

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Application Review**

**Issue Date:**

**Region:** Fayetteville Regional Office  
**County:** Richmond  
**NC Facility ID:** 7700070  
**Inspector's Name:** Evangelyn Lowery-Jacobs  
**Date of Last Inspection:** 10/28/2020  
**Compliance Code:** 3 / Compliance - inspection

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| <b>Facility Data</b>   | <b>Permit Applicability (this application only)</b>  |
| <p><b>Applicant (Facility's Name):</b> Duke Energy Progress, LLC - Richmond County Turbines</p> <p><b>Facility Address:</b><br/>                 Duke Energy Progress, LLC - Richmond County Turbines<br/>                 Richmond County Energy Complex<br/>                 Hamlet, NC 28345</p> <p><b>SIC:</b> 4911 / Electric Services<br/> <b>NAICS:</b> 221112 / Fossil Fuel Electric Power Generation</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V<br/> <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p> | <p><b>SIP:</b> 02Q .0501(c)(1)<br/> <b>NSPS:</b> NA<br/> <b>NESHAP:</b> NA<br/> <b>PSD:</b> NA<br/> <b>PSD Avoidance:</b> NA<br/> <b>NC Toxics:</b> NA<br/> <b>112(r):</b> NA<br/> <b>Other:</b> 40 CFR 97 Subpart BBBBB</p> |

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|---|--|---|---|
| <b>Contact Data</b>   |  |   | <b>Application Data</b>   |
| <b>Facility Contact</b>   | <b>Authorized Contact</b>  | <b>Technical Contact</b>  | <p><b>Application Number:</b> 7700070.21A<br/> <b>Date Received:</b> 07/06/2021<br/> <b>Application Type:</b> Modification<br/> <b>Application Schedule:</b> TV-Significant<br/> <b>Existing Permit Data</b><br/> <b>Existing Permit Number:</b> 08759/T22<br/> <b>Existing Permit Issue Date:</b> 08/06/2021<br/> <b>Existing Permit Expiration Date:</b> 07/31/2026</p> |
| Kimberly Kashmer<br>Lead EHS Professional<br>(910) 205-2111<br>198 Energy Way<br>Hamlet, NC 28345 | Antonio Price<br>Station Manager<br>(910) 205-2101<br>198 Energy Way<br>Hamlet, NC 28345 | Erin Wallace<br>Lead Environmental<br>Specialist<br>(919) 546-5797<br>410 South Wilmington<br>Street<br>Raleigh, NC 27601 |   |

**Total Actual emissions in TONS/YEAR:**

| CY   | SO2   | NOX    | VOC   | CO     | PM10   | Total HAP | Largest HAP             |
|------|-------|--------|-------|--------|--------|-----------|-------------------------|
| 2019 | 22.04 | 507.83 | 63.05 | 655.95 | 205.84 | 37.57     | 25.80<br>[Formaldehyde] |
| 2018 | 35.53 | 799.83 | 84.40 | 877.41 | 273.06 | 50.08     | 34.20<br>[Formaldehyde] |
| 2017 | 24.41 | 524.15 | 69.59 | 714.77 | 222.98 | 40.99     | 28.16<br>[Formaldehyde] |
| 2016 | 26.10 | 743.13 | 75.28 | 794.13 | 247.52 | 45.50     | 31.26<br>[Formaldehyde] |
| 2015 | 26.32 | 630.71 | 74.16 | 773.72 | 241.87 | 44.36     | 30.47<br>[Formaldehyde] |

|  |   |
|--|---|
| <p><b>Review Engineer:</b> Ed Martin</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p> | <p style="text-align: center;"><b>Comments / Recommendations:</b></p> <p>Issue 08759/T23<br/> <b>Permit Issue Date:</b> _____<br/> <b>Permit Expiration Date:</b> _____</p> |
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## Chronology

July 6, 2021 The application was received and complete for processing.

### I. Purpose of Application

Duke Energy Progress has requested changes to permit condition 2.1 B.3.i for turbines Unit 7 and Unit 8, and in condition 2.1 F.4.j for turbines Unit 9 and Unit 10 to revise the language for the ammonia injection rates to be used during NO<sub>x</sub> continuous emission monitor system (CEMS) monitor downtime and malfunctions.

