NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date:

Region: Wilmington Regional Office
County: New Hanover
NC Facility ID: 6500036
Inspector's Name: Ashby Armistead
Date of Last Inspection: 01/14/2021
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Duke Energy Progress, LLC - L.V. Sutton Electric Plant

Facility Address:
Duke Energy Progress, LLC - L.V. Sutton Electric Plant
801 Sutton Steam Plant Road
Wilmington, NC 28401

SIC: 4911 / Electric Services
NAICS: 221112 / Fossil Fuel Electric Power Generation

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 02Q .0501(c)(l)
NSPS: NA
NESHAP: NA
PSD: NA
PSD Avoidance: NA
NC Toxics: NA
112(r): NA
Other: NA

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Kent Tyndall Lead EHS Professional (910) 341-4775 801 Sutton Steam Plant Road Wilmington, NC 28401	James Corriher General Manager II (910) 341-4750 801 Sutton Steam Plant Road Wilmington, NC 28401	Erin Wallace Lead Environmental Specialist (919) 546-5797 410 South Wilmington Street Raleigh, NC 27601

Application Data

Application Number: 6500036.21A
Date Received: 09/16/2021
Application Type: Modification
Application Schedule: TV-Significant

Existing Permit Data
Existing Permit Number: 01318/T34
Existing Permit Issue Date: 08/05/2019
Existing Permit Expiration Date: 07/31/2024

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2020	8.55	602.21	12.04	72.00	144.45	2.28	1.52 [Formaldehyde]
2019	10.15	606.12	24.29	189.05	171.68	3.13	2.10 [Formaldehyde]
2018	8.24	555.04	25.95	250.09	145.60	2.88	1.94 [Formaldehyde]
2017	10.52	622.03	16.73	226.83	167.28	2.77	1.85 [Formaldehyde]
2016	11.58	597.30	6.82	27.84	159.14	2.27	1.50 [Formaldehyde]

Review Engineer: Ed Martin

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 01318/T35
Permit Issue Date:
Permit Expiration Date:

Chronology

September 16, 2021 Application 6500036.21A was received and considered complete on this date.

I. Facility Description

Duke's L. V. Sutton Electric Plant is an electric utility facility that generates electrical power using internal combustion turbines. The main emission sources are a 2x2x1 power block consisting of two natural gas/No. 2 fuel oil-fired simple/combined-cycle internal combustion turbines (Turbine 1A and Turbine 1B), two heat recovery steam generators (HRSGs) and one steam turbine with a total nominal generating capacity of 620 MW, which began commercial operation on November 27, 2013. Other sources include two natural gas/No. 2 fuel oil-fired Fast Start simple-cycle turbines rated at up to 65.6 MW output each (Turbines 4 and 5) and two 1,000 kW Black Start diesel engines (BS1 and BS2). Other ancillary operations at the site consist of an auxiliary boiler, dew point heaters, wet surface air cooler, turbine inlet chiller and diesel-fired firewater pump engine.

II. Purpose of Application

Duke Energy Progress (DEP) is requesting reclassification from a major source of hazardous air pollutants (HAPs) to an area source of HAPs. As a result, the following maximum achievable control technology (MACT) standards no longer apply and have been removed as follows:

MACT Standard	Affected Emission Sources
15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR 63 Subpart YYYY - National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines)	Turbine 1A, Turbine 1B, Turbine 4 and Turbine 5
15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR PART 63, SUBPART DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters)	AB1, DPH1, DPH2 and insignificant activities I79, I80 and I81

This is a one-step significant permit modification that contravenes or conflicts with a condition in the existing permit, following the procedures in 15A NCAC 02Q .0501(c)(l).

There are no changes to equipment.

III. Permit Changes

The following changes were made to the Duke Energy Progress, LLC – L.V. Sutton Electric Plant Air Permit No. 01318T34:

Old Page	Old Section	New Page	New Section	Description of Changes
Cover				Amended permit numbers and dates.
Insignificant Activities List				Removed "MACT DDDDD" identifier for I79, I80 and I81.
3-4	1, table of permitted emission sources	3-4	1, table of permitted emission sources	Removed "MACT YYYY" identifier for Turbine 1A, Turbine 1B, Turbine 4 and Turbine 5. Removed "MACT DDDDD" identifier for AB1, DPH1 and DPH2.

