Ceron, Heather

From: Thaker, Rahul <rahul.thaker@ncdenr.gov>
Sent: Monday, December 02, 2013 9:56 AM
To: Ceron, Heather
Cc: Evans, John; Vandervaart, Donald
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Heather:

The 45-day review period for EPA ends today (12/2/2013). The facility is asking DAQ on whether there is any comment from EPA on this Title V permit revision. Please see my previous email (11/22/13) copied below on this matter.

Let us know soon.

Thanks.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
Permitting Section
NCDENR Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: 919-707-8740
www.ncair.org
rahul.thaker@ncdenr.gov

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From: Thaker, Rahul
Sent: Friday, November 22, 2013 11:17 AM
To: Ceron.Heather@epamail.epa.gov
Cc: Evans, John; Vandervaart, Donald
Subject: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Hello Heather:

We have received EPA comments on the draft Title V permit and preliminary determination, approving the PSD project. Specifically, we have received EPA letters dated November 6 and 13, 2013. These letters include comments pertaining to the PSD program. We are asking you if EPA has any additional comments with respect to the Title V program standpoint?

Let us know.

Thanks.

Rahul

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Environmental Engineer
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Ceron, Heather

From: Thaker, Rahul <rahul.thaker@ncdenr.gov>
Sent: Friday, January 31, 2014 11:19 AM
To: Ceron, Heather
Cc: Evans, John; Twisdale, Jeff
Subject: Duke Energy Progress Richmond County Combustion Turbine Facility, Hamlet, NC - Air Permit No. 08759T15 - Title V Petition from BREDL Dated January 17, 2014

Follow Up Flag: Follow up
Flag Status: Completed

Heather:

I am writing to you in reference to a petition (dated January 17, 2014) filed by Blue Ridge Environmental Defense League (BREDL) ("third party") to object an air permit 08759T15, issued on November 21, 2013, by the NCDAQ, to Duke Energy Progress, Richmond County Combustion Turbine Facility, Hamlet, NC.

There appears to be some confusion that I hope this e-mail clarifies. BREDL objected to air permit 08759T15 (hereinafter "PSD/Title V"). This permit was issued on December 3, 2013 following the close of the 30 day public comment period and EPA's 45 day review period.[1] No public comments were received during the comment period. This permit was a PSD project that authorized increased gas usage at the existing five simple cycle CT units.

At around the same time we had a separate draft/proposed permit out to notice for Title V significant modification as well some changes like taking out the state-only NOx BACT limit and removing some equipment tha Duke/Progress do not own or operate (hereinafter "Title V Significant Modification"). Unfortunately, because o our data system, the draft/proposed permit was also referred to as 08759T15. BREDL did comment on thi draft/proposed permit and therefore, consistent with our agreement on parallel processing of notice periods, thi draft/proposed permit was taken off the parallel track. We will respond to BREDL's comments and intend o sending a proposed permit to your office in the near future.

The issues raised by BREDL in their January 17th Petition are the same issues they raised during the comme period to the Title V Significant Modification application. Because we have not yet sent your office a propos permit for the Title V Significant Modification application and the issues raised by BREDL deal only with t Title V Significant Modification, we believe that BREDL's petition is premature. (For example, BREDI petition objects to the removal of the six gas heaters that are owned and operated by the gas company and r Duke/Progress. The current effective permit still contains these emission units on the permit. It is true that t draft permit does include our conclusion that the units can be removed. However, we will not remove these un until after we send your agency a proposed permit and the 45-day period runs.)

As can be seen above explanation, there were two separate applications being processed by DAQ at the same ti with the same permit number (08769T15), so it is easy to where there is confusion. We sent a similar clarificat to BREDL as some point prior to their petition although it did not seem to do any good.

[1] To further complicate the matter procedurally, the 30-day comment period for "PSD/Title V" application ended on November 17, 2013 and the EPA's 45-day review ended on December 2, 2013. DAQ inadvertentl issued the 08759T15 permit (November 21, 2013) before the end of EPA's 45-day review period (December

2013). We immediately noted the timing error and subsequently reissued the permit (08759T16) on December 3, 2013, after the close of 45-day review period.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
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Ceron, Heather

From: Evans, John <john.c.evans@ncdenr.gov>
Sent: Friday, January 31, 2014 4:01 PM
To: Ceron, Heather; Thaker, Rahul
Cc: Twisdale, Jeff
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility, Hamlet, NC - Air Permit No. 08759T15 - Title V Petition from BREDL Dated January 17, 2014

Heather – I would like to call you next week to discuss. Thanks.

From: Ceron, Heather [mailto:Ceron.Heather@epa.gov]
Sent: Friday, January 31, 2014 1:36 PM
To: Thaker, Rahul
Cc: Evans, John; Twisdale, Jeff
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility, Hamlet, NC - Air Permit No. 08759T15 - Title V Petition from BREDL Dated January 17, 2014

Thank you for explanation. I will forward on to our legal folks.

From: Thaker, Rahul [mailto:rahul.thaker@ncdenr.gov]
Sent: Friday, January 31, 2014 11:19 AM
To: Ceron, Heather
Cc: Evans, John; Twisdale, Jeff
Subject: Duke Energy Progress Richmond County Combustion Turbine Facility, Hamlet, NC - Air Permit No. 08759T15 - Title V Petition from BREDL Dated January 17, 2014

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Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
Permitting Section
NCDENR Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: 919-707-8740
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Ceron, Heather

From: Hash, Kathy <kathy.hash@ncdenr.gov>
Sent: Tuesday, October 15, 2013 5:14 PM
To: Vozzo, Steven; Moser, Jim; teresa.wilson@duke-energy.com; affected County Buncombe; barnetwm@forsyth.cc; Jason.rayfield@mecklenburgcountync.gov; affected State Georgia; affected state South Carolina; affected State Tennessee; affected State Virginia; Purvis, James; Shepherd, Lorinda; Ceron, Heather; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party (reservation); NCDENR.DENR.DAQ.Ask_IBEAM
Cc: Thaker, Rahul
Subject: Public Notice Documents for Duke Energy Progress 7700070.12B
Attachments: Draft Air Permit Duke 08759T15.pdf; Draft Air Permit Review Duke 08759T15.pdf; Letter to Applicant Duke.pdf; Letter to EPA Duke.pdf; Letter to Region Duke.pdf; Public Notice for Duke.pdf

Hello,
Please Find attached documents pertaining to the subject application for your review and comments.
Engineer : Rahul Thaker
Newspaper: Richmond County Daily Journal
Date of publication for Public Notice October 18, 2013
Public Comment period ends November 17, 2013
EPA Comment period ends December 2, 2013
Please let me know if you have any questions regarding this matter.
Webmaster, Please place appropriate documents on DAQ website.
Thanks,
Kathy

Kathy Hash, Info Processing Assistant
NC DENR, Division of Air Quality
Permits Section 4430-I
1641 Mail Service Center, Raleigh NC 27699-1641
Phone/Fax: 919-707-8734
kathy.hash@ncdenr.gov
www.ncair.org

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****

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Air Quality

Pat McCrory
Governor

Sheila C. Holman
Director

John E. Skvarla, III
Secretary

xx

Ms. Teresa Wilson
Station Manager
Duke Energy Progress, Inc.
Richmond County Combustion Turbine Facility
198 Energy Way
Hamlet, NC 28345

Dear Ms. Wilson:

SUBJECT: Air Quality Permit No. 08759T15
Facility ID: 7700070
Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Richmond County Combustion Turbine Facility
Hamlet, North Carolina
Richmond County
Fee Class: Title V

In accordance with your completed Air Quality Permit Application for a significant modification of a Title V permit received December 3, 2012, we are forwarding herewith Air Quality Permit No. 08759T15 to Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, Hamlet, Richmond County, North Carolina authorizing the construction and operation, of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 2Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

As the designated responsible official it is your responsibility to review, understand, and abide by all of the terms and conditions of the attached permit. It is also your responsibility to ensure that any person who operates any emission source and associated air pollution control device subject to any term or condition of the attached permit reviews, understands, and abides by the condition(s) of the attached permit that are applicable to that particular emission source.

