

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES

PERMIT

TO DISCHARGE WASTEWATER UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provision of North Carolina General Statute 143-215.1, other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission, and the Federal Water Pollution Control Act, as amended,

Duke Energy Carolinas, LLC

is hereby authorized to discharge wastewater from a facility located at the

Dan River Combined Cycle Station

864 South Edgewood Road
Eden, NC
Rockingham County

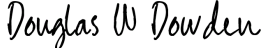
to receiving waters designated as the Dan River in the Roanoke River Basin

in accordance with effluent limitations, monitoring requirements, and other applicable conditions set forth in Parts I, II, and III hereof.

This permit shall become effective November 1, 2022.

This permit and authorization to discharge shall expire at midnight on October 31, 2027.

Signed this day September 23, 2022.

DocuSigned by:

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Richard E. Rogers, Jr., Director
Division of Water Resources
By Authority of the Environmental Management Commission

SUPPLEMENT TO PERMIT COVER SHEET

All previous NPDES Permits issued to this facility, whether for operation or discharge are hereby revoked. As of this permit issuance, any previously issued permit bearing this number is no longer effective. Therefore, the exclusive authority to operate and discharge from this facility arises under the permit conditions, requirements, terms, and provisions included herein.

Duke Energy Carolinas, LLC

is hereby authorized to:

1. Continue to discharge the following:
 - Outfall 001: cooling tower blowdown from the combined cycle unit, intake screen backwash, and plant collection sumps (low volume wastes);
 - Internal Outfall 001A (discharges to Outfall 001): wastes from the filtered water plant including miscellaneous wash down water and laboratory wastes (low volume wastes);
2. Discharge from said treatment works at the location specified on the attached map into the Dan River (Outfall 001), classified C waters in the Roanoke River Basin.

Part I

A. (1.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the permittee is authorized to discharge intake screen backwash, cooling tower blowdown, and plant collections sumps through **Outfall 001**. Such discharges shall be limited and monitored by the permittee as specified below:

| EFFLUENT CHARACTERISTICS | LIMITS | | MONITORING REQUIREMENTS | | |
|--------------------------------------|-----------------|----------------------|-------------------------|-------------|------------------------------|
| | Monthly Average | Daily Maximum | Measurement Frequency | Sample Type | Sample Location ¹ |
| Flow, MGD | | | Daily | Pump Logs | Effluent |
| Temperature | | 37.2 °C | Weekly | Grab | Effluent |
| Temperature | | 32.0 °C ² | Weekly | Grab | Downstream |
| Total Suspended Solids | 30.0 mg/L | 100.0 mg/L | 2/Month | Grab | Effluent |
| Oil and Grease | 15.0 mg/L | 20.0 mg/L | 2/Month | Grab | Effluent |
| pH | 6.0 ≤ pH ≤ 9.0 | | 2/Month | Grab | Effluent |
| Total Residual Chlorine ³ | | 28.0 µg/L | 2/Month | Grab | Effluent |

Notes:

1. Sample locations: Downstream – downstream approximately 85 ft.; Effluent - at point downstream of combined wastewaters from the combined cycle turbine unit.
2. See Special Condition A. (6.) Temperature Mixing Zone.
3. Total Residual Chlorine (TRC) compliance is required only if chlorine or chlorine derivative is added to the cooling water. The Division shall consider all effluent TRC values reported below 50 µg/L to be in compliance with the permit. However, the permittee shall continue to record and submit all values reported by a North Carolina certified laboratory (including field certified), even if these values fall below 50 µg/L.

The permittee shall obtain authorization from the Division of Water Resources prior to using any biocide in the cooling water; see condition A. (5.).

There shall be no discharge of floating solids or foam visible in other than trace amounts.

