



Paul Draovitch, P.E.
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September 28, 2017

Mr. Jeffrey Poupart
North Carolina Division of Water Resources
1617 Mail Service Center
Raleigh, NC 27699-1617

RECEIVED/NCDEQ/DWR

OCT 02 2017

Re: Application for Special Order by Consent
Duke Energy Carolinas, LLC and
Duke Energy Progress, LLC

Water Quality
Permitting Section

Dear Mr. Poupart,

Duke Energy Carolinas, LLC and Duke Energy Progress, LLC are submitting herewith application for Special Order by Consent related to ash basin seepage for the Marshall Steam Station, Rogers Energy Complex, Allen Steam Station, Asheville Steam Station, Buck Steam Station, Roxboro Steam Station, Mayo Station, H.F. Lee Energy Complex, Weatherspoon Station, Cape Fear Station and Belews Creek Steam Station. A completed application (in triplicate) and check in the amount of \$400.00 for the nonrefundable application fee are enclosed.

Should you have any questions regarding this letter or require additional information, please contact Mr. Shannon Langley at (919) 5462439 or at shannon.langley@duke-energy.com.

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."

Sincerely,

Paul Draovitch, P.E.
SVP - Environmental, Health & Safety

Enclosures

Duke Energy cc: Richard Baker, Jim Wells, Matt Hanchey, Shannon Langley

**STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES**

APPLICATION FOR A SPECIAL ORDER BY CONSENT (SOC)

I. PERMIT RELATED INFORMATION:

1. Applicant (corporation, individual, or other): Duke Energy Carolinas, LLC and Duke Energy Progress, LLC
2. Print or Type Owner's or Signing Official's Name and Title:
Paul Draovitch, Senior Vice President, Environment Health & Safety
3. Facility Name (as shown on Permit): See attached list of facilities
4. Owner Phone: (980) 373-4370 (or) _____
5. Owner Email: paul.draovitch@duke-energy.com
4. Application Date: September 15, 2017
5. NPDES Permit No. (if applicable): See attached list of facilities
6. Name of the specific wastewater treatment facility (if different from I.3. above):
See attached list of facilities

II. PRE-APPLICATION MEETING:

Prior to submitting this completed application form, applicants must meet with the appropriate regional office staff to discuss whether or not an SOC is appropriate for this situation. Please note the date this meeting occurred and who represented the permittee:

Representative: various Duke staff including Paul Draovitch Date: September 7, 2017

III. ADDITIONAL FLOW OR FLOW REALLOCATION:

In accordance with NCGS 143-215.67(b), only facilities owned by a unit of government may request additional flow.

Additional flow may be allowed under an SOC only in specific circumstances. These circumstances may include eliminating discharges that are not compliant with an NPDES or Non-discharge permit. These circumstances do not include failure to perform proper maintenance of treatment systems, collection systems or disposal systems. When requesting additional flow, the facility must include its justification and supporting documentation.

If the requested additional flow is **non-domestic**, the facility must be able to demonstrate the ability to effectively treat the waste and dispose of residuals. The applicant must provide a detailed analysis of the constituents in the proposed non-domestic wastewater.

The total domestic additional flow requested: N/A gallons per day.

The total non-domestic additional flow requested: N/A gallons per day.

The total additional flow (*sum of the above*): N/A gallons per day.

Please attach a detailed description or project listing of the proposed allocation for additional flow, with an explanation of how flow quantities were estimated. Further, any additional flow requested must be justified by a complete analysis, by the permittee, that additional flow will not adversely impact wastewater collection/treatment facilities or surface waters.

