energy in entering into this Agreement and assuming the obligations under this Agreement. For example, and without limitation, the agreement in this subparagraph does not extend, nor shall it be construed to apply, to the issues of (i) whether Duke Energy acted prudently and reasonably in the past, or (ii) whether Duke Energy prudently and reasonably performs its obligations under this Agreement. Nothing in this Agreement shall be taken as an admission of any imprudent or unreasonable actions by Duke Energy.

- b. Nothing in this Agreement, including but not limited to subparagraph (a) above, shall be taken as an endorsement or opposition by DEQ or the Community Groups of recovery through rates of the costs incurred by Duke Energy implementing the terms of this Agreement or related Consent Order.
- c. DEQ and the Community Groups shall not challenge or otherwise object in court or before an administrative body to the reasonableness, prudence, public interest, or legal requirement for Duke Energy to comply with the obligations imposed by this Agreement, related Consent Order, or as to the Agreement itself.
- d. The Parties state and agree that the issue of recovery through rates of the costs imposed by this Agreement and related Consent Order is to be determined by the North Carolina Utilities Commission upon proper application and related legal proceedings. DEQ has no role in making the determination of the issue of recovery through rates of the costs imposed by this Agreement and related Consent Order. DEQ neither endorses nor opposes such recovery.
- e. Nothing in this Agreement shall prevent DEQ from providing factual non-confidential information relating to the matters covered in this Agreement,

provided that it is expressly understood that Duke Energy does not waive any objection to the admissibility of this information based on evidentiary, administrative, statutory, or equitable grounds before any court or administrative body. If DEQ intends to file testimony or amicus briefs or provides discovery concerning the matters that are the subject of this Agreement in connection with ongoing judicial or administrative proceedings, it shall provide reasonable notice of the subject-matter of such testimony or brief or discovery before submitting it to the administrative agency or court.

- f. Nothing in this Agreement shall prevent the Community Groups from participating as permitted by law or agency ruling in rate recovery proceedings or objecting to Duke Energy's rate recovery on grounds not inconsistent with the terms of this Agreement.
- g. The Parties understand and agree that this Agreement and related Consent Order may be presented to the North Carolina Utilities Commission.

54. **No Admission.** By entering into this Agreement, no Party to this Agreement admits wrongdoing or liability related to matters covered in this Agreement.

55. **Force Majeure.** The Parties agree that it will not be a violation of this Agreement if performance of any of the obligations set forth is delayed by an extraordinary event that is beyond the control of Duke Energy, or any entity controlled by Duke Energy or its contractors, despite best efforts to fulfill the obligation. Such causes are war, civil unrest, act of God, or act of a governmental or regulatory body delaying performance or making performance impossible including any appeal or decision remanding, overturning, modifying or otherwise acting (or failing to act) on a permit or similar permission or action

that prevents or delays an action needed for the performance of any of the work contemplated under this Agreement such that it prevents or substantially interferes with Duke Energy's performance within the time frames specified herein. Duke Energy shall bear the burden of proving by a preponderance of the evidence the existence of such circumstances. Such circumstances do not include the financial inability to complete the work, increased cost of performance, or changes in business or economic circumstances.

- a. To qualify as a force majeure under this Agreement, the failure of a permitting authority to issue a necessary permit in a timely fashion which prevents Duke Energy from meeting the requirements in this Agreement must be beyond the control of Duke Energy, and Duke Energy must have taken all steps available to it to obtain the necessary permit, including but not limited to submitting a complete permit application, responding to requests for additional information by the permitting authority in a timely fashion, and accepting lawful permit terms and conditions after expeditiously exhausting any legal rights to appeal those terms and conditions imposed by the permitting authority.
- b. The requirement that Duke Energy use "best efforts" in this Agreement includes using commercially reasonable efforts to anticipate any event that delays its obligations and to address the event in a commercially reasonable manner as it is occurring or following the event such that delay is minimized to the greatest extent possible.

56. Stay of Pending Proceedings. Within 15 days of execution of this Agreement, the Parties shall take all actions necessary to stay further proceedings before the Office of Administrative Hearings in matters 19 EHR 02401 (regarding Allen), 19 EHR 02398

(regarding Belews Creek), 19 EHR 02399 (regarding Rogers/Cliffside), 19 EHR 02403 (regarding Marshall), 19 EHR 02404 (regarding Mayo), and 19 EHR 02406 (regarding Roxboro), and all petitions for judicial review related thereto. All stays shall remain in existence until an agreed-upon Consent Order is entered in Superior Court and no further discovery or other proceedings shall occur.

57. Obligations of Duke Energy. Upon entry of the Consent Order, Duke Energy Progress, LLC and Duke Energy Carolinas, LLC shall be responsible for carrying out the obligations of the Consent Order until relieved by the Court.

58. Limitation on Remedy. Notwithstanding the foregoing, the Parties' sole and exclusive remedy for breach of this Agreement shall be an action for specific performance or injunction. In no event shall any Party be entitled to monetary damages for breach of this Agreement. In addition, no legal action for specific performance or injunction shall be brought or maintained until: (a) the non-breaching Party provides written notice to the breaching Party which explains with particularity the nature of the claimed breach, and (b) within thirty (30) days after receipt of said notice, the breaching Party fails to cure the claimed breach or, in the case of a claimed breach which cannot be reasonably remedied within a thirty (30) day period, the breaching Party fails to commence to cure the claimed breach within such thirty (30) day period, and thereafter diligently complete the activities reasonably necessary to remedy the claimed breach.

59. Binding Agreement. This Agreement shall apply to, and be binding on, the Parties and their respective agents, successors, and assigns.

60. **Modification of this Agreement.** This Agreement may not be modified, altered or changed except by written agreement of all Parties, specifically referring to this Agreement.
61. **Counterpart Originals.** This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.
62. **Authorization to Sign.** The undersigned representatives of the Parties certify that they are fully authorized by the respective Parties whom they represent to enter into the terms and conditions of this Agreement and to legally bind such Parties to it.
63. **No Limitation on Administrative Process and Judgment.** The Parties recognize that DEQ is a governmental agency with statutory rights or obligations, and must abide by all applicable procedural and substantive laws and regulations in the exercise of such authority during the implementation of this Agreement. No provision in this Agreement shall diminish, modify, or otherwise affect the statutory or regulatory authorities of DEQ. Nothing in this Agreement shall limit the opportunity for the Community Groups to participate in any administrative process to the extent consistent with their commitments in this Agreement.
64. **No Limitation of Administrative and Contractual Rights.** For any provision in this Agreement where DEQ makes a determination on a matter, nothing in this Agreement waives any rights of a Party under the North Carolina Administrative Procedure Act (including the right to appeal, if any), nor does a determination by DEQ on a matter prohibit a challenge to that determination under the terms of this Agreement, where appropriate.

65. **Other Corrective Action.** Nothing in this Agreement supersedes or negates Duke Energy's obligation to conduct groundwater assessment and, if needed, corrective action for sources of groundwater contamination other than coal ash impoundments governed by this Agreement or CAMA at any of the Facilities.

66. **Governing Law.** The Parties agree that this Agreement shall be governed under and controlled by the law of the State of North Carolina.

67. **Notice.** Whenever notice is required to be given or a document is required to be sent by one Party to another under the terms of this Agreement, it shall be provided to all Parties, directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Parties in writing. Notice or submission by electronic mail is acceptable.

a. As to DEQ:

Sheila Holman
Assistant Secretary for the Environment
1601 Mail Service Center
Raleigh, NC 27699-1601
sheila.holman@ncdenr.gov

Cc: William F. Lane
General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Bill.Lane@ncdenr.gov

b. As to Duke Energy:

Kodwo Ghartey-Tagoe
Executive Vice-President and Chief Legal Officer
Duke Energy Corp.
Mail Code DEC48H
550 South Tryon Street
Charlotte, NC 28202

Kodwo.Ghartey-Tagoe@duke-energy.com

c. As to the Community Groups:

Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for Community Groups
601 West Rosemary Street, Suite 220
Chapel Hill, NC 27516-2356
fholleman@selcnc.org

[signatures on separate pages]

SETTLEMENT AGREEMENT

DUKE ENERGY CAROLINAS, LLC

By: Kodwo Ghartey-Tagoe
Kodwo Ghartey-Tagoe
Executive Vice-President, Chief Legal Officer
DUKE ENERGY CAROLINAS, LLC and Authorized
Designated Official for DUKE ENERGY CAROLINAS, LLC

Date: December 31, 2019

DUKE ENERGY PROGRESS, LLC

By: Kodwo Ghartey-Tagoe
Kodwo Ghartey-Tagoe
Executive Vice-President, Chief Legal Officer
DUKE ENERGY PROGRESS, LLC and Authorized
Designated Official for DUKE ENERGY PROGRESS, LLC

Date: December 31, 2019

SETTLEMENT AGREEMENT

THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY

By: Michael S. Regan
Michael Regan
Secretary

Date: Dec 31, 2019

SETTLEMENT AGREEMENT

THE COMMUNITY GROUPS:

APPALACHIAN VOICES

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

THE STOKES COUNTY BRANCH OF THE NAACP

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

MOUNTAINTRUE

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

THE CATAWBA RIVERKEEPER FOUNDATION

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

THE SIERRA CLUB

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

SETTLEMENT AGREEMENT

THE COMMUNITY GROUPS:

THE WATERKEEPER ALLIANCE

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

THE ROANOKE RIVER BASIN ASSOCIATION

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

CAPE FEAR RIVER WATCH, INC.

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

NEUSE RIVER FOUNDATION/SOUND RIVERS, INC.

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

NORTH CAROLINA STATE CONFERENCE OF THE NAACP

By: Frank S. Holleman III
Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

Date: December 31, 2019

LEGEND

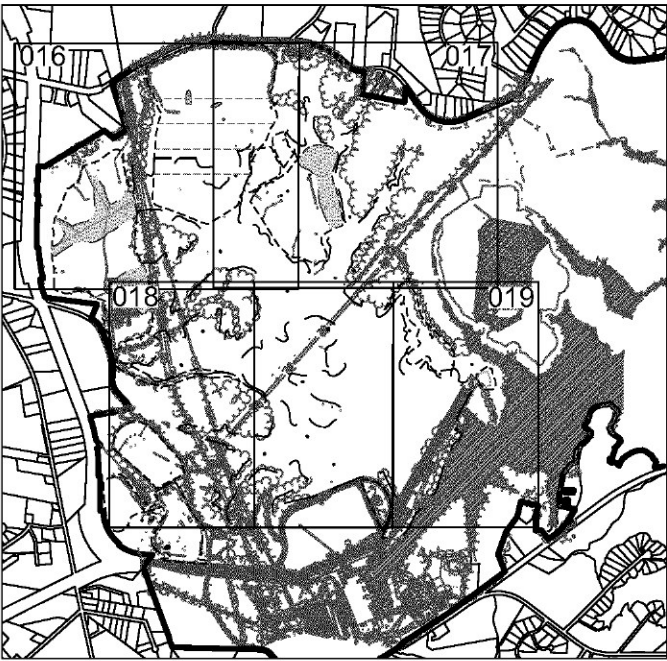
- EXISTING MAJOR TOPOGRAPHIC CONTOUR
- EXISTING MINOR TOPOGRAPHIC CONTOUR
- ESTIMATED BOTTOM OF CCR MAJOR TOPOGRAPHIC CONTOUR
- ESTIMATED BOTTOM OF CCR MINOR TOPOGRAPHIC CONTOUR
- ASH BASIN WASTE BOUNDARY (APPROXIMATE)
- MAR-145 UPDATED ASH BASIN WASTE BOUNDARY (APPROXIMATE)
- EXISTING SITE FEATURE (APPROXIMATE)
- INDUSTRIAL LANDFILL (ILF) PHASE BOUNDARY (APPROXIMATE)
- PROPERTY BOUNDARY

