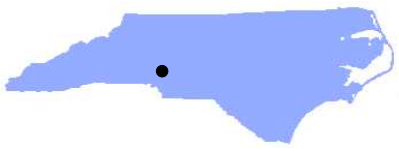
DENR/DWR
FACT SHEET FOR NPDES PERMIT DEVELOPMENT
PERMIT RENEWAL
NPDES No. NC0004961

Facility Information			
Applicant/Facility Name:	Duke Energy Carolinas, LLC – Riverbend Steam Station		
Applicant Address:	P.O. Box 1006, Charlotte, North Carolina 28201		
Facility Address:	175 Steam Plant Road; Mount Holly, North Carolina 28120		
Permitted Flow	No limit		
Type of Waste:	100% industrial Prim. SIC Code: 4911 – Electric Services		
Facility/Permit Status:	Class I/Active; Renewal		
County:	Gaston County		
Miscellaneous			
Receiving Stream:	Catawba River (Mt. Island Lake)	Regional Office:	Mooresville
Stream Classification:	WS-IV and B-CA	State Grid / USGS Quad:	F15Sw
303(d) Listed?	No	Permit Writer:	Sergei Chernikov, Ph.D.
Subbasin:	03-08-33	Date:	September 17, 2020
Drainage Area (mi^2):	1800		
Summer 7Q10 (cfs)	80		
Winter 7Q10 (cfs):			
30Q2 (cfs)			
Average Flow (cfs):	2700		
IWC (%) for Outfall 002A:	0.25	002A: Lat. 35° 21' 55.44" N Long. 80° 58' 10.92" W	

SUMMARY

Duke Energy's Riverbend Steam Station was a coal fired steam electric plant in Gaston County, the electricity generation was discontinued on 04/1/2013. Demolition of the coal-fired plant is complete. The coal ash has been removed from both ash basins, ash stack, and cinder pit on March 16, 2019.

After decommissioning of both ash ponds, the vast majority of seeps ceased discharges. These seeps will be removed from the permit. S-2, S-7, and S-8 are surface water features that were included as outfalls (outfalls 102, 107, and 108) in the latest NPDES permit, but following excavation of the coal ash impoundment, they were found to be streams. If remediation of these streams is necessary, it will be addressed through the corrective action plan for the former impoundment or other administrative process.

Outfall 002A is being repurposed from yard drain sump overflow to remediated groundwater discharge. The rest of the outfalls are being eliminated from the permit.

This facility discharges to the Mountain Island Lake (Catawba River) in sub-basin 03-08-33. The receiving stream is not listed as impaired.

REASONABLE POTENTIAL ANALYSIS (RPA)

The Division conducted EPA-recommended analyses to determine the reasonable potential for toxicants to be discharged at levels exceeding water quality standards/EPA criteria by this

facility **from outfall 002A.** For the purposes of the RPA, the background concentrations for all parameters were assumed to be below detections level. The RPA uses 95% probability level and 95% confidence basis in accordance with the EPA Guidance entitled "Technical Support Document for Water Quality-based Toxics Control."

Calculations included: As, Be, Cd, Chlorides, Total Cr, Cr (VI), Cu, F, Pb, Hg, Mo, Ni, Se, Ag, Zn, Tl, Nitrate/nitrite, Al, and Sb (please see attached). The renewal application listed 0.04 MGD as a projected flow. The analysis indicates no reasonable potential to violate the surface water quality standards or EPA criteria.

CWA SECTION 316(B)

Since the facility discontinued electricity generation in 2013 and does not use cooling water, it will not be the subject to the Section 316(b) of Clean Water Act.

INSTREAM MONITORING-OUTFALL 002

The facility historically had 7 monitoring station, 2 located upstream and 5 located downstream. It is recommended that the monitoring will continue.

The permit also required semi-annual upstream and downstream monitoring of the ash pond discharge. Upstream site (Station B) is approximately 2 miles upstream of the discharge and downstream location (Station C) is approximately 0.5 miles downstream of the discharge. These monitoring stations have been established through the BIP monitoring program, which was required to maintain 316(a) temperature variance. The monitored parameters are: As, Cd, Cr, Cu, Hg, Pb, Se, Zn, and Total Dissolved Solids (TDS). The majority of the results are below detection level (As, Cd, Cr, Pb, Se, Hg, Zn) the rest of the results are below water quality standards (Cu and TDS). Only Cu demonstrated an increase at the downstream monitoring location. These results are consistent with the previous monitoring results.