A. (2.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001A) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the permittee is authorized to discharge wastewater from the filtered water plant including wash down water and laboratory wastes (low volume waste sources) through **Internal Outfall 001A**. Such discharges shall be limited and monitored² by the permittee as specified below:

| EFFLUENT CHARACTERISTICS | LIMITS | | MONITORING REQUIREMENTS | | |
|--------------------------|-----------------|---------------|-------------------------|-------------|------------------------------|
| | Monthly Average | Daily Average | Measurement Frequency | Sample Type | Sample Location ¹ |
| Total Suspended Solids | 30.0 mg/L | 100.0 mg/L | 2/Month | Grab | Effluent |
| Oil & Grease | 15.0 mg/L | 20.0 mg/L | 2/Month | Grab | Effluent |

Notes:

1. Effluent sample location shall be at point downstream of the oil separator and prior to mixing with Outfall 001.

Should no flow occur during a given month, the words “no flow” should be clearly written on the front of the DMR. All samples shall be a representative discharge.

There shall be no discharge of floating solids or foam visible in other than trace amounts.

A. (3.) TOXICITY RE-OPENER CONDITION

[15A NCAC 02B .0200 et seq.]

This permit shall be modified, or revoked and reissued, to incorporate additional toxicity limitations and monitoring requirements in the event that toxicity testing or other studies conducted on the effluent or receiving stream indicate that detrimental effects may be expected in the receiving stream as a result of this discharge.

A. (4.) SPECIAL CONDITIONS

[NCGS 143-215.3 (a) (2) and NCGS 143-215.66]

The following special conditions are applicable to all outfalls regulated by this permit:

- a) There shall be no discharge of polychlorinated biphenyl compounds such as those once commonly used for transformer fluid.
- b) Nothing contained in this permit shall be construed as a waiver by the permittee of any right to a hearing it may have pursuant to State or Federal laws or regulations.
- c) Discharge of any waste resulting from the combustion of toxic or hazardous waste to any waste stream which ultimately discharges to waters of the United States is prohibited, unless specifically authorized in this permit.
- d) The permittee shall report all visible discharges of floating materials (such as an oil slick) to the Director when submitting DMRs.
- e) "Upset," means an exceptional incident in which there is an unintentional and temporary non-compliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or improper operations.
- f) All flows shall be reported on monthly DMRs. Should no flow occur during a given month, the words "no flow" should be clearly written on the front of the DMR.
- g) EPA methods 200.7 or 200.8 (or the most current versions) shall be used for analyses of all metals except for total mercury.
- h) All effluent samples for all external outfalls shall be taken at the most accessible location after the final treatment but prior to discharge to waters of the U.S. (40 CFR 122.41(j)).
- i) The term *low volume waste sources* means wastewater from all sources except those for which specific limitations are otherwise established in this part (40 CFR 423.11 (b)).
- j) The term *chemical metal cleaning waste* means any wastewater resulting from cleaning any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning (40 CFR 423.11 (c)).
- k) The term *metal cleaning waste* means any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning (40 CFR 423.11 (d)).
- l) For all outfalls where the flow measurement is to be "estimated" the estimate can be done by using calibrated V-notch weir, stop-watch and graduated cylinder, or other method approved by the Division.
- m) The concentration of asbestos in any wastewater shall not exceed 7 million fibers per liter.

A. (5.) BIOCIDES CONDITION

[NCGS 143-215.1]

The permittee shall not use any biocides except those approved in conjunction with the permit application. The permittee shall notify the Director in writing not later than ninety (90) days prior to instituting use of any additional biocide used in cooling systems which may be toxic to aquatic life other than those previously reported to the Division of Water Resources. Such notification shall include completion of Biocide Worksheet Form 101 and a map locating the discharge point and receiving stream. Completion of Biocide Worksheet Form 101 is not necessary for those outfalls

containing toxicity testing. Division approval is not necessary for the introduction of new biocides into outfalls currently tested for whole effluent toxicity.