NOTES

- BASIS OF BEARINGS: NC GRID NAD83/2011. ELEVATIONS ARE BASED ON NAVD88.
- HORIZONTAL LIMITS OF ASH BASIN BASED UPON HISTORICAL TOPOGRAPHIC SURVEYS AND AVAILABLE DESIGN DRAWINGS FROM DUKE ENERGY. ACTUAL LIMITS TO BE ESTABLISHED DURING CLOSURE.
- VERTICAL EXTENTS OF CCR WITHIN ASH BASIN BASED UPON AVAILABLE PRE-DEVELOPMENT TOPOGRAPHY SURVEY AND 2014 BATHYMETRIC SURVEY. ACTUAL DEPTH OF CCR TO BE DETERMINED DURING ASH BASIN CLOSURE.
- PHASE I OF THE 1804 LANDFILL AND THE STRUCTURAL FILL ACCESS ROAD TO BE EXCAVATED AND REMOVED AS PART OF ASH BASIN CLOSURE. EXCAVATION GRADES SHOWN ARE APPROXIMATE.
- CCR EXCAVATION GRADES ADJACENT TO CCR TO REMAIN IN PLACE INSIDE HISTORICAL ASH BASIN LIMITS TO BE ESTABLISHED AFTER ENGINEERING ANALYSES BASED UPON CONDITIONS AT THE TIME OF CLOSURE ARE COMPLETED. SLOPES SHOWN NOT TO EXCEED 5-HORIZONTAL TO 1-VERTICAL FOR PLANNING PURPOSES.
- CCR WITHIN THESE AREAS TO REMAIN IN-PLACE AFTER CLOSURE.

REFERENCES

- SEE SHEET MAR_C999.002.002 FOR DRAWING REFERENCES.



DRAWING KEY

DRAFT

NOT FOR CONSTRUCTION

AECOM

N.C. ENGINEERING LICENSE NO. F-0342

DRAFT

ESTIMATED BOTTOM OF ASH CONTOUR MAP (OVERALL)

MARSHALL STEAM STATION
CLOSURE PLAN (DRAFT 100%)
CATAWBA COUNTY, NORTH CAROLINA

ISSUED FOR APPROVAL (DRAFT 100%)



SCALE: AS SHOWN
DWG TYPE: .DWG
JOB NO: 60603377
DATE: 11/6/2019

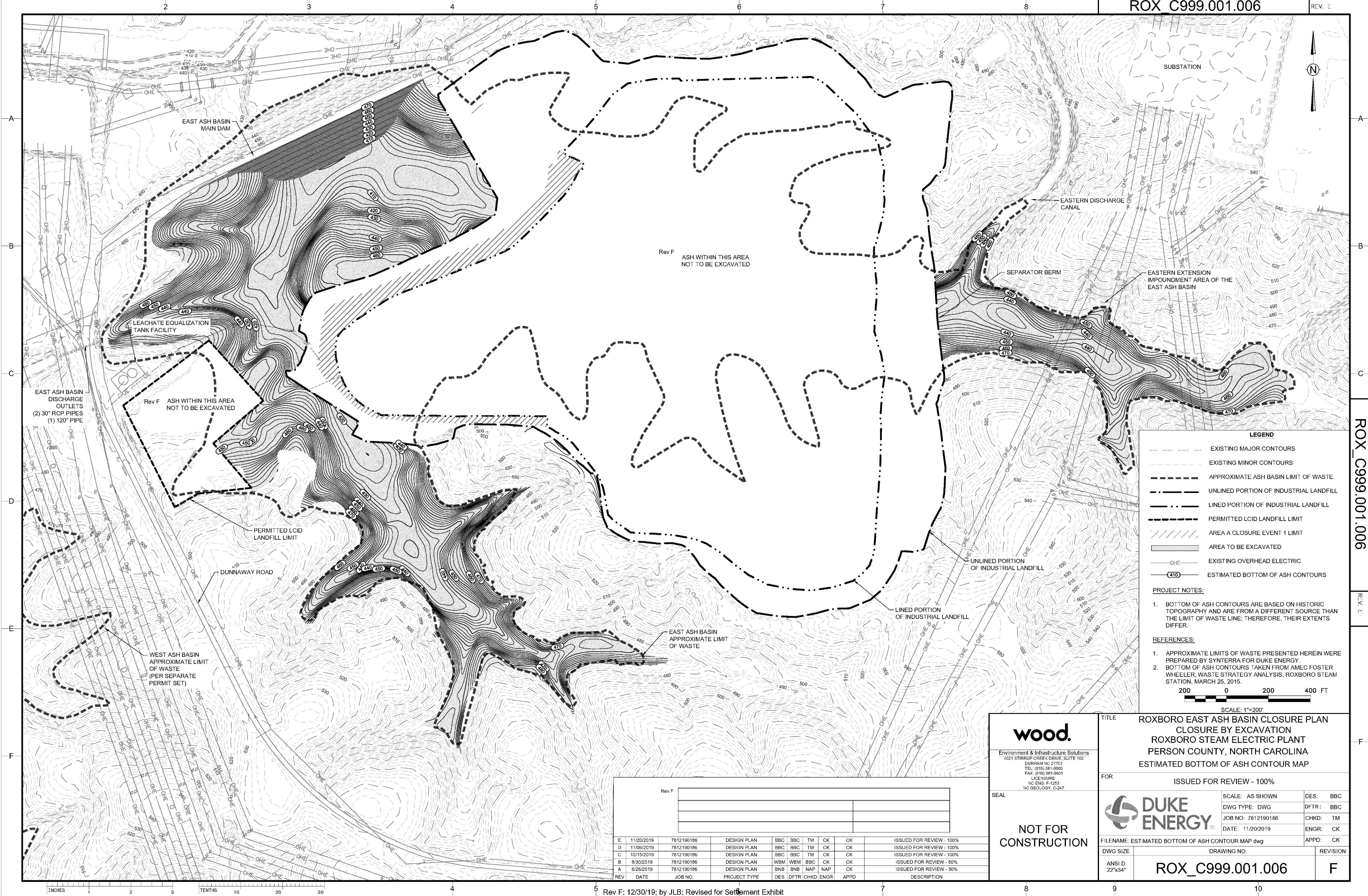
FILENAME: EXPECTED BOTTOM OF ASH.DWG

DWG SIZE: 22.0"x34.0" DRAWING NO. MAR_C999.002.015 REVISION E



REV	DATE	JOB NO.	PROJECT TYPE	DES	DFTR	CHKD	ENG	APPD	DESCRIPTION
A	06/21/19	60603377		JMW	MAW	RJB	RJB	JAB	ISSUED FOR REVIEW (DRAFT 30%)
B	08/30/19	60603377		JMW	MAW	RJB	RJB	JAB	ISSUED FOR REVIEW (DRAFT 60%)
C	10/11/19	60603377		JMW	MAW	RJB	RJB	JAB	ISSUED FOR APPROVAL (DRAFT 100%)
D	11/6/19	60603377		JMW	MAW	RJB	RJB	JAB	ISSUED FOR APPROVAL (DRAFT 100%)

Rev E; 12/30/19; by JLB; Revised for Settlement Exhibit



Rev F: 12/30/19; by JLB; Revised for Settlement Exhibit

Rev F											
E	11/20/2019	7812190186	DESIGN PLAN	BBC	BBC	TM	CK	CK	ISSUED FOR REVIEW - 100%		
D	11/06/2019	7812190186	DESIGN PLAN	BBC	BBC	TM	CK	CK	ISSUED FOR REVIEW - 100%		
C	10/15/2019	7812190186	DESIGN PLAN	BBC	BBC	TM	CK	CK	ISSUED FOR REVIEW - 100%		
B	8/30/2019	7812190186	DESIGN PLAN	WBM	WBM	BBC	CK	CK	ISSUED FOR REVIEW - 60%		
A	6/26/2019	7812190186	DESIGN PLAN	BNS	BNS	NAP	NAP	CK	ISSUED FOR REVIEW - 30%		
REV	DATE	JOB NO.	PROJECT TYPE	DES	DFT	CHKD	ENGR	APPD	DESCRIPTION		

wood.
Environment & Infrastructure Solutions
4021 STIRRUP CREEK DRIVE, SUITE 100
DURHAM NC 27703
TEL: (919) 381-0000
FAX: (919) 381-0801
LICENSURE:
NC ENG: F-1253
NC GEOLOGY: C-247

SEAL

NOT FOR CONSTRUCTION

DUKE ENERGY

ROXBORO EAST ASH BASIN CLOSURE PLAN
CLOSURE BY EXCAVATION
ROXBORO STEAM ELECTRIC PLANT
PERSON COUNTY, NORTH CAROLINA
ESTIMATED BOTTOM OF ASH CONTOUR MAP

ISSUED FOR REVIEW - 100%

SCALE: AS SHOWN
DWG TYPE: DWG
JOB NO: 7812190186
DATE: 11/20/2019

DES: BBC
DFT: BBC
CHKD: TM
ENGR: CK
APPD: CK

FILENAME: ESTIMATED BOTTOM OF ASH CONTOUR MAP.dwg

DWG SIZE: 22"x34"

DRAWING NO.

REVISION

ROX_C999.001.006

F

EXHIBIT B

STATE OF NORTH CAROLINA

IN THE GENERAL COURT OF JUSTICE

SUPERIOR COURT DIVISION

COUNTY OF WAKE

13 CVS 11032

STATE OF NORTH CAROLINA ex rel.)
NORTH CAROLINA DEPARTMENT OF)
ENVIRONMENTAL QUALITY, DIVISION)
OF WATER RESOURCES,)
Plaintiff,)
ROANOKE RIVER BASIN ASSOCIATION,)
SIERRA CLUB, WATERKEEPER)
ALLIANCE, CAPE FEAR RIVER WATCH,)
INC., NEUSE RIVERKEEPER)
FOUNDATION, AND WINYAH RIVERS)
FOUNDATION,)
Plaintiff-Intervenors,)
v.)
DUKE ENERGY PROGRESS, LLC,)
Defendant.)

COUNTY OF MECKLENBURG

13 CVS 14661

STATE OF NORTH CAROLINA ex rel.)
NORTH CAROLINA DEPARTMENT OF)
ENVIRONMENTAL QUALITY, DIVISION)
OF WATER RESOURCES,)
Plaintiff,)
CATAWBA RIVERKEEPER)
FOUNDATION, INC., APPALACHIAN)
VOICES, YADKIN RIVERKEEPER,)
MOUNTAINTRUE, DAN RIVER BASIN)
ASSOCIATION, ROANOKE RIVER BASIN)
ASSOCIATION, SOUTHERN ALLIANCE)
FOR CLEAN ENERGY, AND)
WATERKEEPER ALLIANCE,)
Plaintiff-Intervenors,)
v.)
DUKE ENERGY CAROLINAS, LLC,)
Defendant.)