IV. NECESSITY NARRATIVE:

Please attach a narrative providing a detailed explanation of the circumstances regarding the necessity of the proposed SOC. Include the following issues:

- Existing and/or unavoidable future violations(s) of permit conditions or limits(s),
- The existing treatment process and any process modifications that have been made to date to ensure optimum performance of existing facilities,
- Collection system rehabilitation work completed or scheduled (including dates),
- Coordination with industrial users regarding their discharges or pretreatment facilities. Identify any non-compliant significant industrial users and measure(s) proposed or already taken to bring the pretreatment facilities back into compliance. If any industrial facilities are currently under consent agreements, please attach these agreements,
- Date and outcome of last Industrial Waste Survey,
- Whether or not the facility is acting as a regional facility receiving wastewater from other municipalities having independent pretreatment programs.

V. CERTIFICATION:

The applicant must submit a report prepared by an independent professional with expertise in wastewater treatment. This report must address the following:

- An evaluation of existing treatment units, operational procedures and recommendations as to how the efficiencies of these facilities can be maximized. The person in charge of such evaluation must sign this document.
- A certification that these facilities could not be operated in a manner that would achieve compliance with final permit limits. The person making such determination must sign this certification.
- The effluent limits that the facility could be expected to meet if operated at their maximum efficiency during the term of the requested SOC (be sure to consider interim construction phases).
- Any other actions taken to correct problems prior to requesting the SOC.

VI. PREDICTED COMPLIANCE SCHEDULE:

The applicant must submit a detailed listing of activities along with time frames that are necessary to bring the facility into compliance. This schedule should include milestone dates for beginning construction, ending construction, and achieving final compliance at a minimum. In determining the milestone dates, the following should be considered:

- Time for submitting plans, specifications and appropriate engineering reports to DWR for review and approval.
- Occurrence of major construction activities that are likely to affect facility performance (units out of service, diversion of flows, etc.) to include a plan of action to minimize impacts to surface waters.
- Infiltration/Inflow work, if necessary.
- Industrial users achieving compliance with their pretreatment permits if applicable.
- Toxicity Reduction Evaluations (TRE), if necessary.

VII. FUNDING SOURCES IDENTIFICATION:

The applicant must list the sources of funds utilized to complete the work needed to bring the facility into compliance. Possible funding sources include but are not limited to loan commitments, bonds, letters of credit, block grants and cash reserves. The applicant must show that the funds are available, or can be secured in time to meet the schedule outlined as part of this application.

If funding is not available at the beginning of the SOC process, the permittee must submit a copy of all funding applications to ensure that all efforts are being made to secure such funds.

Note: A copy of the application should be sufficient to demonstrate timeliness unless regional office has reason to request all information associated with securing funding.

THE DIVISION OF WATER RESOURCES WILL NOT ACCEPT THIS APPLICATION PACKAGE UNLESS ALL OF THE APPLICABLE ITEMS ARE INCLUDED WITH THE SUBMITTAL.

Required Items:

- a. One original and two copies of the completed and appropriately executed application form, along with all required attachments.
 - If the SOC is for a City / Town, the person signing the SOC must be a ranking elected official or other duly authorized employee.
 - If the SOC is for a Corporation / Company / Industry / Other, the person signing the SOC must be a principal executive officer of at least the level of vice-president, or his duly authorized representative.
 - If the SOC is for a School District, the person signing the SOC must be the Superintendent of Schools or other duly authorized employee.

Note: Reference to signatory requirements in SOC's may be found in the North Carolina Administrative Code [T15A NCAC 2H .1206(a)(3)].

- b. The non-refundable Special Order by Consent (SOC) processing fee of \$400.00. A check must be made payable to The Department of Environment and Natural Resources.
- c. An evaluation report prepared by an independent consultant with expertise in wastewater. (in triplicate)

APPLICANT'S CERTIFICATION:

(NO MODIFICATION TO THIS CERTIFICATION IS ACCEPTABLE)

