DEPARTEMENT OF ENVIRONMENTAL QUALITY

DIVISION OF WATER RESOURCES

**FACT SHEET FOR NPDES PERMIT DEVELOPMENT**

NPDES No. NC0003425

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| Facility Information |
| Applicant/Facility Name:  | Duke Energy Progress/Roxboro Steam Electric Generating Plant |
| Applicant Address: | 1700 Dunnaway Rd., Semora, NC 27343 |
| Facility Address: | 1700 Dunnaway Rd., Semora, NC 27343 |
| Permitted Flow | Not limited |
| Type of Waste: | 99.8 % Industrial, 0.2% - domestic |
| Facility/Permit Status: | Existing/Modification |
| County: | Person |
| Miscellaneous |
| Receiving Stream: | Hyco Reservoir | Stream Classification: | WS-V, B |
| Subbasin: | 03-02-05 | 303(d) Listed?: | No |
| Drainage Area (mi2): |  N/A | Primary SIC Code: | 4911 |
| Summer 7Q10 (cfs) |  0 | Regional Office: | RRO |
| 30Q2 (cfs): |  0 | Quad | Olive Hill |
| Average Flow (cfs): |  0 | Permit Writer: | Sergei Chernikov, Ph.D. |
| IWC (%): | 100%  | Date: | 02/18/2021 |

**SUMMARY**

The Roxboro Steam Electric Plant is an electric generating facility that uses steam turbine generation via four coal-fired units with a with a combined electric generating output of 2558 MW: Unit No. 1 (385 MWe), Unit No. 2 (670 MWe), Unit No. 3 (707MWe) and Unit No. 4 (700 MWe).

This facility is subject to EPA effluent guideline limits per 40 CFR 423 - Steam Electric Power Generating Point Source Category which were amended November 3, 2015. The facility is also subject to the Cooling Water Intake Structures Rules (40 CFR 125) effective October 14, 2014. The intake flow is > 125 MGD.

The facility has a long-term retirement schedule:

1,053 MW Roxboro Units 1-2 in December 2028

1,409 MW Roxboro Units 3-4 in December 2033

This permit is being modified to make the following changes:

1). Add the bottom ash purge to the list of the contributing sources of wastewater to the Lined Retention Basin. Per updated 40 CFR 423.13(k)(2)(i)(A) (updated on 10/13/2020), the discharge of [pollutants](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=0d89e8d7076bc1372976137880905986&term_occur=999&term_src=Title:40:Chapter:I:Subchapter:N:Part:423:423.13) [in](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=1247a5bda9df81fc5540a565d259830e&term_occur=999&term_src=Title:40:Chapter:I:Subchapter:N:Part:423:423.13) [bottom ash](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=bf43c2f27e26179a6a334dc617e7d2f7&term_occur=999&term_src=Title:40:Chapter:I:Subchapter:N:Part:423:423.13) transport water from a properly installed, operated, and maintained [bottom ash](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=bf43c2f27e26179a6a334dc617e7d2f7&term_occur=999&term_src=Title:40:Chapter:I:Subchapter:N:Part:423:423.13) system is authorized to maintain system water chemistry where installed equipment at the [facility](https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=c4adae0dbaa36c9a953568c5cd292e90&term_occur=999&term_src=Title:40:Chapter:I:Subchapter:N:Part:423:423.13) is unable to manage pH, corrosive substances, substances or conditions causing scaling, or fine particulates to below levels which impact system operation or maintenance.

2). Adjust the Technology Based Effluent Limits for Total Arsenic, Total Mercury, Total Selenium, and Nitrate/nitrite as N for Internal Outfall 010 and Internal Outfall 011 (FGD wastewater) in accordance with updated 40 CFR 423.13(g)(1)(i). Please see the table below for details.

Both changes are based on the October 13, 2020 update to the 40 CFR 423 (BAT).

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| --- | --- | --- |
| **Pollutant** | **Existing monthly average - daily maximum limit** | **Modified monthly average - daily maximum limit** |
| Arsenic | 8.0 µg/L – 11.0 µg/L | 8.0 µg/L – 18.0 µg/L |
| Selenium | 12.0 µg/L – 23.0 µg/L | 29.0 µg/L – 70.0 µg/L |
| Mercury | 356.0 µg/L – 788.0 µg/L | 34.0 µg/L – 103.0 µg/L |
| Nitrate/Nitrite | 4.4 mg/L – 17.0 mg/L | 3.0 mg/L – 4.0 mg/L |

3). Increase flow limit from 2.0 MGD to 3.0 MGD on the Internal Outfall 002 to accommodate large storm events. In addition, the interstitial flow volume reporting was added to this outfall.

4). Correct header for the Condition A. (1) to allow for the complete ash excavation from East Ash Basin Extension and for the discharge of industrial stormwater from the landfill.

5). Change the name of the monthly instream monitoring from 6B to F2 (Special Condition A. (18)).

#### PROPOSED SCHEDULE

Draft Permit to Public Notice: March 9, 2021 (est.)

Permit Scheduled to Issue: April 26, 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.

### CHANGES IN THE FINAL MODIFICATION

* The optimization requirement and the reopener clause were added for the FGD Effluent Pages (Internal Outfall 010 and Internal Outfall 011) in response to the SELC comments.