JOINT NOTICE OF SUBSTITUTION OF PROPOSED CONSENT ORDER

Plaintiff the State of North Carolina upon the relation of Michael S. Regan, Secretary of the North Carolina Department of Environmental Quality (“DEQ”), Division of Water Resources, Plaintiff-Intervenors Roanoke River Basin Association, Sierra Club, Catawba Riverkeeper Foundation, Inc., Appalachian Voices, MountainTrue, and Waterkeeper Alliance (“Community Groups”)¹, and Defendants Duke Energy Progress, LLC and Duke Energy Carolinas, LLC (“Duke Energy”) (collectively, the “Parties”), through undersigned counsel, hereby submit this Joint Notice of Substitution of Proposed Consent Order (“PCO”). Following filing of the PCO on January 31, 2020, the Parties (1) gathered original signatures for submission to the Court and (2) noticed certain scriveners’ errors (including errors in certain cross-references to paragraphs, inconsistency in the use of possessives, and other minor edits). The exhibits to the PCO remain unchanged. In order to file the original signatures and correct the scriveners’ errors, the Parties jointly submit the PCO attached hereto as **Exhibit A** as a substitution for the PCO filed with the Court on January 31, 2020.

Respectfully submitted, this the 3rd day of February, 2020.

¹ The captions of these cases list all Plaintiff-Intervenors who have participated in this litigation. Several of the Plaintiff-Intervenors are no longer participating, as their claims regarding the coal ash sites they represent were resolved by previous orders of this Court and a separate settlement agreement. The Community Groups listed in the text of this motion are those currently participating in this litigation.

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Special Deputy Attorney General
Taylor Crabtree
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Assistant Attorney General
Brenda Menard

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SOUTHERN ENVIRONMENTAL LAW
CENTER



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Amelia Y. Burnette

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J Patrick Hunter

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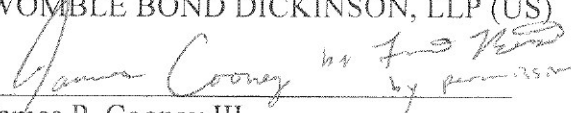
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Emma C. Merritt

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Counsel for Defendants

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document was served on counsel for all

Parties electronically addressed as follows:

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emerritt@hunton.com

Counsel for Defendants

Counsel for Plaintiff-Intervenors

This the 3rd day of February, 2020.



Francisco Benzoni
Special Deputy Attorney General

Exhibit A

STATE OF NORTH CAROLINA

IN THE GENERAL COURT OF JUSTICE

SUPERIOR COURT DIVISION

COUNTY OF WAKE

13 CVS 11032

STATE OF NORTH CAROLINA ex rel.)
NORTH CAROLINA DEPARTMENT OF)
ENVIRONMENTAL QUALITY, DIVISION)
OF WATER RESOURCES,)
Plaintiff,)
ROANOKE RIVER BASIN ASSOCIATION,)
SIERRA CLUB, WATERKEEPER)
ALLIANCE, CAPE FEAR RIVER WATCH,)
INC., NEUSE RIVERKEEPER)
FOUNDATION, AND WINYAH RIVERS)
FOUNDATION,)
Plaintiff-Intervenors,)
v.)
DUKE ENERGY PROGRESS, LLC,)
Defendant.)

CONSENT ORDER

COUNTY OF MECKLENBURG

13 CVS 14661

STATE OF NORTH CAROLINA ex rel.)
NORTH CAROLINA DEPARTMENT OF)
ENVIRONMENTAL QUALITY, DIVISION)
OF WATER RESOURCES,)
Plaintiff,)
CATAWBA RIVERKEEPER)
FOUNDATION, INC., APPALACHIAN)
VOICES, YADKIN RIVERKEEPER,)
MOUNTAINTRUE, DAN RIVER BASIN)
ASSOCIATION, ROANOKE RIVER BASIN)
ASSOCIATION, SOUTHERN ALLIANCE)
FOR CLEAN ENERGY, AND)
WATERKEEPER ALLIANCE,)
Plaintiff-Intervenors,)
v.)
DUKE ENERGY CAROLINAS, LLC,)
Defendant.)

CONSENT ORDER

CONSENT ORDER

Plaintiff, the State of North Carolina ex rel. North Carolina Department of Environmental Quality (“DEQ”), Division of Water Resources, Plaintiff-Intervenors, Roanoke River Basin Association, Sierra Club, Catawba Riverkeeper Foundation, Inc., Appalachian Voices, MountainTrue, and Waterkeeper Alliance (“Community Groups”), and Defendants, Duke Energy Carolinas LLC and Duke Energy Progress LLC (“Duke Energy”) (collectively the “Parties”), hereby consent to the entry of this Consent Order in order to resolve the matters in controversy between them.

The Honorable Paul Ridgeway, Senior Resident Superior Court Judge, is presiding over these matters pursuant to designation under Rule 2.1 of the General Rules of Practice. The Court makes, and the Parties hereby stipulate to, the following findings of fact and conclusions of law.

Findings of Fact and Conclusions of Law

1. These actions were brought by the State of North Carolina upon the relation of the Secretary of DEQ, the State agency established pursuant to N.C. Gen. Stat. § 143B-279.1 *et seq.*, and vested with the statutory authority to enforce the State’s environmental protection laws, including laws enacted to protect the water quality of the State. The Division of Water Resources (“DWR”) is a division within DEQ and all actions taken by DWR are necessarily actions of DEQ.
2. This Court has jurisdiction over this action for injunctive relief for claims of existing or threatened violations of the laws, rules, and regulations governing the protection of the State’s water resources pursuant to N.C. Gen. Stat. §§ 7A-245 and 143-215.6C.
3. Venue is proper in Wake County for 13 CVS 11032 and Mecklenburg County for 13 CVS 14661 under N.C. Gen. Stat. §§ 1-79 and 143-215.6C.

4. Defendant, Duke Energy Carolinas, LLC (“Duke Energy Carolinas”), is a corporation organized and existing under the laws of the State of North Carolina. Duke Energy Carolinas owns, operates, or has operated the coal-fired steam station facilities¹ addressed by DEQ’s Mecklenburg County Complaint, Case No. 13 CVS 14661, and this Order at the following locations: the Allen Steam Station (“Allen”) in Gaston County, Buck Steam Station (“Buck”) in Rowan County,² Cliffside Steam Station (now referred to as the Rogers Energy Complex) (“Cliffside/Rogers”) in Rutherford County and Cleveland County, the Belews Creek Steam Station (“Belews Creek”) in Stokes County, and the Marshall Steam Station (“Marshall”) in Catawba County.³
5. Defendant Duke Energy Progress, LLC (“Duke Energy Progress”), is a corporation organized and existing under the laws of the State of North Carolina. Duke Energy Progress owns or operates coal-fired steam station facilities addressed by DEQ’s Wake County Complaint, Case No. 13 CVS 11032, and this Order at the following locations: Mayo Steam Electric Generating Plant (“Mayo”) in Person County and the Roxboro Steam Electric Generating Plant (“Roxboro”) in Person County.⁴

¹ The facilities listed in Paragraphs 4 and 5 may be referred to singularly as “Facility” and collectively as “Facilities.”

² Buck has been selected by Duke Energy Carolinas, LLC as a beneficiation site pursuant to N.C. Gen. Stat. § 130A-309.216(a). On December 16, 2016, the Community Groups dismissed their Complaint in Intervention with prejudice as to Buck. As set forth below, this Consent Order resolves the claims raised in DEQ’s Complaint as to Buck.

³ In the Mecklenburg County Complaint, 13 CVS 14661, the Dan River Combined Cycle Station is also included. Complaint at 2, ¶ 3. The Dan River Combined Cycle Station was addressed by a prior order of the Court, and is not at issue in this Consent Judgment. Order Granting Motions for Partial Summary Judgment, 13 CVS 14661 & 11032 (June 1, 2016) (the “Four Plant Order”).

⁴ In the Wake County Complaint, 13 CVS 11032, the Cape Fear Steam Electric Generating Plant, H.F. Lee Steam Electric Plant, Weatherspoon Steam Electric Plant and L.V. Sutton Electric Plant were also included. Complaint at 2, ¶ 3. These facilities were addressed by prior orders of the Court and are not at issue in this Order.

6. Plaintiff-Intervenors, the “Community Groups,” are non-profit public interest organizations whose mission and interests include advocating for the protection of water quality for the health, protection, and enjoyment of their members. The Community Groups were allowed to intervene in these actions with no objection from DEQ. The Community Groups have stipulated that they assert no additional causes of action in these proceedings beyond those asserted by DEQ.
7. DEQ filed these civil enforcement actions in August of 2013. As set forth in the Complaints, DEQ sought mandatory injunctions requiring Duke Energy to assess and abate what it alleged were threatened or claimed violations of North Carolina’s groundwater rules, found at Title 15A, Subchapter 2L of the North Carolina Administrative Code (the “2L groundwater rules”), threatened or claimed violations of North Carolina’s water pollution laws set forth at N.C. Gen. Stat. § 143-215.1, and threatened or claimed violations of National Pollutant Discharge Elimination System (“NPDES”) permits at the above-referenced facilities (“Facilities”) caused by the coal combustion residuals (“CCR”) surface impoundments, and to seek through mandatory injunctive relief compliance with these laws, regulations, and rules.
8. In 2018 and 2019, DEQ issued NPDES permits (or, in the case of Marshall, a major modification of an NPDES permit) for each of the Facilities except Roxboro. For Roxboro, the NPDES permit is currently out for public comment. The NPDES permits set effluent limits on the discharge of wastewater. Constructed seeps—engineered features on or within the dam structures (such as toe drains or filter blankets) to collect seepage—are incorporated as permitted outfalls in these NPDES permits with monitoring and effluent limits.

9. In 2018, the Environmental Management Commission (“EMC”) approved a Special Order by Consent (“SOC”) for each of the Facilities. The SOC’s require accelerated decanting—removal of free water from the surface of the CCR impoundments—in a manner that protects surface water quality. Decanting is expected to substantially reduce or eliminate seepage flows of wastewater from CCR impoundments to non-constructed or non-engineered seeps.
10. Subsequent to the filing of these actions, the General Assembly enacted Session Law 2014-122, which became effective on September 20, 2014. Part II of Session Law 2014-122 provided for the “Comprehensive Management of Coal Combustion Residuals” and added new Part 2I to Article 9 of Chapter 130A of the North Carolina General Statutes, which may be cited as the “Coal Ash Management Act of 2014” (“CAMA”).
11. In July of 2016 CAMA was amended by House Bill 630, Session Law 2016-95. Pursuant to this amendment, on November 13, 2018, after Duke Energy established permanent water supplies to certain households and rectified deficiencies noted in dam safety orders, DEQ classified the CCR impoundments at the above-referenced Facilities as “low risk.”
12. Pursuant to the provisions of CAMA and at the election of DEQ, low risk impoundments may be closed by excavation, by capping in place largely in compliance with the State rules for municipal solid waste landfills, or by closing in compliance with the federal CCR Rule. N.C. Gen. Stat. § 130A-309.214(a)(3).