I, Paul Draovitch, attest this application for a Special Order by Consent (SOC) has been reviewed by me and is accurate and complete to the best of my knowledge. I understand if all required parts of this application are not completed and if all required supporting information and attachments are not included, this application package may be returned as incomplete. *(Please be advised that the return of this application does not prevent DWR from collecting all outstanding penalties upon request).* Furthermore, I attest by my signature that I fully understand that an upfront penalty, which may satisfy as a full settlement of outstanding violations, may be imposed. {Note: Reference to upfront penalties in Special Orders by Consent may be found in the North Carolina Administrative Code [T15A NCAC 2H .1206(c)(3)].}



Date

9/28/07

Signature of Signing Official

Paul Draovitch, Senior Vice President, Duke Energy Carolinas, LLC & Duke Energy Progress, LLC

Printed Name of Signing Official

THE COMPLETED APPLICATION PACKAGE, INCLUDING THE ORIGINAL AND TWO COPIES OF ALL SUPPORTING INFORMATION AND MATERIALS, SHOULD BE SENT TO THE FOLLOWING ADDRESS:

NORTH CAROLINA DIVISION OF WATER RESOURCES
POINT SOURCE BRANCH
1617 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1617

IF THIS APPLICATION IS FOR A NON-DISCHARGE SYSTEM, THEN SEND TO:

NORTH CAROLINA DIVISION OF WATER QUALITY
AQUIFER PROTECTION SECTION
1636 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1636

**Duke Energy Carolinas, LLC and Duke
Energy Progress, LLC**

Application for Special Order by Consent

Supplemental information

September 2017

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Lists of Facilities for which coverage is requested

<u>Facility</u>	<u>Permit Number</u>	<u>County</u>
Allen Steam Station	NC0004979	Gaston
Asheville Steam Station	NC0000396	Buncombe
Belews Creek Steam Station	NC0024406	Stokes
Buck Steam Station	NC0004774	Rowan
Cape Fear Station	NC0003433	Chatham
H.F. Lee Energy Complex	NC0003417	Wayne
Marshall Steam Station	NC0004987	Catawba
Mayo Station	NC0038377	Person
Rogers Energy Complex	NC0005088	Rutherford/ Cleveland
Roxboro Steam Station	NC0003425	Person
Weatherspoon Station	NC0005363	Robeson

Application Section IV. Necessity Narrative

Existing and/or unavoidable future violations(s) of permit conditions or limits(s):

Duke Energy Carolinas, LLC and Duke Energy Progress, LLC (collectively, "Duke Energy") have applied for NPDES permits authorizing seepage discharges to jurisdictional surface waters and wetlands located at the above-referenced sites. For the purposes of this document, seepage generally refers to ash impoundment water migrating through subsurface pore space in the earthen base or embankment and emerging to the surface before entering into a jurisdictional surface water. Duke Energy has no practical way to install additional surface water treatment because the seepage travels mostly or entirely under the surface prior to reaching surface waters. Additionally, seepage often emerges to the surface at locations that are difficult to reach or unsuitable for the installation of additional treatment, in many cases because installation of additional treatment would create impacts to wetlands and streams that outweigh the benefits. Data collected by Duke Energy and provided to the Department indicates that the discharges should not cause violations of water quality standards at most times and for most parameters. However, the data also indicate that quality of the discharge is variable based on seasonal variations, weather patterns, and other site specific conditions such that seepage may cause or contribute to pollution of the waters of the State. Duke Energy proposes to monitor the seepage and lay out a schedule by which ash basin closure work can commence and/or continue as the means to address the seepage. Additionally, Duke Energy believes that should any interim actions be needed at select facilities where initial closure activities are not having the desired effect, those activities can be addressed through the mechanism of a Special Order by Consent.