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. This hearing request must be in the form of

Permitting Section
1641 Mail Service Center, Raleigh, North Carolina 27699-1641
217 West Jones Street, Raleigh, North Carolina 27603
Phone: 919-707-8405 / Fax: 919-715-0717
Internet: www.ncair.org
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a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with both the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.

You may request modification of your Air Quality Permit through informal means pursuant to NCGS 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of GS 143-215-108A(b) and received written approval from the Director of the Division of Air Quality to commence construction. Failure to receive an Air Quality Permit or written approval prior to commencing construction is a violation of GS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in GS 143-215.114A and 143-215.114B.

This Air Quality Permit shall be effective from xx until March 31, 2016, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

The changes made to the permit are summarized in the attachment to this letter. Should you have any questions concerning this matter, please contact Rahul P. Thaker, P.E., QEP, at (919) 707-8740.

Sincerely yours,

Donald R. van der Vaart, Ph.D., J.D., P.E.
Chief

Enclosure

c: Heather Ceron, EPA Region 4
Fayetteville Regional Office
Central Files

Attachment
Insignificant Activities

Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Richmond County Combustion Turbine Facility

Emission Source I.D.	Emission Source Description	Regulatory Basis for Exemption
I-2	Seven, 6,200 gallons each, lube oil reservoirs	2Q .0503(8)
I-3	Seven, 500 gallons each, false start drain tanks	2Q .0503(8)
I-4	Seven, 5,000 gallons each, CT wash tanks	2Q .0503(8)
I-6	One 3,857 gallons steam turbine lube oil reservoir	2Q .0503(8)
I-7	One 281 gallons steam turbine oil drain tank	2Q .0503(8)
I-8	One 316 gallons steam turbine seal oil vacuum tank	2Q .0503(8)
I-9	Three, 200 gallons each, fuel gas coalescer drain tanks	2Q .0503(8)
I-10	One 100 Gallon Portable Diesel Tank	2Q .0503(8)
I-11	One 300 Gallon Diesel Tank	2Q .0503(8)
I-12	One 300 Gallon Gasoline Tank	2Q .0503(8)

Attachment

Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Richmond County Combustion Turbine Facility

The following changes were made to the Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, Air Quality Permit No. 08759T14:

Old Page No. [Air Permit No. 08759T14]	**New Page No.** [Air Permit No. 08759T15]	**Condition No.**	**Changes**
Insignificant Activity List	Insignificant Activity List	Attachment to the Cover Letter	Remove source I-5 as per the inspection report.
Entire Permit	Entire Permit	-	Replace the Testing stipulation citation from 2D .2601 to 2Q .0508(f).
5	5	Section 2.1 A. Table	Remove the applicability of 2D .1112 and replace it with 2D .1111.
9	9	Section 2.1 A.3.a.	Revise the Table to include BACT limits in ppm for natural gas burning and as per the approval of this application 7700070.12B. Remove the BACT for opacity. Include GHG BACT.
10	10	Section 2.1 A.3.b.	Revise this Table to include the annual emissions attributable to the additional 6760 hours of natural gas firing for each simple cycle turbine (Units 1 through 4 and 6) as per this application.
10	10	Section 2.1 A.3.e.	Remove the restriction of 2000 hours of annual usage for each of the simple cycle turbines (Units 1 through 4 and 6).
11	11	Section 2.1 B. Table	Remove the applicability of 2D .1112 and replace it with 2D .1111.
16	16	Section 2.1 B.3.b.	Revise this Table to include the annual emissions attributable to the additional 6760 hours of natural gas firing for each simple cycle turbine (Units 1 through 4 and 6) as per this application.
23	22	Section 2.1 F. Table	Correct the reference for CAIR applicability - The requirements for units ES-13 and ES-14 are not part of the CAIR requirements for other units 1 through 8. CAIR language for ES-13 and ES-14 is in Section 2.1 F.7.
-	39	Section 2.1 F.7.	Insert permit language in 2D .2400.
52	-	Section 2.2 A.	Remove this Section as it is not applicable now.
53	51	Section 2.3	Renumber it to Section 2.2 and include the applicability of Units 13 and 14 as per the Phase II application attachment.
54	52	Section 2.4	Renumber it to section 2.3.
54	54	Section 3	Revise the General Conditions.

State of North Carolina
Department of Environment
and Natural Resources

Division of Air Quality

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date*	Expiration Date*
08759T15	08759T14	xx	March 31, 2016

* Effective dates for the Phase II Acid Rain portion of this permit are from January 1, 2010 to December 31, 2014

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 2D and 2Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 2Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

Permittee:	Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Facility ID:	7700070
Facility Site Location: City, County, State, Zip:	198 Energy Way Hamlet, Richmond County, NC 28345
Mailing Address: City, State, Zip:	198 Energy Way Hamlet, NC 28345
Application Number: Complete Application Date: Primary SIC Code:	7700070.12B December 3, 2012 4911
Division of Air Quality Regional Office Address:	Fayetteville Regional Office 225 Green Street, Suite 714, Fayetteville, NC 28301

Permit issued this the xx.

Donald R. van der Vaart, Ph.D., J.D., P.E., Chief, Air Permits Section
By Authority of the Environmental Management Commission

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2.2 - Phase II Acid Rain Permit Requirements
2.3 - Clean Air Interstate Rules (CAIR) Permit Requirements

SECTION 3: GENERAL PERMIT CONDITIONS

ATTACHMENT
List of Acronyms
Acid Rain Permit Application dated December 14, 2009
CAIR Permit Application dated June 26, 2007

SECTION 1- PERMITTED EMISSION SOURCE (S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE (S) AND APPURTENANCES

The following table contains a summary of all permitted emission sources and associated air pollution control devices and appurtenances:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Units 1 through 4, and Unit 6 **PSD** **NSPS Subpart GG**	Five natural gas/No. 2 fuel oil-fired simple-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NOx control	N/A	No Controls
Unit 7 and Unit 8 **PSD** **NSPS Subpart GG**	Two natural gas/No. 2 fuel oil-fired combined-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with a heat recovery steam generator and a steam turbine, and dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NOx control	Unit 7 SCR Unit 8 SCR	Selective Catalytic Reduction
TK-1 and TK-2 **PSD**	Two, No. 2 fuel oil, fixed-roof storage tanks (not to exceed 5 million gallons capacity each, actual capacity 3.1 million gallons each) with atmospheric vents.	N/A	No Controls
Tower 4 **PSD**	One cooling tower with drift eliminators (123,220 gallons per minute recirculating water flow rate)	N/A	No Controls
ES-10 **PSD** **NSPS Subpart Dc** **2D .1109 Case-by-Case MACT**	One natural gas fired auxiliary boiler (16.74 million Btu per hour nominally rated heat input)	N/A	No Controls
ES-13 and ES-14 **PSD** **NSPS Subpart KKKK** **MACT Subpart YYYY**	Two natural gas/No. 2 fuel oil-fired simple/combined cycle internal combustion turbines, each equipped with a heat recovery steam generator, dry Low-NO_x combustors and water injection control, both equipped with a common steam turbine Simple-cycle mode of operation: 2,084 million Btu per hour heat input rate each when firing natural gas 1,983 million Btu per hour heat input rate each when firing No. 2 fuel oil Combined-cycle mode of operation: 2,225 million Btu per hour heat input rate each for gas turbine when firing natural gas and 390 million Btu per hour heat input rate each for duct burner when firing natural gas 1,983 million Btu per hour heat input rate each for gas turbine when firing No. 2 fuel and no duct burner firing in each heat recovery steam generator when firing No. 2 fuel oil	CD13-SCR and CD14-SCR	Selective Catalytic Reduction (applicable for combined-cycle mode of operation only)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-15 **PSD** **NSPS Subpart Dc** **2D .1109 Case-by-Case MACT**	One natural gas-fired auxiliary boiler (16.74 million Btu per hour heat input rate)	N/A	No Controls
ES-16, ES-17 and ES-18 **PSD** **2D .1109 Case-by-Case MACT**	Three natural gas-fired fuel gas heaters (5 million Btu per hour heat input rate each)	N/A	No Controls
ES-19 **2D .1109 Case-by-Case MACT**	One 2.6 million Btu/hr, natural gas dew point heater for ES-13	N/A	No Controls
ES-20 **2D .1109 Case-by-Case MACT**	One 2.6 million Btu/hr, natural gas dew point heater for ES-14	N/A	No Controls
ES-21, ES-22, and ES-23 **2D .1109 Case-by-Case MACT**	Three natural gas-fired fuel gas heaters (8.75 million Btu per hour heat input rate each)	N/A	No Controls
Tower5 **PSD**	One multi-cell cooling tower with drift eliminators (150,000 gallons per minute recirculation water flow rate)	N/A	No Controls
TK-5 **PSD**	One No. 2 fuel oil fixed-roof storage tank with atmospheric vents (not to exceed 3.5 million gallons capacity)	N/A	No Controls