13. The CCR impoundments⁵ at each of the Facilities are as follows:

- a. At Allen, there are two CCR impoundments, the Retired Ash Basin and the Active Ash Basin. The Retired Ash Basin is approximately 123 acres and contains approximately 6,100,000 tons of coal ash and the Active Ash Basin is approximately 170 acres and contains approximately 10,480,000 tons of coal ash.⁶ The Retired Ash Basin and the Active Ash Basin are CCR impoundments as defined by CAMA, N.C. Gen. Stat. § 130A-309.201(6), and the Federal CCR Rule 40 CFR Parts 257 and 261. For illustration purposes only, these CCR impoundments are depicted on **Exhibit A**.
- b. At Belews Creek, there is one CCR impoundment, the Ash Basin. The Ash Basin is approximately 270 acres and contains approximately 11,970,000 tons of coal ash. The Ash Basin is a CCR impoundment as defined by CAMA, N.C. Gen. Stat. § 130A-309.201(6), and the Federal CCR Rule 40 CFR Parts 257 and 261. For illustration purposes only, this CCR impoundment is depicted on **Exhibit B**.
- c. At Buck, there are three CCR impoundments, Basin 1, Additional Primary Pond/Basin (“Basin 1”); Basin 2, Primary Pond/Basin (“Basin 2”); and Basin 3, Secondary Pond/Basin (“Basin 3”). There is also one ash stack. Basin 1 is

⁵ CCR impoundments are defined in CAMA, N.C. Gen. Stat. § 130A-309.201(6).

⁶ Note that the tonnage of coal ash includes only the coal ash contained within the CCR impoundments and not coal ash in landfills or structural fills. Duke Energy Carolinas and Duke Energy Progress, on the one hand, and DEQ and the Community Groups on the other, have a dispute as to whether coal ash under a lawfully permitted landfill is regulated by CAMA. At Allen, the Retired Ash Basin Landfill and subgrade is 25 acres and contains approximately 1,740,000 tons of coal ash. There are approximately 1,392,000 tons of coal ash beneath the Retired Ash Basin Landfill, and approximately 991,000 tons of coal ash in the area designated as the “DORS” area.

approximately 71 acres and contains 3,550,000 tons of coal ash. The ash stack is adjacent to and partially above Basin 1, encompasses approximately 14 acres, and contains approximately 263,000 tons of coal ash. Basins 2 and 3 are separated by a divider dike built over ash, encompass approximately 57.5 acres and 21.5 acres, respectively, and contain approximately 1,998,000 and 864,000 tons of coal ash, respectively. Basin 1 and the ash stack are contained within one waste boundary, while Basin 2 and Basin 3 are contained in another waste boundary. For illustration purposes only, these CCR impoundments are depicted on **Exhibit C**.

- d. At Cliffside/Rogers there are two CCR impoundments, the Unit 5 Inactive Ash Basin and the Active Ash Basin.⁷ The Unit 5 Inactive Ash Basin is approximately 46 acres and contains approximately 2,350,000 tons of coal ash and the Active Ash Basin is approximately 86 acres and contains approximately 5,240,000 tons of coal ash. The Unit 5 Inactive Ash Basin and the Active Ash Basin are CCR impoundments as defined by CAMA, N.C. Gen. Stat. § 130A-309.201(6), and the Federal CCR Rule 40 CFR Parts 257 and 261. For illustration purposes only, these CCR impoundments are depicted on **Exhibit D**.
- e. At Marshall, there is one CCR impoundment, the Ash Basin. The Ash Basin is approximately 360 acres and contains approximately 17,650,000 tons of coal ash.⁸ The Ash Basin is a CCR impoundment as defined by CAMA, N.C. Gen.

⁷ The Units 1-4 Ash Basin was fully excavated and closed in February 2018.

⁸ Note that the tonnage of coal ash includes only the coal ash contained within the impoundments and not coal ash in landfills or structural fills. Duke Energy Carolinas and Duke Energy Progress

Stat. § 130A-309.201(6), and the Federal CCR Rule 40 CFR Parts 257 and 261.

For illustration purposes only, this CCR impoundment is depicted on **Exhibit E**.

- f. At Mayo, there is one CCR impoundment, the Ash Basin. The Ash Basin is approximately 153 acres and contains approximately 6,630,000 tons of coal ash. The Ash Basin is a CCR impoundment as defined by CAMA, N.C. Gen. Stat. § 130A-309.201(6), and the Federal CCR Rule 40 CFR Parts 257 and 261. For illustration purposes only, this CCR impoundment is depicted on **Exhibit F**.

- g. At Roxboro, there are two CCR impoundments, the East Ash Basin and the West Ash Basin. The West Ash Basin is approximately 225 acres and contains approximately 12,970,000 tons of coal ash and the East Ash Basin is approximately 71 acres and contains approximately 7,100,000 tons of coal ash.⁹

on the one hand, and DEQ and the Community Groups on the other, have a dispute as to whether coal ash under a lawfully permitted landfill is regulated by CAMA. At Marshall, the Structural Fill beneath solar panels contains approximately 6,490,000 tons of coal ash. The subgrade fill beneath Industrial Landfill (“ILF”) Cells 1 and 2 contains approximately 460,000 tons of coal ash. The subgrade fill beneath ILF Cells 3 and 4, contains approximately 409,000 tons of coals ash. The Old Ash Fill (1804 Phase I Landfill) contains approximately 626,000 tons of coal ash. The Retired Landfill (1804 Phase II Landfill) contains approximately 4,870,000 tons of coal ash. The ILF (Permit 18-12) contains approximately 2,050,000 tons of coal ash. The Marshall ILF continues to receive production ash and these tonnages represent the approximate tonnages as of December 31, 2019.

⁹ Note that the tonnage of coal ash includes only the coal ash contained within the CCR impoundments and not coal ash in landfills or structural fills. Duke Energy Carolinas and Duke Energy Progress on the one hand, and DEQ and the Community Groups on the other, have a dispute as to whether coal ash under a lawfully permitted landfill is regulated by CAMA. For Roxboro, the Roxboro Landfill contains approximately 6,818,000 tons of coal ash in one portion of the landfill and an additional 7,635,000 tons of coal ash in a separate portion of that landfill. The Roxboro Landfill continues to receive production ash and these tonnages represent the approximate tonnages as of December 31, 2019.

The East Ash Basin and the West Ash Basin are CCR impoundments as defined by CAMA, N.C. Gen. Stat. § 130A-309.201(6), and the Federal CCR Rule 40 CFR Parts 257 and 261. For illustration purposes only, these CCR impoundments are depicted on **Exhibit G**.

14. On April 1, 2019, DEQ issued Coal Combustion Residuals Surface Impoundment Closure Determinations (“Closure Determinations”), pursuant to its authority under CAMA, electing and ordering excavation of the coal combustion residuals from the CCR impoundments as the method of closure in compliance with CAMA at six of the above-referenced Facilities: Allen, Belews Creek, Cliffside/Rogers, Marshall, Mayo and Roxboro. DEQ’s election of this method of closure was based upon its assessment of the required statutory criteria as applied to these Facilities.
15. On April 26, 2019, Duke Energy filed six Petitions for Contested Case Hearing in the North Carolina Office of Administrative Hearings (“OAH”) challenging DEQ’s Closure Determination for each of these Facilities, and on May 24, 2019 Duke Energy filed six Amended Petitions challenging subsequent DEQ actions related to the Closure Determinations (the “OAH Proceedings”). Duke Energy has filed twelve petitions for judicial review (“PJR”) appealing from two Orders issued in the OAH Proceedings.
16. Certain Plaintiff-Intervenors in these actions—Appalachian Voices, MountainTrue, Catawba Riverkeeper Foundation, Inc., Waterkeeper Alliance, Roanoke River Basin Association, and The Sierra Club—were allowed to intervene as Respondent-Intervenors in the OAH Proceedings.
17. On December 31, 2019, the Parties, desiring to resolve and settle the OAH Proceedings and related PJRs, and to ensure that the CCR impoundments are excavated on an

expedited basis and to remove any uncertainty associated with the litigation, entered into a Settlement Agreement (the “Agreement”), obligating each of the parties to take certain actions.

18. Pursuant to this Agreement, the Parties agreed to submit to the Court this Consent Order incorporating the terms of the Agreement with the exception of certain provisions.
19. For impoundment sources of groundwater contamination at each Facility, the obligations of Duke Energy Carolinas or Duke Energy Progress, as appropriate, are set forth below, including the closure method to be employed for closing the CCR impoundment(s) at each Facility, the requirements for remediating the alleged 2L groundwater violations caused by the CCR impoundment(s) at each Facility, and the requirements for addressing the alleged surface water violations at each Facility.
20. For any alleged 2L groundwater violations caused by sources other than CCR impoundments at any Facility (e.g., on-site landfills, on-site structural fills, or coal piles at certain Facilities), DEQ shall retain the authority to order appropriate corrective action under its administration and implementation of the statutes, rules and regulations under its purview.¹⁰
21. The counter-obligations of DEQ and the Community Groups are also as set forth below.

¹⁰ For clarity, the Parties understand the Complaints to address only groundwater contamination caused by impoundment sources. Groundwater contamination, if any, caused by non-impoundment sources is not resolved by this Consent Order and, as noted, will be separately addressed through DEQ’s administration of the statutes, rules and regulations that it implements. By way of information, DEQ anticipates receiving Comprehensive Site Assessments for non-impoundment sources of groundwater contamination that are not hydrologically connected to impoundment sources on March 31, 2020 for Allen, Belews Creek, Cliffside/Rogers, Mayo and Roxboro, and on July 1, 2021 for Buck.

INJUNCTIVE RELIEF

The Parties stipulate and agree that for the above-referenced Facilities, Duke Energy's compliance with approved Groundwater Corrective Action Plans, NPDES permits, and SOC's, along with the actions required by this Consent Order and through DEQ's administration of the statutes, rules and regulations that it implements, have resolved or will resolve the remaining alleged groundwater violations and surface water violations (i.e., those caused by impoundment sources) set forth in the Complaints filed in these actions.¹¹ Based upon the foregoing findings of fact and conclusions of law as well as the stipulations of the Parties,¹² **IT IS THEREFORE ORDERED, ADJUDGED, AND DECREED** as follows:

Facility-Specific Obligations of Duke Energy Carolinas

Allen

22. Closure of CCR Impoundments. Duke Energy Carolinas shall excavate and remove all coal ash from the Retired Ash Basin and Active Ash Basin, either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy Carolinas shall provide reasonable notice to the Community Groups and DEQ. Duke Energy Carolinas shall remove or permanently close all pipes

¹¹ The claims regarding facilities at the Cape Fear Steam Electric Generating Plant, H.F. Lee Steam Electric Plant, Weatherspoon Steam Electric Plant and L.V. Sutton Electric Plant in the Wake County Complaint, and the Asheville Steam Station, the Riverbend Steam Station, and the Dan River Steam Station were addressed by prior orders of the Court, and are not at issue in this Order.

¹² Notwithstanding the foregoing, the Parties waive any requirement for formal findings of fact and conclusions of law regarding the allegations set forth in the Complaints filed by Plaintiff or Plaintiff-Intervenors in these actions, and agree that this Consent Order shall be binding upon them and enforceable to the same extent, including by contempt, as if entered by a Superior Court Judge after a hearing on the merits of all matters now pending.

currently running through or beneath the Retired Ash Basin and Active Ash Basin. Duke Energy Carolinas shall thereafter stabilize and close the area where the Retired Ash Basin and Active Ash Basin are located pursuant to applicable law. The total coal ash that will be excavated is estimated to be approximately 16,632,000 tons.