It is required that the monitoring at the stations B and C will continue until discharges from the station are ceased. It is also required that the facility uses low level method 1631E for all Hg analysis.

FISH TISSUE MONITORING-OUTFALL 002

The permit required fish tissue monitoring for As, Se, and Hg near the ash pond discharge once every 5 years. This frequency is consistent with EPA guidance. Sunfish and bass tissues were analyzed for these trace elements. The results were below action levels for Se and Hg (10.0 µg/g – Se, 0.40 µg/g – Hg, NC) and screening value for As (1.20 – µg/g, EPA). These results are consistent with the previous monitoring results.

TOXICITY TESTING- Outfall 002:

Current Requirement:	24hr Chronic P/F @ 2.7%
Recommended Requirement:	24hr Chronic P/F @ 0.25%
Monitoring Schedule:	January, April, July, October

This facility has passed all chronic toxicity tests during the previous permit cycle, please see attached. The change in the instream waste concentration was made based on the significant decrease in the discharge volume.

For the purposes of the permitting, the long term average flow was used in conjunction with the 7Q10 summer flow to calculate the percent effluent concentrations to be used for WET.

Although the calculated IWC for this discharge is 0.1%, the decision was made to use 0.25% to allow for flow fluctuation.

COMPLIANCE SUMMARY

There were no violations of effluent standards contained in the permit during the previous permit term, please see attached.

PERMIT LIMITS DEVELOPMENT

- The pH limits in the permit are based on the North Carolina water quality standards (15A NCAC 2B .0200).
- The limits for Oil and Grease and Total Suspended Solids (Outfall 002 and Outfall 002A) are based on the Best Professional Judgment and are lower than prescribed in the 40 CFR 423.
- The Whole Effluent Toxicity limit is based on the requirements of 15A NCAC 2B .0500.

PROPOSED CHANGES:

- The following Outfalls have been eliminated from the permit because the flow has ceased after the ash ponds have been decommissioned and ash removed: 001, 002, 011, 101, 103, 104, 105, 106, 109, 110, 111, and 112.
- There are additional Outfalls that have been eliminated from the permit: 102, 107, and 108. The seeps that have been assigned these Outfall numbers are still flowing, but following excavation of the coal ash impoundment, they were found to be streams. If remediation of these streams is necessary, it will be addressed through the corrective action plan for the former impoundment or other administrative process.
- Outfall 002A has been repurposed for the discharge of the treated groundwater.
- Appendix A has been repurposed from Plan for Identification of New Discharges to the Compliance Boundary Map to be consistent with other Duke permits.
- Chronic toxicity requirements have been transferred from Outfall 002 to Outfall 002A.
- Groundwater Monitoring Well Construction and Sampling special condition has been removed from the permit to be consistent with other Duke permits.
- Ash Closure Plan special condition has been removed from the permit due to the completion of the coal ash excavation.
- Priority Pollutant Analysis condition has been removed from the permit since Outfall 002 is closed.
- Chronic Toxicity Monitoring frequency was reduced from Monthly to Quarterly due to the completion of the coal ash excavation.
- Ash Settling Basin special condition has been removed from the permit due to the completion of the coal ash excavation and decommissioning of the coal ash basins.
- Total Copper and Total Iron Monitoring has been removed from the permit since the facility has been decommissioned and no longer subject to 40 CFR 423.
- The type of sampling for Outfall 002A has been changed from Grab to Composite based on the requirements of 15A NCAC 2B .0500.
- Monitoring for Arsenic, Selenium, and Mercury have been added to Outfall 002A based on the permitting policy for coal-fired power plants.
- The Applicable State Law special condition has been removed from the permit due to the removal of all coal ash from the site.

PROPOSED SCHEDULE:

Draft Permit to Public Notice:	December 22, 2020 (est.)
Permit Scheduled to Issue:	February 15, 2021 (est.)

STATE CONTACT:

If you have any questions on any of the above information or on the attached permit, please contact Sergei Chernikov at (919) 707-3606 or sergei.chernikov@ncdenr.gov