A. (6.) TEMPERAURE MIXING ZONE

[NCGS 143-215.1]

a) The temperature mixing zone is defined as the area extending from outfall 001 to approximately 143 feet below the discharge. The discharge shall not result in acute toxicity to aquatic life, prevent free passage of aquatic organisms around the mixing zone, result in offensive conditions, produce undesirable aquatic life or result in a dominance of nuisance species outside of the assigned mixing zone; or endanger the public health or welfare.

b) The temperature standard of 32°C (89.6°F) and the maximum temperature increase above natural temperature of 2.8°C (5.04°F) shall be met at the end of the mixing zone. The natural water temperature shall be the temperature measured at the upstream sampling location. The increase in temperature is defined as the difference in temperature between the upstream and downstream sampling locations.

c) The results of all temperature monitoring shall be reported in the monthly DMRs. When possible, instream monitoring for temperature shall be performed during times the facility is operating at full loading.

d) After 12 months of temperature data are collected the permittee shall submit a report to the Division to verify the Cormix model predictions. The report shall include field verification of assumptions used in the model and a summary of temperature data for effluent, upstream and downstream and shall be submitted to:

Division of Water Resources
WQ Permitting Section - NPDES
1617 Mail Service Center
Raleigh, NC 27699-1617

f) This permit may be reopened to implement alternative temperature limits or requirements based on the results of the data collected.

A. (7.) CLEAN WATER ACT SECTION 316(B)

[40 CFR 125.95]

Based on evaluation of the 316(b) study reports, the Department concludes that the existing configuration at this facility represents BTA for meeting the impingement and entrainment requirements of the Rule. The permittee shall continue to comply with the Cooling Water Intake Structure Rule per 40 CFR 125.95.

Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.

A. (8.) ELECTRONIC REPORTING OF DISCHARGE MONITORING REPORTS

[G.S. 143-215.1(b)]

Federal regulations require electronic submittal of all discharge monitoring reports (DMRs) and program reports. The final NPDES Electronic Reporting Rule was adopted and became effective on December 21, 2015.

NOTE: This special condition supplements or supersedes the following sections within Part II of this permit (*Standard Conditions for NPDES Permits*):

- Section B. (11.) Signatory Requirements
- Section D. (2.) Reporting
- Section D. (6.) Records Retention
- Section E. (5.) Monitoring Reports

1. Reporting Requirements [Supersedes Section D. (2.) and Section E. (5.) (a)]

The permittee shall report discharge monitoring data electronically using the NC DWR's Electronic Discharge Monitoring Report (eDMR) internet application.

Monitoring results obtained during the previous month(s) shall be summarized for each month and submitted electronically using eDMR. The eDMR system allows permitted facilities to enter monitoring data and submit DMRs electronically using the internet. Until such time that the state's eDMR application is compliant with EPA's Cross-Media Electronic Reporting Regulation (CROMERR), permittees will be required to submit all discharge monitoring data to the state electronically using eDMR and will be required to complete the eDMR submission by printing, signing, and submitting one signed original and a copy of the computer printed eDMR to the following address:

NC DENR / Division of Water Resources / Water Quality Permitting Section
 ATTENTION: Central Files
 1617 Mail Service Center
 Raleigh, North Carolina 27699-1617

If a permittee is unable to use the eDMR system due to a demonstrated hardship or due to the facility being physically located in an area where less than 10 percent of the households have broadband access, then a temporary waiver from the NPDES electronic reporting requirements may be granted and discharge monitoring data may be submitted on paper DMR forms (MR 1, 1.1, 2, 3) or alternative forms approved by the Director. Duplicate signed copies shall be submitted to the mailing address above. See "How to Request a Waiver from Electronic Reporting" section below.

Regardless of the submission method, the first DMR is due on the last day of the month following the issuance of the permit or in the case of a new facility, on the last day of the month following the commencement of discharge.