23. Disposition of Other Coal Ash. Additionally, Duke Energy Carolinas shall excavate and remove coal ash from the Storage Areas, Structural Fills, and Landfill (each of which is located on the top of the Retired Ash Basin), either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy Carolinas shall provide reasonable notice to the Community Groups and DEQ. Duke Energy Carolinas is not required to excavate the ash required for structural stability around the footers for the transmission towers; that ash shall be covered with a geomembrane layer.

24. Deadline for Closure. Duke Energy Carolinas projects that it will require until December 31, 2037, to complete all excavation as required in Paragraphs 22 and 23 and the Parties understand that Duke Energy Carolinas will request variances to meet the deadline imposed by this Consent Order. Duke Energy Carolinas shall complete all excavation required in Paragraphs 22 and 23 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to

time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2038.¹³

25. Groundwater Corrective Action Plan. On December 31, 2019, Duke Energy Carolinas submitted a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan includes active remedial measures intended by Duke Energy Carolinas to address any groundwater contamination caused by the Retired Ash Basin and Active Ash Basins as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 74 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 75. Upon approval of the proposed Groundwater Corrective Action Plan by DEQ, Duke Energy Carolinas shall implement the plan subject to such modification and amendments approved pursuant to N.C. Gen. Stat. § 130A-309.211(b)(3) and the 2L groundwater rules.¹⁴

26. NPDES Permit and Special Order by Consent. On July 13, 2018, DEQ issued NPDES Permit No. NC0004979 for Allen. On April 18, 2018, the EMC approved SOC S17-009 for Allen, which sets a compliance schedule that requires completion of decanting by June 30, 2020. Duke Energy Carolinas shall comply with the terms of NPDES Permit No. NC0004979 and SOC S17-009 including any future amendments by DEQ or the EMC, respectively, when such an amendment becomes effective (unless

¹³ For clarity, this paragraph does not constitute a variance of the CAMA deadline for completion of closure. DEQ will approve or disapprove a request for variance at the appropriate time.

¹⁴ For clarity, this paragraph does not constitute approval of any portion or aspect of the Groundwater Corrective Action Plan. DEQ will approve or disapprove the Groundwater Corrective Action Plan at the appropriate time.

otherwise ordered by the North Carolina Office of Administrative Hearings or a court of competent jurisdiction).

Belews Creek

27. Closure of CCR Impoundment. Duke Energy Carolinas shall excavate and remove all coal ash from the Ash Basin except the impoundment coal ash under or within the waste boundary of the Pine Hall Road Landfill either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy Carolinas shall provide reasonable notice to the Community Groups and DEQ. Duke Energy Carolinas shall remove or permanently close all pipes currently running through or beneath the Ash Basin. Duke Energy Carolinas shall thereafter stabilize and close the area where the Ash Basin is located pursuant to applicable law. The total coal ash that will be excavated is estimated to be approximately 11,870,000 tons. The closure plan provides that ash shall remain underneath the Pine Hall Road Landfill, which is capped with a geosynthetic cap and a soil cap and was closed pursuant to Permit No. 8503-INDUS-1984 in 2009. The amount of coal ash underneath the Pine Hall Road Landfill is estimated to be no more than 100,000 tons.¹⁵ An approximate depiction of this excavation is attached as **Exhibit H**. On or before May 4, 2020, Duke Energy Carolinas shall submit either (a) a demonstration that it is able to meet the requirements of Paragraph 30 or (b) if it is not able to make such a

¹⁵ To the extent that any portion of the Pine Hall Road Landfill is not currently covered by a geosynthetic cap, Duke Energy Carolinas shall install such a cap in accordance with the Belews Creek closure plan approved by DEQ.

demonstration, an addendum to the closure plan providing for the full excavation of the impoundment coal ash under or within the waste boundary of the Pine Hall Road Landfill. The closure plan for Belews Creek shall not be deemed complete prior to this submission.

28. Deadline for Closure. Duke Energy Carolinas projects that it will require until December 31, 2031, to complete all excavation as required in Paragraph 27, and the Parties understand that Duke Energy Carolinas will request variances to meet the deadline imposed by this Consent Order. Duke Energy Carolinas shall complete all excavation required in Paragraph 27 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2034.¹⁶

29. Structural Stability, Monitoring, and Sampling. Duke Energy Carolinas shall stabilize the coal ash under and within the waste boundary of the Pine Hall Road Landfill and within the waste boundary of the Ash Basin with a permanent structure (“stability feature”) for purposes of preserving the structural stability through the use of a wall unless a slope is shown to be as appropriate, so as to prevent lateral movement of the coal ash, pursuant to a plan to be submitted for DEQ approval no later than June 30, 2020. Within seven (7) days of completing the stability feature, Duke Energy Carolinas shall notify DEQ. Additionally, pursuant to a plan approved by DEQ, following excavation in the footprint of the former Ash Basin and downgradient of the

¹⁶ For clarity, this paragraph does not constitute a variance of the CAMA deadline for completion of closure. DEQ will approve or disapprove a request for variance at the appropriate time.

Pine Hall Road Landfill, Duke Energy Carolinas shall conduct groundwater monitoring (including the installation of new wells if reasonably necessary) and, upon re-formation of surface water features that demonstrate DEQ-confirmed intermittent or perennial flows (not merely precipitation), surface water sampling. Consistent with the provisions of Paragraph 74, in this plan Duke Energy Carolinas shall propose (1) additional groundwater remedial measures for any coal ash constituent if the data indicate an increasing trend in groundwater concentrations in excess of the standards set forth in 15A NCAC 2L .0202 (“2L groundwater standards”) for four (4) consecutive semi-annual sampling events for that constituent, subject to the provisions of Paragraph 75, and (2) surface water treatment if the data shows impact from coal ash constituents above the concentrations in standards set forth in 15A NCAC 2B .0101 *et seq.* (“2B standards”) to waters of the State notwithstanding the provisions of Paragraph 75. This plan shall be submitted to DEQ no later than 120 days following completion of the stability feature. If appropriate, the additional monitoring plan will be integrated into the existing site monitoring plan to avoid redundant or conflicting monitoring programs. This paragraph shall not apply if the coal ash under and within the waste boundary of the Pine Hall Road Landfill and within the waste boundary of the Ash Basin is excavated.

30. Groundwater Corrective Action Plan. On December 31, 2019, Duke Energy Carolinas submitted a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan includes active remedial measures intended by Duke Energy Carolinas to address any groundwater contamination caused by the Ash Basin as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater

rules, and any other applicable laws, statutes, or regulations, provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 75. If the coal ash under and within the waste boundary of the Pine Hall Road Landfill and within the waste boundary of the Ash Basin is not excavated, then at a minimum, Duke Energy Carolinas shall remedy violations that DEQ determines are material violations of the 2L groundwater standards attributable to the Ash Basin at or beyond the geographic limitation as described in Paragraph 75 by December 31, 2029, subject to the provisions of Paragraph 74. Upon approval of the proposed Groundwater Corrective Action Plan by DEQ, Duke Energy Carolinas shall implement the plan subject to such modification and amendments approved pursuant to N.C. Gen. Stat. § 130A-309.211(b)(3) and the 2L groundwater rules.¹⁷

31. NPDES Permit and Special Order by Consent. On March 21, 2019, DEQ issued NPDES Permit No. NC0024406 for Belews Creek. On July 12, 2018, the EMC approved SOC S18-004 for Belews Creek, which sets a compliance schedule that requires completion of decanting by September 30, 2020. Duke Energy Carolinas shall comply with the terms of NPDES Permit No. NC0024406 and SOC S18-004 including any future amendments by DEQ or the EMC, respectively, when such an amendment becomes effective (unless otherwise ordered by the North Carolina Office of Administrative Hearings or a court of competent jurisdiction).

¹⁷ For clarity, this paragraph does not constitute approval of any portion or aspect of the Groundwater Corrective Action Plan. DEQ will approve or disapprove the Groundwater Corrective Action Plan at the appropriate time.

Buck

- 32. Closure of CCR Impoundments.** Duke Energy Carolinas shall excavate and remove all coal ash from Basins 1, 2, and 3 either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes. Duke Energy Carolinas shall remove or permanently close all pipes currently running through or beneath Basins 1, 2, and 3. Duke Energy Carolinas shall thereafter stabilize and close the area where Basins 1, 2, and 3 are located pursuant to applicable law. The total coal ash that will be excavated is estimated to be approximately 6,412,000 tons.
- 33. Disposition of Other Coal Ash.** Additionally, Duke Energy Carolinas shall excavate and remove coal ash from the ash stack either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes.
- 34. Deadline for Closure.** Duke Energy Carolinas projects that it will require until December 31, 2035, to complete all excavation as required in Paragraphs 32 and 33. Duke Energy Carolinas shall complete all excavation required in Paragraphs 32 and 33 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2035.¹⁸
- 35. Groundwater Corrective Action Plan.** Duke Energy Carolinas shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval.

¹⁸ For clarity, this paragraph does not constitute a variance of the CAMA deadline for completion of closure. DEQ will approve or disapprove a request for variance at the appropriate time.

The Corrective Action Plan must include remedial measures designed to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 74 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 75. Upon approval of the proposed Groundwater Corrective Action Plan, Duke Energy Carolinas shall implement the plan subject to such modification and amendment approved pursuant to N.C. Gen. Stat. § 130A-309.211(b)(3) and the 2L groundwater rules.¹⁹

36. NPDES Permit and Special Order by Consent. On September 17, 2018, DEQ issued NPDES Permit No. NC0004774 for Buck. On July 12, 2018, the EMC approved SOC S18-004 for Buck, which sets a compliance schedule that requires completion of decanting by March 31, 2020. Duke Energy Carolinas shall comply with the terms of NPDES Permit No. NC004774 and SOC S18-004 including any future amendments by DEQ or the EMC, respectively, when such an amendment becomes effective (unless otherwise ordered by the North Carolina Office of Administrative Hearings or a court of competent jurisdiction).

37. Prior Settlement of Buck Unaffected. Nothing in this Consent Order alters, changes, overrides, or invalidates the separate Settlement Agreement and Release dated December 21, 2016, between Yadkin Riverkeeper, Inc., and Waterkeeper Alliance,

¹⁹ For clarity, this paragraph does not constitute approval of any portion or aspect of the Groundwater Corrective Action Plan. DEQ will approve or disapprove the Groundwater Corrective Action Plan at the appropriate time.

Inc., on the one hand, and Duke Energy Carolinas, on the other, or any provision thereof.

Cliffside/Rogers

- 38. Closure of CCR Impoundments.** Duke Energy Carolinas shall excavate and remove all coal ash from the Unit 5 Inactive Ash Basin and Active Ash Basin, either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy Carolinas shall provide reasonable notice to the Community Groups and DEQ. Duke Energy Carolinas shall remove or permanently close all pipes currently running through or beneath the Unit 5 Inactive Ash Basin and Active Ash Basin. Duke Energy Carolinas shall thereafter stabilize and close the area where the Unit 5 Inactive Ash Basin and Active Ash Basin are located pursuant to applicable law. The total coal ash that will be excavated is estimated to be approximately 7,590,000 tons.
- 39. Deadline for Closure.** Duke Energy Carolinas projects that it will require until December 31, 2028, to complete all excavation as required in Paragraph 38. Duke Energy Carolinas shall complete all excavation required in Paragraph 38 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, but in any event not later than December 31, 2029.
- 40. Groundwater Corrective Action Plan.** On December 31, 2019, Duke Energy Carolinas submitted a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan includes active remedial measures

intended by Duke Energy Carolinas to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 74 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 75. Upon approval of the proposed Groundwater Corrective Action Plan by DEQ, Duke Energy Carolinas shall implement the plan subject to such modification and amendment approved pursuant to N.C. Gen. Stat. § 130A-309.211(b)(3) and the 2L groundwater rules.²⁰

41. NPDES Permit and Special Order by Consent. On July 13, 2018, DEQ issued NPDES Permit No. NC0005088 for Cliffside/Rogers. On April 18, 2018, the EMC approved SOC S17-009, which sets a compliance schedule that requires completion of decanting by March 31, 2020. Duke Energy Carolinas shall comply with the terms of NPDES Permit No. NC0005088 and SOC S17-009 including any future amendments by DEQ or the EMC, respectively, when such an amendment becomes effective (unless otherwise ordered by the North Carolina Office of Administrative Hearings or a court of competent jurisdiction).