These are combined-cycle combustion turbines equipped with selective catalytic reduction systems (SCR), employing ammonia injection to control NO<sub>x</sub> emissions. During initial performance testing, injection rates corresponding to maximum ammonia slip of 10 ppmvd and necessary to meet applicable NO<sub>x</sub> limits were correlated to 50, 70, 85, and 100 percent of peak load.

During normal operations, control logic from the NO<sub>x</sub> CEMS provides input to the ammonia injection system to ensure that the injection rates are adequate to meet applicable NO<sub>x</sub> BACT limits. The current permit language requires that the units inject ammonia corresponding to maximum ammonia slip of 10 ppmvd (that was determined during commissioning) during periods of CEMS monitor downtimes (calibrations, quarterly linearity tests or maintenance) or malfunctions. This practice leads to an over injection of ammonia, resulting in accelerated fouling in the tubes downstream of the SCR and ultimately reduction in heat transfer, efficiency losses, and high costs/downtime incurred for tube cleaning.

NCDAQ sent Duke Energy Progress an applicability determination letter dated December 3, 2020, stating that an application to revise this language would be a 15A NCAC 02Q .0501(c)(1) significant permit modification that would contravene or conflict with a condition in the existing permit. In addition, NCDAQ informed Duke Energy Progress that the change would not trigger a modification under the Prevention of Significant Deterioration regulations.

Specifically, Duke Energy Progress is requesting that the permit language be aligned, both during normal operation and during periods of CEMS monitor downtimes (calibrations, quarterly linearity tests or maintenance) or malfunctions. Aligning this language would clarify the intent of the conditions and reduce the over injection of ammonia.

The current permit condition 2.1 B.3.i for Units 7 and 8 is as follows:

- i. For each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8) compliance with the BACT NO<sub>x</sub> and ammonia limits shall be demonstrated as follows for the selective catalytic reduction (SCR) system:
  - i. The Permittee shall install and operate an ammonia flow meter to measure and record the ammonia injection rate to the SCR system. The ammonia injection rates corresponding to maximum ammonia slip of 10 ppmvd and necessary to comply with the BACT NO<sub>x</sub> limits shall be established (and made available to the Division of Air Quality upon request) during the initial performance tests when firing No. 2 fuel oil and natural gas at 50, 70, 85 and 100 percent of peak load.
  - ii. The SCR shall operate at all times that the turbine is operating except during turbine start-up and shutdown periods to the extent recommended by the manufacturer and operated in a manner so as to minimize ammonia slip.
  - iii. During NO<sub>x</sub> CEM downtimes or malfunctions, the Permittee shall operate at 100% of the ammonia injection rate determined during the performance test as specified in Section 2.1 B.3.i.i for each load range.

Paragraph i.iii above is being revised as follows:

- iii. During NO<sub>x</sub> CEMS downtimes or malfunctions, the Permittee shall operate at the following ammonia injection rates:

- (A) Natural Gas Combustion – at the ammonia injection rate determined during the initial performance test as specified in Section 2.1 B.3.i.i above for each load range. In the case of a missing hour in conjunction with a Calibration Error Test or a Quarterly Linearity Test, the ammonia injection rate for the hour following the test shall be adjusted to the injection rate corresponding to the appropriate load range until a valid data status has been achieved and the CEMS is restored to normal operation.
- (B) No. 2 Fuel Oil Combustion - at 100% of the ammonia injection rate determined during the initial performance test as specified in Section 2.1 B.3.i.i for each load range.

The current permit condition 2.1 F.4.j for Units 9 and 10 is as follows:

- j. In addition to the NO<sub>x</sub> emissions monitoring requirement in Section 2.1 F.4.i above, the Permittee shall comply with the following requirements for NO<sub>x</sub> emissions from the combustion turbines (ID Nos. Unit 9 and Unit 10) when operating in a combined cycle mode of operation:
  - i. The Permittee shall install and operate an ammonia flow meter to measure and record the ammonia injection rate to the SCR system associated with each combustion turbine. The ammonia injection rates corresponding to a maximum ammonia slip of 10 ppmvd and necessary to comply with the NO<sub>x</sub> BACT limits in Section 2.1 F.4.a above shall be established (and made available to the Division of Air Quality upon request) during the performance test in Section 2.1 F.4.c above.
  - ii. The SCR shall operate at all times that the turbine is operating in a combined cycle mode of operation, except during turbine start-up and shutdown periods to the extent recommended by the manufacturer and operated in a manner so as to minimize ammonia slip.
  - iii. During NO<sub>x</sub> CEM downtimes or malfunctions, the Permittee shall inject ammonia at a rate determined (in Section 2.1 F.4.j.i above) to ensure compliance during the performance test in Section 2.1 F.4.c above when the turbines are operating in combined cycle mode.