Starting on **December 21, 2025**, the permittee must electronically report the following compliance monitoring data and reports, when applicable:

- Sewer Overflow/Bypass Event Reports;
- Pretreatment Program Annual Reports; and
- Clean Water Act (CWA) Section 316(b) Annual Reports.

The permittee may seek an electronic reporting waiver from the Division (see "How to Request a Waiver from Electronic Reporting" section below).

2. Electronic Submissions

In accordance with 40 CFR 122.41(l)(9), the permittee must identify the initial recipient at the time of each electronic submission. The permittee should use the EPA's website resources to identify the initial recipient for the electronic submission.

Initial recipient of electronic NPDES information from NPDES-regulated facilities means the entity (EPA or the state authorized by EPA to implement the NPDES program) that is the designated entity for receiving electronic NPDES data [see 40 CFR 127.2(b)].

EPA plans to establish a website that will also link to the appropriate electronic reporting tool for each type of electronic submission and for each state. Instructions on how to access and use the appropriate electronic reporting tool will be available as well. Information on EPA's NPDES Electronic Reporting Rule is found at: <http://www2.epa.gov/compliance/final-national-pollutant-discharge-elimination-system-npdes-electronic-reporting-rule>.

Electronic submissions must start by the dates listed in the "Reporting Requirements" section above.

3. How to Request a Waiver from Electronic Reporting

The permittee may seek a temporary electronic reporting waiver from the Division. To obtain an electronic reporting waiver, a permittee must first submit an electronic reporting waiver request to the Division. Requests for temporary electronic reporting waivers must be submitted in writing to the Division for written approval at least sixty (60) days prior to the date the facility would be required under this permit to begin submitting monitoring data and reports. The duration of a temporary waiver shall not exceed 5 years and shall thereupon expire. At such time, monitoring data and reports shall be submitted electronically to the Division unless the permittee re-applies for and is granted a new temporary electronic reporting waiver by the Division. Approved electronic reporting waivers are not transferrable. Only permittees with an approved reporting waiver request may submit monitoring data and reports on paper to the Division for the period that the approved reporting waiver request is effective.

Information on eDMR and the application for a temporary electronic reporting waiver are found on the following web page:

<http://deq.nc.gov/about/divisions/water-resources/edmr>

4. Signatory Requirements [Supplements Section B. (11.) (b) and Supersedes Section B. (11.) (d)]

All eDMRs submitted to the permit issuing authority shall be signed by a person described in Part II, Section B. (11.)(a) or by a duly authorized representative of that person as described in Part II, Section B. (11.)(b). A person, and not a position, must be delegated signatory authority for eDMR reporting purposes.

For eDMR submissions, the person signing and submitting the DMR must obtain an eDMR user account and login credentials to access the eDMR system. For more information on North Carolina's eDMR system, registering for eDMR and obtaining an eDMR user account, please visit the following web page:

<http://deq.nc.gov/about/divisions/water-resources/edmr>

Certification. Any person submitting an electronic DMR using the state's eDMR system shall make the following certification [40 CFR 122.22]. NO OTHER STATEMENTS OF CERTIFICATION WILL BE ACCEPTED:

"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."

5. Records Retention [Supplements Section D. (6.)]

The permittee shall retain records of all Discharge Monitoring Reports, including eDMR submissions. These records or copies shall be maintained for a period of at least 3 years from the date of the report. This period may be extended by request of the Director at any time [40 CFR 122.41].

A. (9.) COMPLIANCE BOUNDARY

[15A NCAC 02L.0107]

The compliance boundary for the disposal system shall be specified in accordance with 15A NCAC 02L .0107(a) or (b) dependent upon the date permitted. An exceedance of groundwater standards at or beyond the compliance boundary is subject to remediation action according to 15A NCAC 02L .0106(c), (d), or (e) as well as enforcement actions in accordance with North Carolina General Statute 143-215.6A through 143-215.6C. The compliance boundary map for this facility is incorporated herein and attached hereto as attachment.