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Source(s) and Control Devices(s) Specific Limitations and Conditions

The emission source(s) and associated air pollution control device(s) and appurtenances listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Five natural gas/No. 2 fuel oil-fired simple-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NO_X control (ID Nos. Unit 1, Unit 2, Unit 3, Unit 4, and Unit 6)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions	15A NCAC 2D .0524 (40 CFR Part 60 Subpart GG)
Various	As defined in specific conditions	15A NCAC 2D .0530
Hazardous Air Pollutants	No requirements	15A NCAC 2D .1111 (40 CFR 63 Subpart YYYY)
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions See Section 2.3	15A NCAC 2D .2400 (40 CFR Part 96)
Sulfur Dioxide Nitrogen Oxides	Phase II Acid Rain Permit Requirements See Section 2.2	15A NCAC 2Q .0402

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source shall not be more than **20 percent opacity** (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

c. To assure compliance, the Permittee shall perform a Method 9 test for 1 hour using a pre-approved protocol to be submitted in accordance with General Condition JJ before the source operates more than 1100 hours using No. 2 fuel oil. This monitoring procedure shall be repeated before each subsequent 1100 hours of operation, from the time of the last test, using No. 2 fuel oil. If the results of this test are above the limit given in Section 2.1 A.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .0508(f)]

d. The Permittee shall keep records of the hours and associated dates, when these sources are in operation, and the dates and results of performance of Method 9 tests. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

e. The Permittee shall submit the results of the Method 9 test within 30 days of completion of the test or at the end of the quarter. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART GG)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 2D .0524, "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60, Subpart GG, including Subpart A "General Provisions."[15A NCAC 2D .0524]

b. **NSPS Emissions Limitations** - As required by 15A NCAC 2D .0524, the following permit limits shall not be exceeded:

AFFECTED FACILITY	POLLUTANT	EMISSION LIMIT
Combustion Turbines (ID Nos. Unit 1- 4, and Unit 6)	Nitrogen Oxides	STD* = 0.0075 x [(14.4) / Y**] + F***
	Sulfur Dioxide	0.015 percent by volume**** or 0.8 percent weight sulfur in fuel

* STD = allowable nitrogen oxide emissions in percent by volume at 15 percent O_2 on a dry basis.
** Y = manufacturer's rated heat rate at manufacturer's rated load or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. Y shall not exceed 14.43 kJ/w-h.
*** F = NOx emission allowance for fuel bound nitrogen as defined in 40CFR60.332(a)(3).
**** Allowable sulfur dioxide emissions at 15 percent O_2 on a dry basis.

Testing [15A NCAC 2Q .0508(f)]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.2. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. In addition to any other monitoring requirements of the EPA, the Permittee is required to monitor the following:
   i. The sulfur content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(b) to demonstrate compliance with the sulfur dioxide standard in 40 CFR 60.333, using the test methods and procedures in 40 CFR 60.335, except as follows:
      1. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(b)(1)), the Permittee may sample each tank to determine sulfur content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for sulfur content in accordance with 40 CFR Part 75, Appendix D.
      2. When firing natural gas, the procedures from 40 CFR Part 75, Appendix D shall be used to sample and analyze for sulfur content.

   If the sulfur content of the fuel burned in each combustion turbine is not monitored as specified above or the sulfur dioxide emission rate of combustion turbine is above the limit given in Section 2.1.A.2.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

e. The Permittee shall demonstrate compliance with the NOx emissions limit through one of the alternative compliance methods (A or B) described below. Compliance Alternative B as provided for in 40 CFR 60.334(b), shall be the mandatory method for compliance demonstration if at any time a unit is subject to Acid Rain provisions and is no longer classified as a "peaking unit" under 40 CFR 72.2.

   Alternative A
   i. The nitrogen content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the nitrogen oxides standard as specified in 40 CFR 60.332, using the test methods and procedures in 40 CFR 60.335, except as follows:
      1. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine nitrogen content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for nitrogen content in accordance with ASTM Method D4629.
      2. Monitoring of fuel nitrogen content shall not be required while pipeline natural gas is the only fuel being fired in the combustion turbines.
   ii. As required by 40 CFR 60.334(a), using the test methods and procedures in 40 CFR 60.335(c)(2), for each combustion turbine, a continuous monitoring system shall be installed and operated to monitor and record fuel consumption and the ratio of water-to-fuel being fired. The monitoring device shall be calibrated and maintained in accordance with the manufacturer's specifications. This system shall be accurate to within 5.0 percent and must be approved by the DAQ prior to installation.

   Alternative B
   i. The Permittee shall demonstrate compliance with the NOx emission limit using a continuous emission monitoring system (CEMS) installed, certified, maintained, operated, and quality-assured in accordance with 40 CFR Part 75. The missing data substitution methodology provided in 40 CFR 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in 40 CFR 60.7(c). A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NOx concentration or diluents (or both). The CEMS shall comply with all applicable requirements of 40 CFR 60.334 and 40 CFR 75. If the CEMS does not comply with the applicable requirements of 40 CFR 60.334 and 40 CFR 75, or the NOx emissions from these turbines exceed the emission limits set forth in 40 CFR 60.332, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

   If the nitrogen content of the fuel burned in each combustion turbine is not monitored as specified above or the nitrogen oxides emission rate of any combustion turbine is above the limit given in Section 2.1.A.2.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Reporting [15A NCAC 2Q .0508(f)]

f. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and

malfunction.

g. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being fired exceeds 0.8 percent by weight.

h. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for nitrogen oxides shall be reported:

   i. For any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332 by the performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in 40 CFR 60.8.

   ii. Where the Permittee has elected to install a CEMS according to Alternative B of 2.1.A.2.e above, reporting shall be in accordance with 40 CFR 60.334(j)(1)(iii). Data must be reduced to hourly averages as specified in 40 CFR 60.13(h). An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NOx concentration exceeds the applicable emission limit in Section 2.1.A.2.b. A "4-hour rolling average NOx concentration" is the arithmetic average of the average NOx concentration measured by the CEMS for a given hour (corrected to 15 percent O2 and, if required under 40 CFR 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NOx concentrations immediately preceding that unit operating hour. Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst-case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of 40 CFR 60.335(b)(1). The Permittee shall comply with all applicable reporting requirements of 40 CFR 60.334.

i. The Permittee shall submit in writing the excess emissions of sulfur dioxide and nitrogen oxides as well as the sulfur content and fuel-bound nitrogen content of the No. 2 fuel oil fired in the combustion turbines and the number of hours of operation of each combustion turbine by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

i. Short term maximum emission rates for each simple-cycle combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) shall not exceed:

AFFECTED SOURCE	REGULATED NSR POLLUTANT	BACT Limits[a]		Control Description
		Natural Gas	No. 2 Fuel Oil	
Combustion Turbines (ID Nos. Unit 1-4, and Unit 6), per turbine	Nitrogen Oxides as NO_2	10.5 ppmvd[b] [CEM: 24 hour rolling average][c]	42 ppmvd[b] [CEM: 24 hour rolling average][c]	Natural Gas: Dry-Low NOx Fuel Oil: Water Injection
	Sulfur Dioxide	0.0006 lb/MMBtu [Stack Test: 3 hour average]	0.054 lb/MMBtu [Stack Test: 3 hour average]	0.05% Sulfur Fuel Oil
	Carbon Monoxide	9 ppmvd [Stack Test: 3 hour average]	20 ppmvd [Stack Test: 3 hour average]	Combustion Control
	VOC as C	1.4 ppmvw [Stack Test: 3 hour average]	3.5 ppmvw [Stack Test: 3 hour average]	Combustion Control
	$PM_{10}/PM_{2.5}$	Combustion Control and Use of Natural Gas and Low Sulfur Distillate Oil as Back-up Fuel	0.009 lb/MMBtu (filterable only) [Stack Test: 3 hour average]	-
	Sulfuric Acid	Use of Natural Gas and Low Sulfur Distillate Oil as Back-up Fuel	0.05% Sulfur Fuel Oil	-
	GHG as CO_2e	Use of Natural Gas and Low Sulfur Distillate Oil as Back-up Fuel	Use of Natural Gas and Low Sulfur Distillate Oil as Back-up Fuel	-

a BACT limits shall apply at all times except as provided under Section 2.1 A. 3. a. ii.
b ppmvd = parts per million by volume on a dry basis at 15% O_2.
c 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included).

ii. Emissions resulting from start-up, shutdown, or malfunction above those given in Section 2.1.A.3.a.(i) are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. For the simple-cycle turbines, periods of excess emissions due to start-up and/or shutdown shall not exceed two hours in any 24-hour block period beginning at midnight. When using natural gas, start-up shall be defined as the period from initial firing to mode 6/6Q (as defined by the manufacturer's dry low NOx control system information) and shutdown shall be defined as the period from mode 6/6Q to flame out. When using fuel oil, start-up shall be the period from initial firing to "water injection in-service" and shutdown shall be from the cessation of water injection to flameout. The facility shall not operate the turbines outside of mode 6/6Q when firing natural gas or without water injection when firing fuel oil at any time after startup and prior to shutdown. Unit emissions shall comply with those given in Section 2.1.A.3.a.i. once mode 6/6Q is reached or, when firing fuel oil, water injection is initiated. Any operation outside of these parameters shall be deemed a startup, shutdown, or malfunction event.

b. The following emission limits apply in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530; 40 CFR 51.166(k):

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT				
		Annual (tons/yr)*	Pounds per 24-hour	Pounds per 8-hour	Pounds per 3-hour	Pounds per 1-hour
Combustion Turbines (ID Nos. Unit 1- 4, Unit 6, Unit 7, and Unit 8), total	Nitrogen Dioxide	2940.1				
	Sulfur Dioxide	373.9	16632		2079	
	Carbon Monoxide			3640		455
	PM-10/PM-2.5 (Front Half)	303.1	2856			

* Tons per rolling consecutive 12-month period. Annual emissions for the combustion turbines are for all seven turbines firing fuel oil for 1000 hours per year, five simple-cycle turbines firing natural gas for 7760 hours per year and two combined-cycle turbines firing natural gas for 7760 hours per year, at 100% load.

Testing [15A NCAC 2Q .0508(f)]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 3. a. i. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The maximum annual hours of operation for each combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) shall not exceed 1000 full load equivalent hours per rolling consecutive 12-month period when firing No. 2 fuel oil.

e. The Permittee shall record and maintain records of the actual number of hours of operation, and the amounts of each fuel burned during each day for each combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) in accordance with 40 CFR Part 75. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained.

f. Only natural gas shall be burned during summer months (April through October) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed one hour per week per turbine), and during compliance testing.

g. The sulfur content of the No. 2 fuel oil shall not exceed 0.05 percent sulfur by weight.

h. Water injection shall be used when the combustion turbines are firing No. 2 fuel oil only.

i. The Permittee shall monitor operations to demonstrate compliance with the BACT emission limits as follows:
   i. Determine the sulfur content of the fuel being fired in each combustion turbine in accordance with Section 2.1 A. 2. d. i.
   ii. Determine nitrogen oxide emissions according to:
      1. The requirements of 40 CFR Part 75 Appendix E. At least 45 days prior to performing any required initial performance testing required by the procedure in Appendix E, the Permittee must submit a testing protocol to the Regional Supervisor, Division of Air Quality for review and approval prior to performing such tests.
      2. If the facility has installed CEMS for NOx monitoring, emissions shall be determined according to Alternative B under Section 2.1.A.2.e.

   Note: If Appendix E is being used in lieu of a NO_X CEM under the Acid Rain Program, then certification to use Appendix E shall be completed no later than the applicable deadline specified in 40 CFR Part 75.4 pursuant to the requirements in §75.20.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the sulfur content of the fuel is not monitored or the nitrogen oxide emissions are not monitored.

Reporting [15A NCAC 2Q .0508(f)]

j. The Permittee shall submit in writing the following reports by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the

preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:

i. Periods of excess emissions for sulfur dioxide for any daily period during which the sulfur content of the No. 2 fuel oil being fired exceeds 0.05 percent by weight, within 30 days after each calendar year quarter for the previous 3-month period; and

ii. Periods of excess emissions for nitrogen oxides for any 24-hour rolling averaging period during which the concentrations exceed 10.5 ppmvd when firing natural gas and 42 ppmvd when firing No. 2 fuel oil, as determined by the procedure specified in 40 CFR Part 75 Appendix E, postmarked within 30 days after each calendar year quarter for the previous 3-month period. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NO_X concentrations are obtained at normal operating conditions as defined by 2.1.A.3.a(ii) and at least 15 minutes apart.

B. Two natural gas/No. 2 fuel oil-fired combined-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with a heat recovery steam generator and a steam turbine, and dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NO_X control (ID Nos. Unit 7 and Unit 8), and associated SCR's (ID No. Unit 7 SCR and Unit 8 SCR)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions	15A NCAC 2D .0524 (40 CFR Part 60 Subpart GG)
Various	As defined in specific conditions	15A NCAC 2D .0530
PSD Pollutants	Projected Actual Emissions Reporting	15A NCAC 2D .0530(u)
Hazardous Air Pollutants	No requirements	15A NCAC 2D .1111 (40 CFR 63 Subpart YYYY)
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions See Section 2.3	15A NCAC 2D .2400 (40 CFR Part 96 CAIR)
Sulfur Dioxide Nitrogen Oxides	Phase II Acid Rain Permit Requirements See Section 2.2	15A NCAC 2Q .0402

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source shall not be more than **20 percent opacity** (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

c. To assure compliance, the Permittee shall perform a Method 9 test for 1 hour using a pre-approved protocol to be submitted in accordance with General Condition JJ before the source operates more than 1100 hours using No. 2 fuel oil. This monitoring procedure shall be repeated before each subsequent 1100 hours of operation, from the time of the last test, using No. 2 fuel oil. If the results of this test are above the limit given in Section 2.1 B.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .0508(f)]

d. The Permittee shall keep records of the hours and associated dates, when these sources are in operation, and the dates and results of performance of Method 9 tests. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

e. The Permittee shall submit the results of the Method 9 test within 30 days of completion of the test or at the end of the quarter. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART GG)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 2D .0524, "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60, Subpart GG, including Subpart A "General Provisions."[15A NCAC 2D .0524]

b. NSPS Emissions Limitations - As required by 15A NCAC 2D .0524, the following permit limits shall not be exceeded:

AFFECTED FACILITY	POLLUTANT	EMISSION LIMIT
Please add an additional row for each additional source. To add an additional row: place the cursor anywhere in the existing table; pick "table" from the menu bar; select "insert"; select the radio button for "row"; select whether you want the new row to be "before" or "after" the cursor; click ok. Combustion Turbines (ID No.'s. Unit 7 And Unit 8)	Nitrogen Oxides	Std* = 0.0075 X [(14.4) / Y**] + F***
	Sulfur Dioxide	0.015 Percent By Volume**** Or 0.8 Percent Weight Sulfur In Fuel

* STD = allowable nitrogen oxides emissions in percent by volume at 15 percent O_2 on a dry basis.

** Y = manufacturer's rated heat rate at manufacturer's rated load or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. Y shall not exceed 14.43 kJ/w-h.