Paragraph j.iii above is being revised as follows

- iii. During NO<sub>x</sub> CEMS downtimes or malfunctions, the Permittee shall operate at the following ammonia injection rates:
  - (A) Natural Gas Combustion – at the ammonia injection rate determined during the initial performance test as specified in Section 2.1 F.4.j.i above for each load range. In the case of a missing hour in conjunction with a Calibration Error Test or a Quarterly Linearity Test, the ammonia injection rate for the hour following the test shall be adjusted to the injection rate corresponding to the appropriate load range until a valid data status has been achieved and the CEMS is restored to normal operation.
  - (B) No. 2 Fuel Oil Combustion - at 100% of the ammonia injection rate determined during the initial performance test as specified in Section 2.1 F.4.j.i for each load range.

Duke Energy Progress is requesting the new language mirror the following Duke Energy Carolinas - Buck Combined Cycle Facility's air permit No. 03786T36 Section 2.1 A.5.d.iii that contains more specific language regarding ammonia injection during Calibration Error and Quarterly Linearity Tests in order to clarify the methodology for determining ammonia injection rates in these conditions during CEMS downtime and malfunctions:

- iii. During NO<sub>x</sub> CEM downtimes or CEM malfunctions, the Permittee shall operate at the ammonia injection rates shown in paragraph i above. In the case of a missing hour in conjunction with a Calibration Error Test or a Quarterly Linearity Test, the ammonia injection rate for the hour following the test shall be adjusted to the injection rate shown in paragraph i above until a valid data status has been achieved.

Ammonia injection rate curves have been developed based on historical operating data from each unit while combusting natural gas. A specific curve has been developed for each unit and will be programmed into the logic of the control system to be used during times of CEMS monitor downtimes (calibrations, quarterly linearity tests or maintenance) or malfunctions upon issuance of the modified permit.

Duke Energy Progress states that the proposed changes to the permit language are not a physical modification of the combustion turbines nor a change in the method of operation, and would not result in an allowance for emission rates that are higher than those included in the original permit application for the project.

This change 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)(1).

In addition, this change being a significant permit modification going through public notice, DAQ is making the following two permit changes:

1. To show water injection as a control device in the Section 1 table of permitted emission sources (see Section IV.B below).
2. In addition, DAQ has concluded that the previously applicable requirements of the Cross-State Air Pollution Rule in Subpart BBBBB of 40 CFR 97 for ozone season NOx for the Title V permits for all affected units in NC no longer apply and will be removed (see Section IV below).

There are no changes to any equipment.

## II. Permit Changes

The following changes were made to Air Quality Permit No. 08759T22:

| Page*       | Section*                               | Change  |
|-------------|--|---|
| Throughout  | Throughout                             | Amended permit numbers and dates.   |
| 3-4         | 1, table of permitted emission sources | Added “water injection when firing No. 2 fuel oil” in the control device column for Unit 1 through Unit 4, and Unit 6; Unit 7 and Unit 8; and Unit 9 and Unit 10. |
| 5           | 2.1 A, regulation table                | Removed Cross State Air Pollution Rule 40 CFR Part 97, Subpart BBBBB.   |
| 13 old page | 2.1 A.4.i.ii.(A) old section           | Removed option to determine nitrogen oxide emissions according to the requirements of 40 CFR Part 75 Appendix E.  |
| 16          | 2.1 B, regulation table                | Removed Cross State Air Pollution Rule 40 CFR Part 97, Subpart BBBBB.   |
| 22          | 2.1 B.3.i                              | Revised the language for the ammonia injection rates to be used during NOx CEMS monitor downtime and malfunctions for turbines Unit 7 and Unit 8.                 |
| 32          | 2.1 F, regulation table                | Removed Cross State Air Pollution Rule 40 CFR Part 97, Subpart BBBBB.   |
| 42-43       | 2.1 F.4.j                              | Revised the language for the ammonia injection rates to be used during NOx CEMS monitor downtime and malfunctions for turbines Unit 9 and Unit 10.                |
| 55          | 2.4                                    | Removed “Federal-Enforceable Only” designation.<br><br>Removed Cross State Air Pollution Rule 40 CFR Part 97, Subpart BBBBB.                                      |