The existing treatment process and any process modifications that have been made to date to ensure optimum performance of existing facilities:

The ash basins have been in operation for many decades and use of the basins is in the process of being phased out. Ash basins have historically been considered Best Available Technology (BAT) for ash sluice treatment as they provide excellent settling and neutralization of various wastestreams. Ash basins are classified as Grade 1 Physical/Chemical treatment systems by the State of North Carolina. Basins are monitored per NPDES permit requirements and have an excellent compliance record with NPDES permit terms. Duke Energy has converted sites to either partial or complete dry ash handling at sites when necessary based on site-specific water quality impacts. Seepage from unlined basins cannot be eliminated entirely without closing the basin, but Duke Energy has taken a variety of steps to minimize seepage and associated water quality impacts. Since 2014, Duke Energy has performed weekly and monthly inspections of basin dams and semi-annual inspections of broader areas downgradient of the dams to identify evidence of potential seeps. When reasonably feasible, seeps have been eliminated by grouting toe drains, installing dam improvements, and regrading to redirect flows. In a limited number of cases, seepage flows have been captured and returned to the basins. The remaining seeps have

been evaluated and are not reasonably amenable to this type of solution. Accessing areas of seepage would in many cases involving cutting roads and utility access to remote areas often in wetlands requiring many permits for impacts to mitigate a small flow that can be adequately addressed through monitoring and basin closure. Much of the seepage is diffuse and collection and or treatment at the point of emergence would lead to greater impacts than addressing the source proactively. The means necessary to address continued seepage flows is by removing industrial flows to the ash basins at existing facilities, removing the remaining water from the basin(s) and closing the basins, as dictated by site specific conditions, through either capping in place as allowed under the federal CCR rule and CAMA or other DEQ approved closure method such as excavation or a hybrid cap in place. Full and complete closure will take some time given the large footprint of each of the basins, but experience has shown at Riverbend and Dan River that removing water from the basins can have a significant effect on lessening seepage and can be carried out on a much shorter timetable.

Section V. Certification

To be submitted under separate cover.

Section VI. Predicted compliance schedule

Under the Order, Duke Energy proposes to undertake the following activities.

1. **Sample as required by the NPDES permits.**
2. **Redirect flows away from ash basins** to newly constructed treatment components in accordance with dates required by the Coal Ash Management Act.
3. **Complete conversion of dry disposal of bottom ash** at Allen, Belews Creek, Rogers, Marshall and Roxboro stations by January 14, 2019.
4. **Reroute wastewater flows currently going to Ash Basins 1, 2, and 3 at Buck station** by the later of May 15, 2018 or six months following the issuance of a new NPDES permit.
5. **Decant ash basins.** Initiate decanting within 150 days of completing wastewater flow reroutes. Absent a force majeure event, complete Cape Fear mitigation decanting by June 15, 2018 and HF Lee mitigation decanting by November 15, 2018. ("Mitigation decanting" is the removal of free-standing or bulk water to reduce seepage, as discussed in the Department's December 17, 2015 letter to Duke Energy. Depending on site-specific considerations, additional decanting may be required as part of the basin closure process. As discussed with the Department, sheet flow stormwater runoff will continue to enter some basins after decanting has been initiated.)
6. **Dewater the ash basins.** Remove the interstitial water from the ash basins, as necessary to support final selected closure method, in accordance with NPDES permit terms.
7. **Reevaluate seepage flows** after completing the decanting and dewatering.
8. **If a seep continues to exist and discharge pollutants more than three months after the conclusion of dewatering** and such seep is causing a violation of water quality standards in the receiving surface water then **Duke shall propose additional corrective measures** to minimize further environmental impact.
9. **Submit semi-annual reports** on the status of decanting and dewatering at each station.

10. During the period in which Duke Energy is engaged in dewatering and decanting and any subsequent corrective action, it will **comply with alternate limits as set out in the Special Order by Consent.**
11. **Safely close ash basins** in accordance with requirements under CAMA and CCR rule.

Section VII. Funding Source Identification

Duke Energy will provide adequate funds to engineer, permit and implement the proposed activities listed in Section VI. As detailed in the company's filings with the Securities and Exchange Commission (available at [http:// www.duke-energy.com/our-company/investors](http://www.duke-energy.com/our-company/investors)), Duke Energy has sufficient resources to fund the activities proposed in this application without the need for external funding sources.

Non-refundable application fee of \$400.00