*** F = NOx emission allowance for fuel bound nitrogen as defined in 40CFR60.332(a)(3).

**** Allowable sulfur dioxide emissions at 15 percent O_2 on a dry basis.

Testing [15A NCAC 2Q .0508(f)]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 2. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The sulfur content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(b) to demonstrate compliance with the sulfur dioxide standard in 40 CFR 60.333, using the test methods and procedures in 40 CFR 60.335, except as follows:
   i. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(b)(1)), the Permittee may sample each tank to determine sulfur content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for sulfur content in accordance with 40 CFR Part 75, Appendix D.
   ii. When firing natural gas, the procedures from 40 CFR Part 75, Appendix D shall be used to sample and analyze for sulfur content. If the sulfur content of the fuel burned in each combustion turbine is not monitored as specified above or the sulfur dioxide emission rate of combustion turbine is above the limit given in Section 2.1 B. 2. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

e. The Permittee shall demonstrate compliance with the NOx emissions limit through one of the alternative compliance methods (A or B) described below. Compliance Alternative B as provided for in 40 CFR 60.334(b), shall be the mandatory method for compliance demonstration if at any time a unit is subject to Acid Rain provisions and is no longer classified as a "peaking unit" under 40 CFR 72.2.

   Alternative A
   i. The nitrogen content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the nitrogen oxides standard as specified in 40 CFR 60.332, using the test methods and procedures in 40 CFR 60.335, except as follows:
      1. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine nitrogen content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for nitrogen content in accordance with ASTM Method D4629.
      2. Monitoring of fuel nitrogen shall not be required while pipeline natural gas is the only fuel being fired in the combustion turbines.
   ii. As required by 40 CFR 60.334(a), using the test methods and procedures in 40 CFR 60.335(c)(2), for each combustion turbine, a continuous monitoring system shall be installed and operated to monitor and record fuel consumption and the ratio of water-to-fuel being fired. The monitoring device shall be calibrated and maintained in accordance with the manufacturer's specifications. This system shall be accurate to within 5.0 percent and must be approved by the DAQ prior to installation.

   Alternative B
   i. The Permittee shall demonstrate compliance with the NOx emission limit using a continuous emission monitoring system (CEMS) installed, certified, maintained, operated, and quality-assured in accordance with 40 CFR Part 75. The missing data substitution methodology provided in 40 CFR 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in 40 CFR 60.7(c). A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NOx concentration or diluent (or both). The CEMS shall comply with all applicable requirements of 40 CFR 60.334 and 40 CFR 75. If the CEMS does not comply with the applicable requirements of 40 CFR 60.334 and 40 CFR 75, or the NOx emissions from these turbines exceed the emission limits set forth in 40 CFR 60.332, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Reporting [15A NCAC 2Q .0508(f)]

f. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction.
g. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being fired exceeds 0.8 percent by weight.
h. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for nitrogen oxides shall be reported:

i. For any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332 by the performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in 40 CFR 60.8.

ii. Where the Permittee has elected to install a CEMS according to Alternative B of 2.1.B.2.e above, reporting shall be in accordance with 40 CFR 60.334(j)(1)(iii). Data must be reduced to hourly averages as specified in 40 CFR 60.13(h). An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NOx concentration exceeds the applicable emission limit in Section 2.1.B.2.b. A "4-hour rolling average NOx concentration" is the arithmetic average of the average NOx concentration measured by the CEMS for a given hour (corrected to 15 percent O2 and, if required under 40 CFR 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NOx concentrations immediately preceding that unit operating hour. Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst-case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of 40 CFR 60.335(b)(1). The Permittee shall comply with all applicable reporting requirements of 40 CFR 60.334.

i. The Permittee shall submit in writing the excess emissions of sulfur dioxide and nitrogen oxides as well as the sulfur content and fuel-bound nitrogen content of the No. 2 fuel oil fired in the combustion turbines and the number of hours of operation of each combustion turbine by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

i. Short term maximum emission rates for each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8) shall not exceed:

AFFECTED SOURCE	POLLUTANT	BACT EMISSION LIMITS[a]		BACT CONTROLS
		Natural Gas	No. 2 Fuel Oil	
		lbs/million Btu ppm	lbs/million Btu ppm	
Combustion Turbines (ID Nos. Unit 7 and Unit 8), per unit	Opacity	20%	20%	Combustion Control
	Nitrogen Oxides	0.010 2.5 ppmvd[b] (24-hour rolling average)[c,d]	0.054 13 ppmvd[b] (24-hour rolling average)[c,e]	Natural Gas: Dry-Low NOx And SCR Fuel Oil: Water Injection And SCR
	Sulfur Dioxide	0.0006	0.054	0.05% Sulfur Fuel Oil
	Carbon Monoxide	0.018 9 ppmvd	0.037 20 ppmvd	Combustion Control
	VOC's	0.0017 1.4 ppmvw	0.004 3.5 ppmvw	Combustion Control
	Particulates/PM-10 (Front Half)	0.0055	0.009	Combustion Control
	Sulfuric Acid		Fuel Oil Sulfur Content	0.05% Sulfur Fuel Oil
	Ammonia	10 ppmvd		

a BACT limits shall apply at all times except as provided under Section 2.1 B.3.a.ii.

b ppmvd = parts per million by volume on a dry basis at 15% O_2.

c 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included).

d The NO_X emission limit is 2.5 ppmvd for the first 500 hours of operation (on a 24-hour rolling average basis). After 500 hours, the emission limit is 3.5 ppmvd (on a 24-hour rolling average basis). However, the ammonia injection rate shall not exceed that rate established per Section 2.1 B.3.i.i. at each load point. Three months after the 24-hour rolling average exceeds 3.3 ppmvd three times within any rolling 50-hour period, the emission limit changes to 2.5 ppmvd for the next 500 hours of operation. However, the Permittee will not be deemed to be out of compliance until the 24-hour rolling average exceeds 3.5 ppmvd during this three-month period. After any 500-hour period where the 2.5 ppmvd is maintained without exceedance of the 3.3 ppmvd trigger level, the limit reverts back to 3.5 ppmvd.

e The NO_X emission limit is 13 ppmvd for the first 500 hours of operation (on a 24-hour rolling average basis). After 500 hours, the emission limit is 18 ppmvd (on a 24-hour rolling average basis). However, the ammonia injection rate shall not exceed that rate established per Section 2.1 B.3.i.i. at each load point. Three months after the 24-hour rolling average exceeds 17 ppmvd three times within any rolling 50 hour period, the emission limit changes to 13 ppmvd for the next 500 hours of operation. However, the Permittee will not be deemed to be out of compliance until the 24-hour rolling average exceeds 18 ppmvd during this three-month period. After any 500 hour period where the 13 ppmvd is maintained without exceedance of the 17 ppmvd trigger level, the limit reverts back to 18 ppmvd

ii. Emissions resulting from start-up, shutdown or malfunction above those given in Section 2.1.B.3.a.(i) are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. For the combined-cycle turbines, periods of excess emissions due to start-up and/or shutdown shall not exceed six hours in any 24-hour block period beginning at midnight. When using natural gas, start-up shall be defined as the period from initial firing to mode 6/6Q (as defined by the manufacturers Dry low NOx control system information) and shutdown shall be defined as the period from mode 6/6Q to flame out. When using fuel oil, start-up shall be the period from initial firing to "water injection in-service" and shutdown shall be from the cessation of water injection to flameout. The facility shall not operate the turbines outside of mode 6/6Q when firing natural gas or without water injection when firing fuel oil at any time after startup and prior to shutdown. Unit emissions shall comply with those given in Section 2.1.B.3.a.i. once mode 6/6Q is reached for natural gas or, when firing fuel oil, water injection is initiated. Any operation outside of these parameters shall be deemed a startup, shutdown, or malfunction event.

b. The following emission limits apply in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530; 40 CFR 51.166(k):

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT				
		Annual (tons/yr)[a]	Pounds per 24-hour	Pounds per 8-hour	Pounds per 3-hour	Pounds per 1-hour
Combustion Turbines (ID No.'s Unit 1- 4, Unit 6, Unit 7, and Unit 8), total	Nitrogen Dioxide	2940.1				
	Sulfur Dioxide	373.9	16,632		2079	
	Carbon Monoxide			3640		455
	PM-10/PM-2.5 (Front Half)	303.1	2856			

[a] Tons per rolling consecutive 12-month period. Annual emissions for the combustion turbines are for all seven turbines firing fuel oil for 1000 hours per year, five simple-cycle turbines firing natural gas for 7760 hours per year and two combined-cycle turbines firing natural gas for 7760 hours per year, at 100% load.