## III. Facility Description

The Richmond County Combustion Turbine Facility is part of the Smith Energy Complex located south of Hamlet in Richmond County. DEP currently operates five dual-fuel simple-cycle combustion turbines (SCCTs), Units 1 through 4 and 6; two dual-fuel combined-cycle combustion turbines (CCCTs), Units 7 and 8; two dual-fuel simple/combined cycle combustion turbines (Units 9 and 10), and other ancillary

support equipment. The five SCCTs are GE 7FA.03 units that fire primarily natural gas, with 0.05% sulfur No. 2 fuel oil as backup. Each SCCT is equipped with dry-low-NOx combustors for natural gas and uses water injection for NOx control when firing fuel oil. The two CCCTs are each equipped with a heat recovery steam generator and a steam turbine, have dry-low-NOx combustors for natural gas, and use water injection for NOx control when firing fuel oil. The two simple/combined cycle units have dry low-NOx combustors for natural gas and use water injection for NOx control when firing fuel oil. The facility also has multiple fuel oil storage tanks, cooling towers, a natural gas-fired auxiliary boiler, multiple natural gas-fired heaters, and an emergency diesel-fired fire water pump.

**IV. Regulatory Evaluation**

**A. Ammonia Injection Requirements**

The ammonia injection requirements are part of NCDAQ’s monitoring and recordkeeping requirements to ensure compliance with the BACT emission limits.

**B. Showing Water Injection as a Control Device in the Section 1 Table of Permitted Emission Sources**

In an August 26, 2021 email to Erin Wallace (after Duke had reviewed the draft permit with no comments on August 25, 2021), Duke was informed that two possible related changes to the draft permit may be needed. One issue is a comment on the draft permit from SSCB (see Section VII below) that, if Duke plans to use Part 75 Appendix E (and it remains in the permit) as an option for compliance with the NOx BACT limit in Section 2.1 A.4.i.ii.(A) for the simple-cycle turbines, the data substitution requirements for Appendix E would need to be added to the permit.

The other issue is that, because water injection is used at several Duke facilities for NOx control, DAQ has surveyed permits for all Duke’s turbine facilities and determined which permits list water injection in the Section 1 table (regardless of it being shown elsewhere in the permit) and which do not so that changes among all facilities can be consistent. The concern is that by not being listed in the Section 1 table, it apparently has not been considered as a “control device.” These two issues are related because, if Appendix E can be used as an option in the permit for monitoring NOx emissions when using water injection for NOx control, a Compliance Assurance Monitoring (CAM) evaluation would be triggered as Appendix E is not continuous compliance determination method (CCDM) exemption under CAM.

The following table shows the Duke facilities with an Appendix E option for NOx monitoring (PSD or PSD avoidance). Other than Lincoln (which is currently being revised), only the peaking units (SC) at Richmond and Lee pose a possible problem with respect to a CAM trigger issue as it stands today if water injection is to be listed as a Control Device, since all other turbines are required by permit to use CEMS (which qualifies as a CCDM).

| Facility   | Unit IDs   | Turbine Type (simple or combined cycle) | Uses water injection? | Water injection listed as a Control Device? | Currently using CEMS for NOx? | Is Appendix E allowed?   | Is CAM needed if Appendix E remains an option? |
|------------|------------|---|-----------------------|---|-------------------------------|--------------------------|--|
| Richmond   | 1-5        | SC                                      | Yes                   | No  | Yes                           | <b>Yes, as an option</b> | <b>Yes</b>                                     |
|            | 7, 8       | CC                                      | Yes                   | No  | Yes                           | No                       | No   |
|            | 9, 10      | CC                                      | Yes                   | No  | Yes                           | No                       | No   |
| Lee        | 10-13      | SC                                      | Yes                   | No  | Yes                           | <b>Yes, as an option</b> | <b>Yes</b>                                     |
|            | 14         | SC                                      | Yes                   | No  | Yes                           | No                       | No   |
|            | 1A, 1B, 1C | CC                                      | Yes                   | No  | Yes                           | No                       | No   |
| Sutton     | 1A, 1B     | CC                                      | Yes                   | No  | Yes                           | No                       | No   |
|            | 4, 5       | SC                                      | Not known             | No  | Yes                           | No                       | No   |
| Rockingham | 1-5        | SC                                      | Yes                   | No  | Yes                           | No                       | No   |

|         |      |    |     |     |    |     |    |
|---------|------|----|-----|-----|----|-----|----|
| Lincoln | 1-16 | SC | Yes | Yes | No | No* | No |
|         | 19   | SC | No  | No  | -- | --  | -- |