Old Page	Old Section	New Page	New Section	Description of Changes
5	2.1 A, regulation table	5	2.1 A, regulation table	Removed 15A NCAC 02D .1111 MACT (40 CFR Part 63 Subpart YYYY)
8	2.1 A.4	8	2.1 A.4	Removed and reserved.
8	2.1 A.5	8	2.1 A.5	Removed "Federal-Enforceable Only."
9	2.1 B, regulation table	8	2.1 B, regulation table	Removed 15A NCAC 02D .1111 (40 CFR Part 63, Subpart DDDDD)
10-12	2.1 B.5	9	2.1 B.5	Removed and reserved.
13	2.1 C, regulation table	9	2.1 C, regulation table	Removed 15A NCAC 02D .1111 (40 CFR Part 63, Subpart DDDDD)
14-16	2.1 C.4	10	2.1 C.4	Removed and reserved.
19	2.1 F, regulation table	14	2.1 F, regulation table	Removed 15A NCAC 02D .1111 MACT (40 CFR Part 63 Subpart YYYY)
22	2.1 F.3	17	2.1 F.3	Removed and reserved.
34-43	3.0	29-37	3.0	Updated general conditions to version 5.5, 08/25/2020.

IV. Regulatory Evaluation

To be reclassified as an area source under Section 112, the facility's potential to emit considering controls must be less than 10 tons per year threshold for any single HAP and less than 25 tons per year for any combination of HAPs.

DEP has undertaken an effort to refine the facility potential-to-emit (PTE) utilizing site-specific data where available. DEP states that metals in the fuel oil were analyzed to be at de-minimis levels as compared to the previously used AP-42 values for metals, dating back to 1993, which does not account for the reduction in metals emitted due to EPA requiring lower sulfur content fuel oil. Metals in the fuel oil are lower due to the co-benefit during the hydrodesulfurization refining process. The revised calculations and fuel analysis results are shown in Attachments 1 and 2 of the application.

As shown in DEP's application, the maximum single HAP emissions are 3.23 tpy and the total emissions of all HAPs are 14.49 tpy. Therefore, the following MACT standards which only apply to major sources of HAPs and do not apply to area sources and are being removed:

15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR 63 Subpart YYYY - National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines)

Subpart YYYY establishes national emission limitations and operating limitations for HAP emissions from stationary combustion turbines located at major sources HAP emissions as specified in 40 CFR 63.6080. Therefore, as an area source of HAPs, this standard no longer applies to Turbine 1A, Turbine 1B, Turbine 4 and Turbine 5.

15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR PART 63, SUBPART DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP as specified in 40 CFR 63.7480. Therefore, as an area source of HAPs, this standard no longer applies to the auxiliary boiler AB1, dew point heaters DPH1 and DPH2,

or insignificant activities I79, I80 and I81. In addition, these gas-fired sources are not subject to 40 CFR Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources as specified in 40 CFR 63.11195(e).

V. Public Notice

Pursuant to 15A NCAC 02Q .0521, a notice of the draft Title V Operating Permit will be published on the DAQ website to provide for a 30-day comment period with an opportunity for a public hearing. Copies of the draft (proposed) permit, review and public notice will be sent to EPA for their 45-day review, to persons on the Title V mailing list, to the Wilmington Regional Office, and to the Permittee.

VI. Other Requirements

PE Seal
A PE seal is not required since there are no air pollution capture or control systems being added in accordance with 02Q .0112.

Zoning
There is no expansion of the facility, therefore zoning consistency is not needed.

Fee Classification
The facility fee classification before and after this modification will remain as "Title V".

VII. Comments on Draft Permit

The draft permit and review were sent to Erin Wallace at DEP, to Ashby Armistead at the Wilmington Regional Office, and to Samir Parekh with SSCB on October 21, 2021, for comment.

DEP Comments
On October 26, 2021, DEP stated they had no comments.

SSCB Comments
On October 29, 2021, SSCB stated they had no comments.

WiRO Comments
On October 25, 2021, WiRO stated they had no comments.

VIII. Recommendations

TBD