Testing [15A NCAC 2Q .0508(f)]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The maximum annual hours of operation for each combustion turbine (ID No. Unit 7 and Unit 8) shall not exceed 1000 full load equivalent hours per rolling consecutive 12-month period when firing No. 2 fuel oil.
e. The Permittee shall record and maintain records of the actual number of hours of operation, and the amounts of each fuel burned during each day for each combustion turbine (ID Nos. Unit 7 and Unit 8) in accordance with 40 CFR Part 75. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained.
f. Only natural gas shall be burned during summer months (April through October) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed one hour per week per turbine), and during compliance testing.
g. The sulfur content of the No. 2 fuel oil shall not exceed 0.05 percent sulfur by weight.
h. Water injection shall be used when the combustion turbines are firing No. 2 fuel oil only.
i. For each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8) compliance with the BACT NO_X 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_X 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_X 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.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the nitrogen oxide emissions are not monitored using CEM's, as required in Section 2.1.B.2.e above or the ammonia injection rate to the SCR system is not continuously measured and recorded, as required in Section 2.1.B.3.i(i) above or nitrogen oxide or ammonia emission rate of combustion turbine is above the limit given in Section 2.1.B.3.a(i). above.

j. Under the provisions of North Carolina General Statute 143-215.108, for each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8), the Permittee shall monitor operations to demonstrate compliance with the BACT emission limits as follows:

i. Determine the sulfur content of the fuel being fired in each combustion turbine in accordance with Section 2.1.B.2.d(i)

ii. Determine nitrogen oxide emissions according to Alternative B under Section 2.1.B.2.e

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the records required in Section 2.1.B.2 above are not kept or the nitrogen oxide emission rate of combustion turbine is above the limit given in Section 2.1.B.3.a. above.

Reporting [15A NCAC 2Q .0508(f)]

k. The Permittee shall submit in writing the following reports by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:

i. Periods of excess emissions for sulfur dioxide for any daily period during which the sulfur content of the No. 2 fuel oil being fired exceeds 0.05 percent by weight, within 30 days after each calendar year quarter for the previous 3-month period; and

ii. Periods of excess emissions for nitrogen oxides for any 24-hour rolling averaging period during which the concentrations exceed 0.010 lb/MMBtu (2.5 ppmvd) when firing natural gas and 0.054 lb/MMBtu (13 ppmvd) when firing No. 2 fuel oil, as determined by the procedure specified in 40 CFR Part 75 Appendix E, postmarked within 30 days after each calendar year quarter for the previous 3-month period. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NO_X concentrations are obtained at normal operating conditions as defined by 2.1.B.3.a(ii) and at least 15 minutes apart.

4. 15A NCAC 2D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

Pursuant to Application 7700070.12A for a modification to repair/ replace equipment and parts associated with Unit 7 and Unit 8, the Permittee shall perform the following:

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .0530(u)]

a. The Permittee shall maintain records of annual emissions sufficient to determine if repair and/or replacement of equipment described in the above modification application resulted in a major modification based on projected actual emissions methodology. These records shall be maintained on a calendar year basis for 10 years following the date regular operations commence after these changes are made. The Permittee may use continuous emissions monitoring data, operational levels, fuel usage data, source test results, or any other readily available data of sufficient accuracy to document actual annual emissions of these sources. The Permittee shall notify the Regional Office within thirty (30) days after the changes to the units are made and submission of such notification shall represent the date regular operations commenced.

b. The Permittee shall submit a report to the director within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

c. The Permittee shall make the information documented and maintained under this condition available to the Director pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

d. If the Director determines that actual emissions rate exceeds the projected actual emissions rate in any calendar year and would have resulted in a major modification at the time the application was submitted, the Permittee

shall be deemed in non-compliance with 15A NCAC 2D .0530.

C. Two No. 2 fuel oil, fixed-roof storage tanks atmospheric vents (not to exceed 5 million gallons capacity each, actual capacity 3.1 million gallons each, ID Nos. TK-1 and TK-2)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
VOC's	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:
   i. Long term maximum emission rates for fuel oil storage tanks (ID Nos. TK1 and TK2) shall not exceed:

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT Annual (tons/yr)[a]
Fuel Oil Storage Tanks (ID Nos. TK1 and TK2), total	VOCs	5.79

a Tons per rolling consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. The combined maximum throughput for No. 2 fuel oil for two storage tanks shall not exceed 45,480,000 gallons per year.

c. The Permittee shall keep records for fuel consumed from each storage tank on a monthly basis for No. 2 fuel oil in a written or electronic format. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of fuel oil used is not monitored or the combined annual throughput for two storage tanks exceeds the limit included above in Section 2.1.C.1.b.

D. One cooling tower with drift eliminators (ID No. Tower 4)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
Particulate Matter	$E = 4.10P^{0.67}$ for P <= 30 Tons Per Hour $E = 55.0P^{0.11} - 40$ for P > 30 Tons Per Hour Where E = Allowable Emission Rate in Pounds per Hour P = Process Weight in Tons per Hour	15A NCAC 2D .0515
Particulates/PM-10	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{for P \# 30 tons per hour}$$

Or

$$E = 55.0 \times P^{0.11} - 40 \quad \text{for P > 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate matter emissions from this source.

2. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following emission limits apply in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530; 40 CFR 51.166(k):

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT	
		Annual (tons/year)[a]	Daily lbs/day
Cooling Tower (ID No. Tower 4)	Particulate/PM-10	6.0	33.12

a Tons per rolling consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for particulate emissions from this source.

E. One natural gas-fired auxiliary boiler (16.74 million Btu per hour nominally rated heat input, ID No. ES-10)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.395 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
None	Recordkeeping	15A NCAC 2D .0524 (40 CFR 60 Subpart Dc)
Nitrogen Oxides (as NO_2) Carbon Monoxide VOC PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from this source (ID No. ES-10) into the atmosphere, shall not exceed 0.395 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 E. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in this source (ID No. ES-10).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source (ID No. ES-10) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 E. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from natural gas for this source.

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source (ID No. ES-10) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from this source.

4. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART Dc)

Recordkeeping [15A NCAC 2Q .0508(f)]

a. The Permittee shall record and maintain records of the amounts each fuel combusted during each month. Such records shall be maintained for a period of two years following the date of such record. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

5. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS	CONTROL TECHNOLOGY
Auxiliary Boiler (ID No. ES-10)	Nitrogen Oxides (as NO_2)	0.035 lb/million Btu	Low-NOx burner
	Carbon Monoxide	0.037 lb/million Btu	Good combustion control
	VOC (as CH_4)	0.016 lb/million Btu	Good combustion control
	PM/PM10 (Filterable and condensable)	0.01lb/million Btu	Good combustion control

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for emissions of NOx, CO, VOC, and PM/PM10 from the firing of natural gas in this source.

6. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID No. ES-10). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burner, and clean or replace any components of the burner as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

   The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

c. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

d. No reporting is required.