\* Lincoln CAM Plan is currently under review to correct using Appendix E as a CCDM instead of monitoring water-to-fuel ratio because water injection is already listed as a control device.

On September 3, 2021, DAQ informed Duke in an email to Erin Wallace that, in addition to water injection, now shown as NOx control throughout the Richmond permit when burning fuel oil, water injection will also correctly be shown that is a control device in the “Control Device Description” column in Section 1 for all nine turbines.

On September 8, 2021, Duke was asked whether they would consider removing the Appendix E option for monitoring NOx emissions from the five simple-cycle turbines since that option does not appear ever to have been used. The permit requires NOx CEMS for NSPS Subpart KKKK monitoring and they have also been using the NOx CEMS option to comply with the BACT limits.

On September 9, 2021, Duke notified DAQ that they are comfortable removing the Appendix E language for the Richmond County simple-cycle turbines as they are equipped with NOx CEMS.

Therefore, the Appendix E option is being removed and by only using CEMS to monitor NOx emissions, this qualifies as the CCDM exemption in 40 CFR 64.2(b)(1)(vi) and a CAM plan is not needed.

C. Removal of CSAPR NOx Ozone Season (Subpart BBBBB) Trading Program Requirements Background

The EPA established the original Cross-State Air Pollution Rule (CSAPR or “Transport Rule”)<sup>1</sup> to address the interstate transport of emissions with respect to the 1997 ozone National Ambient Air Quality Standards (NAAQS) and the 1997 and 2006 fine particulate matter (PM2.5) NAAQS. This CSAPR was a federal implementation plan (FIP), requiring the upwind states to eliminate their “significant” contributions to the downwind states’ non-attainment of these pollutants. With regard to the NOx ozone season trading program under this rule, EPA required NOx reductions in two phases (Phase 1 and Phase 2) for the affected states including NC.

Then the EPA finalized the CSAPR Update (CSAPR Update)<sup>2</sup> to address the interstate transport of emissions with respect to the 2008 ozone NAAQS. Through this rulemaking, EPA determined that NC did not contribute significantly to nonattainment in or interference with maintenance for the 2008 ozone standard for any downwind states<sup>3</sup>. Thus, EPA did not finalize the FIP for NC for this NAAQS, because the EPA’s analysis supporting the final rule did not indicate that NC was linked to any identified downwind nonattainment or maintenance receptors with respect to the 2008 ozone standard<sup>4</sup>.

In addition, because the 2008 ozone NAAQS is more stringent than the 1997 ozone NAAQS, EPA concluded that North Carolina was not linked to any remaining air quality concerns with respect to the 1997 ozone standard for which the state was regulated in the original CSAPR as above<sup>5</sup>.

Addressing the D. C. Circuit Court<sup>6</sup> remand with respect to NC’s Phase 2 NOx budget under the 1997 ozone standard, EPA concluded that the emissions from the state did not significantly contribute to nonattainment or interfere with maintenance of either the 1997 ozone NAAQS or 2008 ozone NAAQS in other states, and removed the state from the CSAPR ozone season trading program beginning in 2017 when the Phase 2 ozone season emission budget was scheduled to be implemented<sup>7</sup>.

Accordingly, starting with the 2017 ozone season, NC was no longer subject to the CSAPR NOx ozone

<sup>1</sup> 76 FR 48208 (August 8, 2011).

<sup>2</sup> 81 FR 74504 (October 26, 2016).

<sup>3</sup> 81 FR 74506, 74507.

<sup>4</sup> Id., 81 FR 74524.

<sup>5</sup> Id.

<sup>6</sup> *EME Homer City Generation, L.P., v. EPA*, No. 795 F.3d 118, 129–30, 138, July 28, 2015.