Marshall

42. Closure of CCR Impoundment. Duke Energy Carolinas shall excavate and remove all coal ash from the Ash Basin, except the coal ash under or within the waste boundaries of the PV Structural Fill and the 1804 Phase II Landfill, either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid

²⁰ For clarity, this paragraph does not constitute approval of any portion or aspect of the Groundwater Corrective Action Plan. DEQ will approve or disapprove the Groundwater Corrective Action Plan at the appropriate time.

waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy Carolinas shall provide reasonable notice to the Community Groups and DEQ. Duke Energy Carolinas shall remove or permanently close all pipes currently running through or beneath the Ash Basin. Duke Energy Carolinas shall thereafter stabilize and close the area where the Ash Basin is located pursuant to applicable law. The total coal ash that will be excavated is estimated to be approximately 16,800,000 tons. An approximate depiction of the excavation at Marshall is attached as **Exhibit I**.

43. Disposition of Other Coal Ash. Additionally, for the Marshall site, and due to the hydrogeological setting of the 1804 Phase I Landfill (sometime referred to as the “old ash fill”) adjacent to the Ash Basin, Duke Energy Carolinas shall excavate and remove approximately 626,000 tons of coal ash from the 1804 Phase I Landfill adjacent to the Ash Basin either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy Carolinas shall provide reasonable notice to the Community Groups and DEQ. Such excavation shall be complete no later than December 31, 2024. An approximate depiction of the excavation at Marshall is attached as **Exhibit I**.

44. Deadline for Closure. Duke Energy Carolinas projects that it will require until December 31, 2034, to complete all excavation as required in Paragraph 42, and the Parties understand that Duke Energy Carolinas will request variances to meet the

deadline imposed by this Consent Order. Duke Energy Carolinas shall complete all excavation required in Paragraph 42 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, and subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2035.²¹

45. Structural Stability, Monitoring, and Sampling. The coal ash under and within the waste boundary of the PV Structural Fill and the 1804 Phase II Landfill and within the waste boundary of the Ash Basin shall be stabilized with a permanent structure (“stability feature”) for purposes of preserving the structural stability through the use of a wall unless a slope is shown to be as appropriate, so as to prevent lateral movement of the coal ash pursuant to a plan to be submitted for DEQ approval no later than June 30, 2020. Within seven (7) days of completing the stability feature, Duke Energy Carolinas shall notify DEQ. Additionally, pursuant to a plan approved by DEQ, following excavation in the footprint of the former Ash Basin and downgradient of the PV Structural Fill and the 1804 Phase II Landfill, Duke Energy Carolinas shall conduct groundwater monitoring (including the installation of new wells if reasonably necessary) and, upon re-formation of surface water features that demonstrate DEQ-confirmed intermittent or perennial flows (not merely precipitation), surface water sampling. If Duke Energy Carolinas demonstrates to the satisfaction of DEQ that groundwater monitoring in the footprint of the former Ash Basin and downgradient of the PV Structural Fill and the 1804 Phase II Landfill is impracticable, DEQ may require

²¹ For clarity, this paragraph does not constitute a variance of the CAMA deadline for completion of closure. DEQ will approve or disapprove a request for variance at the appropriate time.

upgradient or side-gradient monitoring. Consistent with the provisions of Paragraph 74, in this plan Duke Energy Carolinas shall propose (1) additional groundwater remedial measures for any coal ash constituent if the data indicate an increasing trend in groundwater concentrations in excess of the 2L groundwater standards for four (4) consecutive semi-annual sampling events for that constituent, subject to the provisions of Paragraph 75, and (2) surface water treatment if the data shows impact from coal ash constituents above the 2B standards to waters of the State notwithstanding the provisions of Paragraph 75. This plan shall be submitted to DEQ no later than 120 days following completion of the stability feature. If appropriate, the additional monitoring plan will be integrated into the existing site monitoring plan to avoid redundant or conflicting monitoring programs.

46. Groundwater Corrective Action Plan. On December 31, 2019, Duke Energy Carolinas submitted a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan includes active remedial measures intended by Duke Energy Carolinas to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 74 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 75. Upon approval of the proposed Groundwater Corrective Action Plan by DEQ, Duke Energy Carolinas shall implement the plan subject to such modification and amendment approved pursuant to N.C. Gen. Stat. § 130A-309.211(b)(3) and the 2L groundwater rules. In addition, Duke Energy Carolinas shall install a geosynthetic cap over the PV Structural Fill and 1804 Phase II

Landfill by December 31, 2024. At a minimum, Duke Energy Carolinas shall remedy any material violations of the 2L groundwater standards as determined by DEQ that are attributable to the Ash Basin at or beyond the geographic limitation as described in Paragraph 75 by December 31, 2029, subject to the provisions of Paragraph 74.²²

47. NPDES Permit and Special Order by Consent. On April 2, 2018, DEQ issued a major modification of NPDES Permit No. NC0004987 for Marshall. On April 18, 2018, the EMC approved SOC S17-009 for Marshall, which sets a compliance schedule that requires the completion of decanting by March 31, 2021. Duke Energy Carolinas shall comply with the terms of NPDES Permit No. NC0004987 and SOC S17-009 including any future amendments by DEQ or the EMC, respectively, when such an amendment becomes effective (unless otherwise ordered by the North Carolina Office of Administrative Hearings or a court of competent jurisdiction).

Facility-Specific Obligations of Duke Energy Progress

Mayo

48. Closure of CCR Impoundment. Duke Energy Progress shall excavate and remove all coal ash from the Ash Basin either (1) to lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy Progress will provide reasonable notice to the Community Groups and DEQ. Duke

²² For clarity, this paragraph does not constitute approval of any portion or aspect of the Groundwater Corrective Action Plan. DEQ will approve or disapprove the Groundwater Corrective Action Plan at the appropriate time.

Energy Progress shall remove or permanently close all pipes currently running through or beneath the Ash Basin. Duke Energy Progress will stabilize and close the area where the Ash Basin is located pursuant to applicable law. The total coal ash that will be excavated is estimated to be approximately 6,630,000 tons.

49. Deadline for Closure. Duke Energy Progress projects that it will require until December 31, 2028, to complete all excavation as required in Paragraph 48. Duke Energy Progress may request variances to meet the deadline imposed by this Consent Order. Duke Energy Progress shall complete all excavation required in Paragraph 48 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, but in any event not later than December 31, 2029.

50. Groundwater Corrective Action Plan. On December 31, 2019, Duke Energy Progress submitted a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan includes remedial measures intended by Duke Energy Progress to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 74 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 75. Upon approval of the proposed Groundwater Corrective Action Plan by DEQ, Duke Energy Progress shall implement

the plan subject to such modification and amendment approved pursuant to N.C. Gen. Stat. § 130A-309.211(b)(3) and the 2L groundwater rules.²³

51. NPDES Permit and Special Order by Consent. On July 13, 2018, DEQ issued NPDES Permit No. NC0038377 for Mayo. On August 15, 2018, the EMC approved SOC S18-005, which sets a compliance schedule that requires the completion of decanting by December 31, 2020. Duke Energy Progress shall comply with the terms of NPDES Permit No. NC0038377 and SOC S18-005 including any future amendments by DEQ or the EMC, respectively, when such an amendment becomes effective (unless otherwise ordered by the North Carolina Office of Administrative Hearings or a court of competent jurisdiction).

Roxboro

52. Closure of CCR Impoundment. Duke Energy Progress shall excavate and remove all coal ash from the West Ash Basin (and its extension impoundment area, sometimes referred to as the “Southern Extension Impoundment”) and all coal ash from the East Ash Basin (and its extension impoundment area, sometimes referred to as the “Eastern Extension Impoundment”) except the coal ash under or within the waste boundary of the Roxboro Landfill, Permit No. 7302-INDUS-1988. The excavated ash shall be either (1) disposed of at lined onsite locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or (2) used for beneficial use for cementitious purposes or another industrial process at least as environmentally protective. If a process other than a cementitious process is to be used, Duke Energy Progress shall

²³ For clarity, this paragraph does not constitute approval of any portion or aspect of the Groundwater Corrective Action Plan. DEQ will approve or disapprove the Groundwater Corrective Action Plan at the appropriate time.

provide reasonable notice to the Community Groups and DEQ. The scope of excavation of the East Ash Basin is approximately depicted on **Exhibit J** to this Consent Order. Duke Energy Progress shall remove or permanently close all pipes currently running through or beneath the West Ash Basin and East Ash Basin except those associated with the Roxboro Landfill. Duke Energy Progress shall thereafter stabilize and close the area where the West Ash Basin and East Ash Basin are located pursuant to applicable law. The total coal ash that will be excavated is estimated to be approximately 16,860,000 tons. Additionally, Duke Energy Progress shall remove all coal ash fill from the Gypsum Pad area following retirement of the coal-fired generating units at Roxboro.

53. Disposition of Other Coal Ash. Duke Energy Progress shall commence closure of the Roxboro Landfill, Permit No. 7302-INDUS-1988, no later than 30 days after the date on which the Roxboro Landfill receives the final receipt of waste utilizing a cap system that meets the requirements of North Carolina and federal law.

54. Deadline for Closure. Duke Energy Progress projects that it will require until December 31, 2035, to complete all excavation as required in Paragraph 52, and that the Parties understand that Duke Energy Progress will request variances to meet the deadline imposed by this Consent Order. Duke Energy Progress shall complete all excavation required in Paragraph 52 by the statutory deadline set forth in CAMA, as amended by House Bill 630, or as may further be amended from time to time, and

subject to any variances granted pursuant to N.C. Gen. Stat. § 130A-309.215, but in any event not later than December 31, 2036.²⁴

55. Structural Stability, Monitoring, and Sampling. The coal ash under and within the waste boundary of the Roxboro Landfill and within the waste boundary of the East Ash Basin shall be stabilized with a permanent structure (“stability feature”) for purposes of preserving the structural stability through the use of a wall unless a slope is shown to be as appropriate so as to prevent lateral movement of the coal ash pursuant to a plan to be submitted for DEQ approval no later than June 30, 2020. Within seven (7) days of completing the stability feature, Duke Energy Progress shall notify DEQ. Additionally, pursuant to a plan approved by DEQ, following excavation in the footprint of the former East Ash Basin and downgradient of the Roxboro Landfill, Duke Energy Progress shall conduct groundwater monitoring (including the installation of new wells if reasonably necessary) and, upon re-formation of surface water features that demonstrate DEQ-confirmed intermittent or perennial flows (not merely precipitation), surface water sampling. Consistent with the provisions of Paragraph 74, in this plan Duke Energy Progress shall propose (1) additional groundwater remedial measures for any coal ash constituent if the data indicate an increasing trend in groundwater concentrations in excess of the 2L groundwater standards for four (4) consecutive semi-annual sampling events for that constituent, subject to the provisions of Paragraph 75, and (2) surface water treatment if the data shows impact from coal ash constituents above the 2B standards to waters of the State notwithstanding the

²⁴ For clarity, this paragraph does not constitute a variance of the CAMA deadline for completion of closure. DEQ will approve or disapprove a request for variance at the appropriate time.

provisions of Paragraph 75. This plan shall be submitted to DEQ no later than 120 days following completion of the stability feature. If appropriate, the additional monitoring plan will be integrated into the existing site monitoring plan to avoid redundant or conflicting monitoring programs.