F. Two natural gas/No. 2 fuel oil-fired simple/combined cycle internal combustion turbines, each equipped with a heat recovery steam generator, dry Low-NO_x combustors and water injection control, both equipped with a common steam turbine (ID Nos. ES-13 and ES-14), and associated SCR's (ID Nos. CD13-SCR and CD14-SCR)

Simple-cycle mode of operation:
- 2,084 million Btu per hour heat input rate each when firing natural gas
- 1,983 million Btu per hour heat input rate each when firing No. 2 fuel oil

Combined-cycle mode of operation:

- 2,225 million Btu per hour heat input rate each for gas turbine when firing natural gas and 390 million Btu per hour heat input rate each for duct burner when firing natural gas
- 1,983 million Btu per hour heat input rate each for gas turbine when firing No. 2 fuel and no duct burner firing in each heat recovery steam generator when firing No. 2 fuel oil

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 lb/million Btu each [When duct burners are operating in heat recovery units]	15A NCAC 2D .0503
Visible Emissions	20 percent opacity each	15A NCAC 2D .0521
Nitrogen Oxides	15 ppm at 15 percent O_2 each or 0.43 lb/MWh each [When firing natural gas in either combustion turbine only or both combustion turbine and heat recovery unit] 42 ppm at 15 percent O_2 each or 1.3 lb/MWh each [When firing No. 2 fuel oil in either combustion turbine only or both combustion turbine and heat recovery unit] 96 ppm at 15 percent O_2 each or 4.7 lb/MWh each [When firing natural gas or No. 2 fuel oil, turbine is operating at less than 75 percent peak load or turbine is operating at less than 0°F]	15A NCAC 2D .0524 [NSPS Subpart KKKK]
Sulfur Dioxide	0.9 lb/MWh each or 0.06 lb/million Btu heat input each	15A NCAC 2D .0524 [NSPS Subpart KKKK]
Nitrogen Oxides (as NO_2) Carbon Monoxide VOC PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
Sulfur Dioxide	As defined in specific conditions	15A NCAC 2D .0530(h) [state-only requirement]
Formaldehyde	91 ppbvd at 15% O_2	15A NCAC 2D .1111 [MACT Subpart YYYY]
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions	15A NCAC 2D .2400
Sulfur Dioxide Nitrogen Oxides	Phase II Acid Rain Permit Requirements See Section 2.2	15A NCAC 2Q .0402

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas and No. 2 fuel oil that are discharged from these sources (duct burners of heat recovery units of each combustion turbine, ID Nos. ES-13 and ES-14) into the atmosphere shall not exceed 0.19 pound per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 F. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas and No. 2 fuel oil in these sources (duct burners of heat recovery units of each combustion turbine, ID Nos. ES-13 and ES-14).

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources (ID Nos. ES-13 and ES-14) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F. 2. a., the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas and No. 2 fuel oil in these sources (ID Nos. ES-13 and ES-14).

3. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR PART 60 SUBPART KKKK)

a. The Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart KKKK, including Subpart A "General Provisions."[15A NCAC 2D .0524]

Emission Limitations

b. NOx emissions (except during startup, shutdowns, and malfunction) from each combustion turbine (ID Nos. ES-13 and ES-14) when either combustion turbine only or when both combustion turbine and heat recovery unit are operating, shall not exceed 15 ppm at 15 percent O_2 or 0.43 lb/MWh when firing natural gas.

NOx emissions (except during startup, shutdowns, and malfunction) from each combustion turbine (ID No. ES-13 and ES-14) shall not exceed 42 ppm at 15 percent O_2 or 1.3 lb/MWh when firing No. 2 fuel oil.

NOx emissions (except during startup, shutdowns, and malfunction) from each combustion turbine (ID Nos. ES-13 and ES-14) shall not exceed 96 ppm at 15 percent O_2 or 4.7 lb/MWh, when turbine is operating at less than 75 percent peak load or the turbine is operating at less than 0°F.

The Permittee has chosen to comply with NOx emission concentration limits.

[§60.4320]

c. If the total heat input to each combustion turbine (ID Nos. ES-13 and ES-14) is greater than or equal to 50 percent natural gas, the Permittee shall meet the corresponding NOx emission limit in Section 2.1 F.3.b. above for natural gas when the Permittee is burning that fuel. Similarly, when the total heat input to each combustion turbine (ID Nos. ES-13 and ES-14) is greater than 50 percent No. 2 fuel oil, the Permittee shall meet the corresponding emission limit in Section 2.1 F.3.b. above for No. 2 fuel oil for the duration of the time that the Permittee burns No. 2 fuel oil.

[§60.4325]

d. SO_2 emissions (except during startup, shutdowns, and malfunction) from the combustion turbines (ID Nos. ES-13 and ES-14) shall not exceed 0.9 lb/MWh gross output each.

Alternatively, the Permittee shall not allow any fuel to be burned in the combustion turbines (ID Nos. ES-13 and ES-14), which contains total potential sulfur emissions in excess of 0.06 lb/million Btu heat input each (fuel sulfur content limit).

[§60.4330]

Testing [15A NCAC 2Q .0508(f)]

NOx Testing for Simple-cycle Operation

e. The Permittee shall conduct initial performance test and submit a written report for NOx for one of the combustion turbines (ID Nos. ES-13 and ES-14)[1] within 180 days of initial start-up of the first combustion turbine (either ES-13 or ES-14) in simple-cycle mode for both natural gas and No. 2 fuel oil firing or within 60 days after the unit achieves maximum production (either ES-13 or ES-14) in simple-cycle mode for both natural gas and fuel oil firing, whichever occurs first. The Permittee shall conduct the initial performance test in accordance with General Condition JJ.

If the Permittee is choosing to use water to fuel ratio as a monitoring method with no additional add-on control (such as SCR) for demonstrating compliance with NOx emission limit, the Permittee shall operate the water to fuel ratio monitoring system concurrently to determine fuel consumption and water to fuel ratio, for each test run of initial performance test.

The Permittee is not required to perform subsequent annual performance tests for NOx, if water to fuel ratio monitoring is performed continuously to demonstrate compliance with NOx emission limit in Section 2.1 F.3.b. above.

The Permittee is required to perform subsequent annual testing (no more than 14 calendar months following the previous performance test) for NOx in accordance with General Condition JJ, if the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above.

As an alternate to subsequent annual tests requirement when the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above, the Permittee may install, calibrate, maintain and operate either continuous emission monitoring or continuous parameter monitoring for NOx on combustion turbines (ID Nos. ES-13 and ES-14).

If the Permittee elects to install NOx CEM's on combustion turbines (ID Nos. ES-13 and ES-14), the performance evaluation of the CEMS may either be conducted separately or (as described in §60.4405), as part of the initial performance test. Data collected during the CEMS RATA may be used to demonstrate compliance for NOx. The CEMS shall be certified according to Part 60, Section 60.4345. A NOx CEMS that is installed and certified according to Appendix A of Part 75 is also acceptable for use under this Subpart.

If the NOx emission result from any annual performance test is less than or equal to 75 percent of the NOx emission limit in Section 2.1 F.3.b. above, the frequency of testing can be reduced to once every two years for subsequent performance tests. If the results of any subsequent performance test exceed 75 percent of the NOx emission limit, the Permittee shall resume the annual performance tests.

Each performance test (initial and subsequent) for NOx shall be conducted at ± 25 percent of 100 percent peak load or at the highest achievable load point if at least 75 percent peak load cannot be achieved in practice. Three runs shall be required for each performance test (initial and subsequent) and each run shall last for a minimum 20 minutes. Separate performance testing is required for each fuel. The ambient temperature for each test run shall be above 0^0F.

If three-run arithmetic average of NOx emissions from any performance test is above the emission limit for NOx in Section 2.1 F.3.b. above or fuel consumption and water to fuel ratio for each test run of initial performance test are not determined (when firing No. 2 fuel oil and fuel ratio monitoring is used for

[1] DAQ is requiring initial performance test on only one of two combustion turbines (ID Nos. ES-13 and ES-14). This requirement is contingent upon the stack test results of the tested turbine showing that the margin of compliance with NOx emission limit is high.

compliance) or initial and subsequent stack tests (when required) are not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

NOx Testing for Combined-cycle Operation

f. The Permittee shall conduct initial performance test and submit a written report for NOx for one of the combustion turbines (ID Nos. ES-13 and ES-14)[2] within 180 days of initial start-up of the first combustion turbine (either ES-13 or ES-14) in combined-cycle mode for both natural gas and No. 2 fuel oil firing or within 60 days after the unit achieves maximum production (either ES-13 or ES-14) in combined-cycle mode for both natural gas and fuel oil firing, whichever occurs first. The Permittee shall conduct the initial performance test in accordance with General Condition JJ.