<sup>7</sup> Id.

season trading program requirements (40 CFR 97 Subpart BBBBB) and electric generating units (EGUs) in the state were not allocated further allowances by EPA nor obligated to demonstrate compliance with CSAPR NOx ozone season requirements<sup>89</sup>.

Even for the more stringent 2015 ozone NAAQS, EPA proposed<sup>10</sup> to approve NC's State Implementation Plan (SIP), concluding that North Carolina sources would not significantly contribute to nonattainment or interfere with maintenance of the 2015 ozone NAAQS in any other state. EPA supplemented<sup>11</sup> this approval with the updated modeling analysis based on the most current and technically accurate information, supporting its finding that NC's implementation plan contained adequate measures to prohibit emissions that would significantly contribute or interfere with the maintenance of the 2015 ozone standard in any other states.

#### DAQ Title V Permitting

DAQ included the original CSAPR requirements in Title V permits for all affected units in NC, including the combustion turbines (ID Nos. Unit 1 through Unit 4 and Unit 6 through Unit 10) at the Richmond County Combustion Turbine Facility, after the US Supreme Court<sup>12</sup> upheld the CSAPR. Specifically, DAQ included in the permits the CSAPR trading programs requirements for annual NOx (40 CFR 97 Subpart AAAAA), ozone season NOx (Subpart BBBBB), and annual SO<sub>2</sub> (Subpart CCCCC).

#### Conclusion

With EPA's removal of NC ozone season NOx reductions requirements for the 1997 ozone NAAQS and EPA's determination that NC is not subject to ozone season NOx reductions requirements for 2008 ozone NAAQS, the DAQ will revise the Title V permits for all affected units in NC under the original CSAPR by removing the previously applicable requirements in Subpart BBBBB (40 CFR 97) for ozone season NOx.

### **V. Public Notice**

Pursuant to 15A NCAC 02Q .0521, a notice of the draft Title V Operating Permit will be published on the NCDAQ 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 Fayetteville Regional Office, and to the Permittee.

### **VI. Other Requirements**

#### PE Seal

NA. No controls are being added that requires a PE seal.

#### 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 the Draft Permit**

The draft permit and review were sent to Erin Wallace at DEP, to Evangelyn Lowery-Jacobs at FRO and to Samir Parekh with SSCB on August 20, 2021.

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<sup>8</sup> 81 FR 74555.

<sup>9</sup> States that are Affected by the Cross-State Air Pollution Rule (CSAPR) | US EPA (<https://www.epa.gov/csapr/states-are-affected-cross-state-air-pollution-rule-csapr>) and 40 CFR 97.510(a)(16).

<sup>10</sup> 84 FR 71854 (December 30, 2019).

<sup>11</sup> 86 FR 37942 (July 19, 2021).

<sup>12</sup> *EPA v. EME Homer City Generation, L. P.*, No. 12-1182, Decided April 29, 2014.

SSCB Comments (email to Ed Martin from Samir Parekh dated August 24, 2021)

SSCB had no comments on the ammonia injection rates. However, Samir included the following comments to be considered with this modification:

1. In the section 1 Table - The turbines equipped with water injection are described as uncontrolled. The water injection should be considered as a control device. (This item had recently been discussed and was in the process of being considered (see Section IV.B above))
2. The permit condition 2.1-A.4.i.ii appears to provide option to use Part 75 App E or CEMS. During last modification, we added data substitution requirements when CEMS is used. If Duke plans to use Part 75 App E to comply with this condition, then we may have to add data substitution requirements for using Part 75 App E.

DEP has agreed that Appendix E for the simple-cycle turbines can be removed from this section (see Section IV.B above)

DEP Comments (emails to Ed Martin from Erin Wallace dated August 25, 2021 and September 28, 2021)

DEP had no comments on August 25, 2021. However, the draft permit was re-sent to DEP to review the changes made in the meantime, as discussed in the SSCB comments above and in Section IV.B above, to add “water injection when firing No. 2 fuel oil” in the control device column for all nine turbines; and to remove the Appendix E option for NOx monitoring for the five simple-cycle turbines. DEP had no comments on September 28, 2021 for these changes.

FRO Comments (email to Ed Martin from Evangelyn Lowery-Jacobs dated August 27, 2021)

FRO had no comments.

**VIII. Recommendations**

TBD