56. Groundwater Corrective Action Plan. On December 31, 2019, Duke Energy Progress submitted a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan includes active remedial measures intended by Duke Energy Progress to address any groundwater contamination as required by N.C. Gen. Stat. § 130A-309.211, the 2L groundwater rules, and any other applicable laws, statutes, or regulations, subject to the provisions of Paragraph 74 and provided that active remedial measures shall not be required to remediate areas within the geographic limitation as specified in Paragraph 75. Upon approval of the proposed Groundwater Corrective Action Plan by DEQ, Duke Energy Carolinas shall implement the plan subject to such modification and amendment approved pursuant to N.C. Gen. Stat. § 130A-309.211(b)(3) and the 2L groundwater rules. At a minimum, Duke Energy Progress shall remedy any material violations of the 2L groundwater standards as determined by DEQ that is attributable to the East Ash Basin at or beyond the geographical limitation described in Paragraph 75 by December 31, 2029, subject to the provisions of Paragraph 74.²⁵

57. Progress Towards Groundwater Remediation. Subject to the provisions of this Consent Order regarding substantial compliance in Paragraph 74, no later than June 30,

²⁵ For clarity, this paragraph does not constitute approval of any portion or aspect of the Groundwater Corrective Action Plan. DEQ will approve or disapprove the Groundwater Corrective Action Plan at the appropriate time.

2020, Duke Energy Progress shall submit a report for approval by DEQ analyzing the progress required by June 30, 2023 and by June 30, 2026 to achieve compliance with 2L groundwater standards by December 31, 2029 at or beyond the geographic limitation described in Paragraph 75 around the East Ash Basin. Subject to the provisions of this Consent Order regarding substantial compliance in Paragraph 74, no later than September 30, 2023 and September 30, 2026, Duke Energy Progress shall submit reports demonstrating sufficient progress toward the goal of achieving compliance with the 2L groundwater standards. If DEQ determines that sufficient progress has not been made towards achieving this goal, Duke Energy Progress shall implement additional remedial measures as required by DEQ.

58. NPDES Permit and Special Order by Consent. On January 18, 2020, DEQ provided public notice of draft NPDES Permit No. NC0003425 for Roxboro. On August 15, 2018, the EMC approved SOC S18-005 for Roxboro, which sets a compliance schedule that requires the completion of decanting by June 30, 2020. Duke Energy Progress shall comply with the terms of the NPDES Permit No. NC0003425 as issued following public comment and SOC S18-005 including any future amendments by DEQ or the EMC, respectively, when such an amendment becomes effective (unless otherwise ordered by the North Carolina Office of Administrative Hearings or a court of competent jurisdiction).

Additional Obligations of Duke Energy Carolinas and Duke Energy Progress

59. Submission of Closure Plans. On December 31, 2019, Duke Energy Carolinas and Duke Energy Progress submitted to DEQ one closure plan for each CCR impoundment

pursuant to N.C. Gen. Stat. § 130A-309.214(a) for each of the above-referenced Facilities.

60. Notice to Community Groups. During the implementation of the Groundwater Corrective Action Plans and any monitoring required by the terms of this Consent Order, Duke Energy Carolinas and Duke Energy Progress shall provide concurrent copies to the Community Groups of annual reports required under Paragraph 84 of this Consent Order, coal ash excavation reports and groundwater monitoring data (including spreadsheets) for the Facilities as these are provided to DEQ. This may occur through U.S. Mail or electronic means to the person designated in Paragraph 80.

Obligations of DEQ

61. Review of Closure Plans. DEQ shall review proposed closure plans and provide for public participation consistent with N.C. Gen. Stat. § 130A-309.214(b). DEQ may request the submittal of additional information pursuant to N.C. Gen. Stat. § 130A-309.214(c). After receiving public comment, DEQ shall approve or disapprove the proposed closure plans pursuant to N.C. Gen. Stat. § 130A-309.214(c). DEQ will not disapprove a proposed closure plan on the basis of the closure methodology employed, to the extent that such methodology is consistent with this Consent Order.

62. Timely Review. In accordance with applicable law, DEQ shall conduct an expeditious review and act expeditiously on all applications by Duke Energy Carolinas and Duke Energy Progress for permits necessary to undertake the actions required under this Consent Order as required by N.C. Gen. Stat. § 130A-309.203.

63. **Review of Variance Requests.** DEQ acknowledges that the deadline for closure is a deadline for which the Secretary is authorized to grant a variance provided that the requirements of N.C. Gen. Stat. § 130A-309.215 are satisfied. DEQ acknowledges that an extension of time required to complete excavation ordered by DEQ and mandated by the terms of this Consent Order may be a valid basis for seeking a variance from CAMA deadlines, including requests for variance under Paragraph 66 below for purposes of beneficiation. DEQ will approve or disapprove a request for variance at the appropriate time.
64. **CCR Rule Deadlines.** DEQ agrees to cooperate with (including as appropriate to support) and not oppose Duke Energy Carolinas's or Duke Energy Progress's efforts to extend the deadlines imposed by the federal CCR rule in court or before an administrative body to the extent that such an extension is necessary for Duke Energy Carolinas or Duke Energy Progress to meet its obligations under this Consent Order.
65. **Further Excavation.** For CCR impoundments, structural fills, and landfills identified in this Consent Order, DEQ shall not require additional excavation for CCR-impacted groundwater at Allen, Belews Creek, Buck, Cliffside/Rogers, Marshall, Mayo, and Roxboro unless DEQ determines (1) there are material violations of the 2L groundwater standards or this Consent Order within the meaning of Paragraph 74 and (2) these material violations cannot reasonably be remedied by active remediation.

Obligations of the Community Groups

66. **CAMA Variance Requests.** The Community Groups will not oppose requests for variances made by Duke Energy Carolinas or Duke Energy Progress as to the closure

deadlines set forth in CAMA in court or before an administrative body, provided that there are no requests to extend such deadlines past December 31, 2034 for the basins at Belews Creek, December 31, 2035 for the basins at Marshall or Buck, December 31, 2036 for the basins at Roxboro, and December 31, 2038 for the basins at Allen.

67. Closure Plans and Corrective Action Plans. The Community Groups will not challenge in court or before an administrative body DEQ's approval of Duke Energy Carolinas's and Duke Energy Progress's closure plans, Corrective Action Plans (including application of a Restricted Designation), Corrective Action Plan implementation, landfill construction or operation permits, components or terms of NPDES permits or modifications to NPDES permits to the extent these components or terms are reasonably necessary for the obligations imposed by this Consent Order (including, for example, NPDES permits or modifications relating to decanting and dewatering), stormwater permits, dam removal authorizations, or post-closure monitoring plans for Allen, Belews Creek, Buck, Cliffside/Rogers, Marshall, Mayo, and Roxboro, or such other permits as required by this Consent Order, provided those closure plans and Corrective Action Plans conform with the terms of this Consent Order.

68. CCR Rule Deadlines. The Community Groups will not oppose Duke Energy Carolinas's or Duke Energy Progress's efforts in court or in an administrative proceeding to extend the deadlines imposed by the federal CCR rule to the extent that such an extension is necessary to meet the obligations under this Consent Order. If appropriate, the Community Groups will support such requests.

69. Deadlines for Coal Ash Recycling. The Community Groups will not oppose in court or before an administrative body, extensions to the CAMA closure dates as may be requested for the purposes of completing beneficiation at Buck, Cape Fear, and HF Lee, through December 31, 2035. For purposes of this paragraph only, Cape Fear River Watch, Inc., Waterkeeper Alliance, Sound Rivers, and Winyah Rivers Foundation (together “additional community groups”), DEQ, and Duke Energy Progress consent to amending the Order Granting Motion for Partial Summary Judgment entered on April 4, 2016 and amended on June 9, 2017, with respect to Paragraph 19 (H.F. Lee) and Paragraph 34 (Cape Fear). The signatures of these additional community groups on this Consent Order shall apply only to the provisions of this paragraph. The Motion seeking an amendment to the Order Granting Motion for Partial Summary Judgment shall be filed separately from this Consent Order.

Further Obligations

70. Closure Method. The terms of this Consent Order satisfy the closure method requirements of N.C. Gen. Stat. § 130A-309.214 for Duke Energy Carolinas and Duke Energy Progress at the Facilities. In the event of inconsistency between this Consent Order and the closure method ordered in DEQ’s April 1 Closure Determinations, the terms of this Consent Order shall control.²⁶

71. Consent Order and Settlement Agreement. The Court takes judicial notice that the Parties entered into a Settlement Agreement on December 31, 2019. Nothing in this

²⁶ For clarity, this paragraph does not constitute approval of the closure plan. DEQ will approve or disapprove the closure plan at the appropriate time.

Consent Decree is intended to alter, amend, or change any surviving obligations of the Settlement Agreement. The Parties further agree that:

- a. Except as set forth in Paragraph 72, below, the only State entity bound by this Consent Order is DEQ.
- b. Except as set forth in Paragraph 72, below, the resolution of cases or issues pursuant to this Consent Order shall have no preclusive, *res judicata*, or collateral estoppel effect against the State of North Carolina or any other State entity other than DEQ.
- c. Nothing in this Consent Order shall limit the arguments that may be made or conclusions that may be drawn by other State entities in any matter or proceeding concerning recovery through rates of costs incurred by Duke Energy.

72. Release of Claims. Notwithstanding any other provision of this Consent Order, for the Facilities listed in Paragraphs 4 and 5, this Consent Order releases and resolves the civil claims for injunctive relief set forth or which could have been set forth by Plaintiff against Duke Energy Progress and Duke Energy Carolinas in the above-captioned matters for past and continuing alleged violations of the water quality statutes and regulations referenced in the Complaints based on information reasonably known to DEQ at the time of filing of the Consent Order. For clarity, this release does not apply to any alleged groundwater violations referenced in Paragraph 20.

73. No Limitation of Authority for Unknown or Future Endangerment. Plaintiff retains all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment that is presently unknown or which may arise in the future as a result of activities at the Facilities

whether related to the violations addressed in this Consent Order or otherwise. The Parties reserve all legal and equitable remedies available to enforce the provisions of this Consent Order, including requesting the Court to exercise its contempt powers.

74. Substantial Compliance. For any term of this Consent Order that requires compliance with the 2L groundwater standards, neither Duke Energy Carolinas nor Duke Energy Progress will be deemed to be in violation of any such term of this Consent Order and shall not be subject to civil penalties or enforcement action by DEQ at a Facility covered by this Consent Order so long as Duke Energy Carolinas or Duke Energy Progress, as applicable, has used best efforts (as described in Paragraph 77) to implement the Corrective Action Plan and post-closure monitoring and care plan unless DEQ determines that there are multiple and material deviations from such standards at or beyond the geographic limitation set forth in Paragraph 75.

75. Geographic Limitation. Active remediation will not be required in the area within 500 feet of the waste boundary of each CCR impoundment as shown on the most recent NPDES permit for each of the Facilities (except that if a property boundary or body of water is located closer than 500 feet to the waste boundary, that property boundary or body of water shall define the geographic limits for active remediation) (“geographic limitation”), provided that, subject to the provisions of Paragraph 74, coal ash constituents outside the geographic limitation described in this paragraph do not increase beyond the 2L groundwater standards post-closure. DEQ will not assess a civil penalty or pursue an enforcement action for any exceedances of the 2L groundwater standards within the geographical limitation so long as Duke Energy Carolinas or Duke Energy Progress, as applicable, is making best efforts (as defined by

Paragraph 77) to implement the approved Corrective Action Plan and closure plan as determined by DEQ. The Corrective Action Plans may be periodically updated as required by DEQ if the groundwater cleanup fails to meet projected targets.

76. **No Admission.** No Party admits wrongdoing or liability related to matters covered in this Consent Order.

77. **Force Majeure.** It will not be a violation of this Consent Order if performance of any of the obligations contained in any paragraph is delayed by an extraordinary event that is beyond the control of Duke Energy Carolinas or Duke Energy Progress, as applicable, or any entity controlled by Duke Energy Carolinas or Duke Energy Progress, as applicable, or their contractors, despite best efforts to fulfill the obligation. Such causes are war, civil unrest, act of God, or act of a governmental or regulatory body delaying performance or making performance impossible including any appeal or decision remanding, overturning, modifying, or otherwise acting (or failing to act) on a permit or similar permission or action that prevents or delays an action needed for the performance of any of the work contemplated under this Consent Order such that it prevents or substantially interferes with Duke Energy Carolinas's or Duke Energy Progress's performance within the time frames specified herein. Duke Energy Carolinas or Duke Energy Progress, as applicable, shall bear the burden of proving by a preponderance of the evidence the existence of such circumstances. Such circumstances do not include the financial inability to complete the work, increased cost of performance, or changes in business or economic circumstances.

a. To qualify as a force majeure under this Consent Order, the failure of a permitting authority to issue a necessary permit in a timely fashion which prevents Duke

Energy Carolinas or Duke Energy Progress from meeting the requirements in this Consent Order must be beyond the control of Duke Energy Carolinas or Duke Energy Progress, as applicable, and Duke Energy Carolinas or Duke Energy Progress must have taken all steps available to obtain the necessary permit, including but not limited to submitting a complete permit application, responding to requests for additional information by the permitting authority in a timely fashion, and accepting lawful permit terms and conditions after expeditiously exhausting any legal rights to appeal those terms and conditions imposed by the permitting authority.

- b. The requirement that Duke Energy Carolinas and Duke Energy Progress use “best efforts” in this Consent Order includes using commercially reasonable efforts to anticipate any event that delays obligations and to address the event in a commercially reasonable manner as it is occurring or following the event such that delay is minimized to the greatest extent possible.
- c. Duke Energy Carolinas or Duke Energy Progress, as applicable, shall notify the Court, DEQ, and the Community Groups in writing within ten (10) days of knowledge of the event which causes or may cause delay, describing in detail the anticipated length of the delay, the precise cause or causes of the delay, the measures taken and to be taken by Duke Energy Progress or Duke Energy Carolinas to prevent or minimize the delay, and a timetable by which those measures will be implemented. Failure to comply with the notice requirements constitutes a waiver of any defense to a failure to comply with the terms and conditions of this Order.

The Parties may, in advance of the actual occurrence of an event causing delay, move the Court for a determination as to whether the event will excuse the delay.

78. Obligations of the Defendants. Duke Energy Progress and Duke Energy Carolinas shall be responsible for carrying out their respective obligations of the Consent Order until relieved by the Court.

79. No Limitation on Administrative Process and Judgment. DEQ is a governmental agency with statutory rights or obligations, and must abide by all applicable procedural and substantive laws and regulations in the exercise of such authority during the implementation of the provisions in this Consent Order. No provision in this Consent Order shall diminish, modify, or otherwise affect the statutory or regulatory authority of DEQ. For any provision in this Consent Order where DEQ makes a determination on a matter, nothing in this Consent Order waives any rights of a Party under the North Carolina Administrative Procedure Act (including the right to appeal, if any), nor does a determination by DEQ on a matter prohibit a challenge to that determination under the terms of this Consent Order, where appropriate. Nothing in this Consent Order shall limit the opportunity for the Community Groups to participate in any administrative process to the extent consistent with their commitments in this Consent Order and as set forth in Paragraph 71.

80. Notice. Whenever notice is required to be given or a document is required to be sent by one Party to another under the terms of this Consent Order, it shall be provided to all Parties, directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Parties in writing. Notice or submission by electronic mail is acceptable.

a. As to DEQ:

Sheila Holman
Assistant Secretary for the Environment
1601 Mail Service Center
Raleigh, NC 27699-1601
sheila.holman@ncdenr.gov

Cc: William F. Lane
General Counsel
1601 Mail Service Center
Raleigh, NC 27699-1601
Bill.Lane@ncdenr.gov

b. As to Duke Energy:

Kodwo Ghartey-Tagoe
Executive Vice-President and Chief Legal Officer
Duke Energy Corp.
Mail Code DEC48H
550 South Tryon Street
Charlotte, NC 28202
Kodwo.Ghartey-Tagoe@duke-energy.com

c. As to the Community Groups:

Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for Community Groups
601 West Rosemary Street, Suite 220
Chapel Hill, NC 27516-2356
fholleman@selcnc.org

81. **Effective Date.** This Consent Order shall take effect immediately upon entry and shall remain in effect until further order of this Court. The Parties shall comply with the terms of this Consent Order.

82. **Continuing Jurisdiction.** The Court shall retain continuing jurisdiction to enforce the terms and conditions of this Consent Order, to modify this Consent Order, and to resolve disputes arising under this Consent Order. This Consent Order may be

modified, altered, or changed upon application to the Court by written consent of all Parties. Absent consent of all Parties, a Party may seek modification or amendment of this Consent Order only upon a showing of a substantial change of facts and circumstances such that it would no longer be equitable to enforce the terms and conditions of this Consent Order absent such modification or amendment. In the event that any Party seeks such a modification or amendment without the consent of any other Party, all Parties have the right to be heard by the Court. This Consent Order shall remain in force and effect until all obligations and terms have been completed or satisfied. Upon Duke Energy Carolinas and Duke Energy Progress demonstrating completion of all obligations imposed by this Consent Order for each Facility to the satisfaction of Plaintiff and Plaintiff-Intervenors, Plaintiff and Plaintiff-Intervenors shall file appropriate notice and satisfaction documents with the Court.

83. **Compliance.** The parties agree that the actions required by this Consent Order (including costs incurred) are for the purpose of complying with CAMA and coming into compliance with applicable laws, rules, and regulations. For clarity, in ordering methods of closure for the impoundments, DEQ did not seek to impose a fine or penalty. This paragraph relates solely to issues arising under federal tax law.

84. **Reporting.** Duke Energy Carolinas and Duke Energy Progress shall submit annual progress reports to DEQ detailing the work and activities undertaken and completed pursuant to the requirements set forth in this Consent Order. The annual reports are due no later than the thirtieth (30th) day of January for the duration of this Consent Order.

85. **Enforcement.** The full power of the Court, including the contempt provisions of Article 2, Chapter 5A of the North Carolina General Statutes, shall be available to enforce this Consent Order. In no event shall any Party be entitled to monetary damages for breach of this Consent Order. In addition, no action under this Consent Order shall be brought or maintained until: (a) the non-breaching Party provides written notice to the breaching Party which explains with particularity the nature of the claimed breach, and (b) within thirty (30) days after receipt of said notice, the breaching Party fails to cure the claimed breach or, in the case of a claimed breach which cannot be reasonably remedied within a thirty (30) day period, the breaching Party fails to commence to cure the claimed breach within such thirty (30) day period, and thereafter diligently complete the activities reasonably necessary to remedy the claimed breach.
86. **Signature.** This Consent Order may be signed by the Court out-of-court, out-of-term, and out-of-county, and by the Parties in counterparts.

CONSENTED TO BY:

THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY

By: Michael S. Regan
Michael Regan
Secretary

Date: January 30, 2020

By: Francisco Benzoni
Francisco Benzoni, as to form only
Special Deputy Attorney General

Date: 01/30/2020

DUKE ENERGY CAROLINAS, LLC

By: Kodwo Ghartey-Tagoe

Date: January 31, 2020

Kodwo Ghartey-Tagoe

Executive Vice-President, Chief Legal Officer

DUKE ENERGY CAROLINAS, LLC and Authorized

Designated Official for DUKE ENERGY CAROLINAS, LLC

DUKE ENERGY PROGRESS, LLC

By: Kodwo Ghartey-Tagoe

Date: January 31, 2020

Kodwo Ghartey-Tagoe

Executive Vice-President, Chief Legal Officer

DUKE ENERGY PROGRESS, LLC and Authorized

Designated Official for DUKE ENERGY PROGRESS, LLC

THE COMMUNITY GROUPS:

APPALACHIAN VOICES

By: 

Date: 1/31/2020

Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

MOUNTAIN TRUE

By: 

Date: 1/31/2020

Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

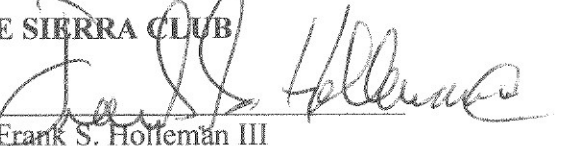
THE CATAWBA RIVERKEEPER FOUNDATION

By: 

Date: 1/31/2020

Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

THE SIERRA CLUB

By: 

Date: 1/31/2020

Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

WINYAH RIVERS FOUNDATION, INC.

By: 

Date: 1/31/2020

Frank S. Holleman III
Senior Attorney
Southern Environmental Law Center
Counsel for the Community Groups

THE COMMUNITY GROUPS:

THE WATERKEEPER ALLIANCE

By:


Frank S. Holleman III

Senior Attorney

Southern Environmental Law Center

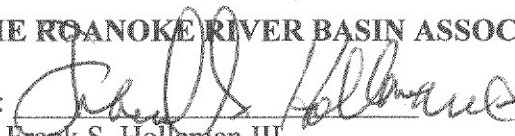
Counsel for the Community Groups

Date:

1/31/2020

THE ROANOKE RIVER BASIN ASSOCIATION

By:


Frank S. Holleman III

Senior Attorney

Southern Environmental Law Center

Counsel for the Community Groups

Date:

1/31/2020

CAPE FEAR RIVER WATCH, INC.

By:


Frank S. Holleman III

Senior Attorney

Southern Environmental Law Center

Counsel for the Community Groups

Date:

1/31/2020

NEUSE RIVER FOUNDATION/SOUND RIVERS, INC.

By:


Frank S. Holleman III

Senior Attorney

Southern Environmental Law Center

Counsel for the Community Groups

Date:

1/31/2020

IT IS HEREBY ORDERED.

This ____ day of _____, 2020.

The Honorable Paul C. Ridgeway
Senior Resident Superior Court Judge