If the Permittee is choosing to use water to fuel ratio as a monitoring method with no additional add-on control (such as SCR) for demonstrating compliance with NOx emission limit, the Permittee shall operate the water to fuel ratio monitoring system concurrently to determine fuel consumption and water to fuel ratio, for each test run of initial performance test.

The Permittee is not required to perform subsequent annual performance tests for NOx, if water to fuel ratio monitoring is performed continuously to demonstrate compliance with NOx emission limit in Section 2.1 F.3.b. above.

The Permittee is required to perform subsequent annual testing (no more than 14 calendar months following the previous performance test) for NOx in accordance with General Condition JJ, if the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above.

As an alternate to subsequent annual tests requirement when the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above, the Permittee may install, calibrate, maintain and operate either continuous emission monitoring or continuous parameter monitoring for NOx on combustion turbines (ID Nos. ES-13 and ES-14).

If the Permittee elects to install NOx CEM's on combustion turbines (ID Nos. ES-13 and ES-14), the performance evaluation of the CEMS may either be conducted separately or (as described in §60.4405), as part of the initial performance test. Data collected during the CEMS RATA may be used to demonstrate compliance for NOx. The CEMS shall be certified according to Part 60, Section 60.4345. A NOx CEMS that is installed and certified according to Appendix A of Part 75 is also acceptable for use under this Subpart.

If the NOx emission result from any annual performance test is less than or equal to 75 percent of the NOx emission limit in Section 2.1 F.3.b. above, the frequency of testing can be reduced to once every two years for subsequent performance tests. If the results of any subsequent performance test exceed 75 percent of the NOx emission limit, the Permittee shall resume the annual performance tests.

Each performance test (initial and subsequent) for NOx shall be conducted at ± 25 percent of 100 percent peak load or at the highest achievable load point if at least 75 percent peak load cannot be achieved in practice. Three runs shall be required for each performance test (initial and subsequent) and each run shall last for a minimum 20 minutes. Separate performance testing is required for each fuel. The ambient temperature for each test run shall be above 0^0F.

Compliance with the applicable NOx emission limit shall be demonstrated by measuring the combined emissions of both units (ID Nos. ES-13 and ES-14) utilizing a common HRSG steam header (as described in §60.4333(b)). Alternatively, the Permittee can develop, demonstrate, and provide information satisfactory to the EPA Administrator on methods for apportioning the combined gross energy output from the heat recovery unit for each of the affected combustion turbines (ID Nos. ES-13 and ES-14). The EPA Administrator may approve such demonstrated substitute methods for apportioning the combined gross energy output measured at the steam turbine whenever the demonstration ensures accurate estimation of emissions related under this part.

For combined cycle turbine systems with supplemental heat (duct burner), the Permittee shall measure the total

[2] DAQ is requiring initial performance test on only one of two combustion turbines (ID Nos. ES-13 and ES-14). This requirement is contingent upon the stack test results of the tested turbine showing that the margin of compliance with NOx emission limit is high.

NO_X emissions after the duct burner rather than directly after the turbine. The duct burner shall be in operation during the performance test.

If three-run arithmetic average of NOx emissions from any performance test is above the emission limit for NOx in Section 2.1 F.3.b. above or fuel consumption and water to fuel ratio for each test run of initial performance test are not determined (when firing No. 2 fuel oil and fuel ratio monitoring is used for compliance) or initial and subsequent stack tests (when required) are not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

[§60.8, and §§§60.4340, 60.4400 and 60.4405]

g. The Permittee shall conduct the initial performance test for SO_2 on <u>one</u> of the combustion turbines (ID Nos. ES-13 and ES-14) in accordance with General Condition JJ within 180 days of initial start-up of combustion turbines (ID Nos. ES-13 and ES-14)[3] for both natural gas and fuel oil firing or within 60 days after the unit achieves maximum production (either ES-13 or ES-14) for both natural gas and fuel oil firing, whichever occurs first.

The Permittee shall conduct each subsequent test on combustion turbines (ID Nos. ES-13 and ES-14) in accordance with General Condition JJ for SO_2 on an annual basis (no more than 14 calendar months following the previous performance test) for both natural gas and fuel oil firing.

If the results of any performance test are above the emission limit for SO_2 in Section 2.1 F.3.d. above or any stack test is not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

The Permittee can opt not to perform any stack tests (either initial or subsequent annual tests) to demonstrate compliance with SO_2 emission limit and can instead opt for fuel sulfur determination as per Section 2.1. F.3.m. below to comply with the SO_2 emission limit. If the Permittee chooses to opt for fuel sulfur determination to comply with the SO_2 emission limit, the Permittee shall perform monitoring in accordance with Section 2.1 F.3.m. below.

[§60.8, and §§60.4360 and 60.4415]

<u>Monitoring/Record keeping</u> [15A NCAC 2Q .0508(f)]

h. The Permittee shall operate and maintain the combustion turbines (ID Nos. ES-13 and ES-14) including dry low NOx burners, selective catalytic reduction systems, water to fuel ratio monitoring equipment, and any other monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions and in accordance with manufacturer's guidelines at all times including during start-up, shutdown, and malfunction. [§60.4333]

i. If the Permittee is using water injection to control NOx emissions, the Permittee shall install, calibrate, maintain and operate continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbines (ID Nos. ES-13 and ES-14) when burning a fuel that requires water injection for compliance. If the Permittee does not monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbines (ID Nos. ES-13 and ES-14) when burning No. 2 fuel oil, the shall be deemed in noncompliance with 15A NCAC 2D .0524.

j. As an alternate to the water to fuel ratio monitoring in Section 2.1 F.3.i. above, the Permittee can install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NO_X monitor and a diluent gas (oxygen (O_2) or carbon dioxide (CO_2)) monitor, to determine the hourly NO_X emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu).

If NOx CEM's do not comply with the requirements of §§60.4335(b) and 60.4345 or the NO_x emissions (except during startup, shutdowns, and malfunction) from the combustion turbines (ID No. ES-13 and ES-14) exceed the emission limit in Section 2.1 F.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

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[3] DAQ is requiring initial performance test on only one of two combustion turbines (ID Nos. ES-13 and ES-14). This requirement is contingent upon the stack test results of the tested turbine showing that the margin of compliance with SO_2 emission limit is high.

k. As an alternate to the annual performance tests to demonstrate continuous compliance in Section 2.1 F.e. and f. above for NOx (i.e., when water injection is not used to comply with NOx emission limit in Section 2.1 F.3.b. above), the Permittee can install, calibrate, maintain and operate a NOx CEM as per §§60.4335(b) and 60.4345 or the Permittee can install, calibrate, maintain and operate NOx continuous parameter monitoring system measuring appropriate parameters to determine whether the combustion turbines (ID Nos. ES-13 and ES-14) are operating in low-NOx mode and to verify the proper operation of SCRs, or instead upon DAQ approval, the Permittee can perform parametric monitoring described in Section 2.3 of Part 75 appendix E or in §75.19(c)(1)(iv)(H), if the combustion turbine (ID Nos. ES-13 and ES-14) are also regulated under Part 75.

If the NOx CEM's do not comply with the requirements of §§60.4335(b) and 60.4345 or the NO_x emissions (except during startup, shutdowns, and malfunction) from the combustion turbines (ID No. ES-13 and ES-14) exceed the emission limit in Section 2.1 F.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

If NOx continuous parameter monitoring systems are not operating or the NOx continuous parameter monitoring systems indicate that the combustion turbine is not operating in a low-NOx mode or SCR's are not operating to control NOx emissions, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

If the Permittee does not comply with the requirements in Section 2.3 of Part 75 Appendix E or §75.19(c)(1)(iv)(H) or if the NOx emissions (except during startup, shutdowns, and malfunction) from combustion turbines (ID Nos. ES-13 and ES-14) exceed the NOx emission limit in Section 2.1 F.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

[§60.4335 and 60.4340]

l. The water to fuel ratio or other parameters, which are continuously monitored as described in §§80.4335 and 60.4340, shall be monitored during the performance test required under §60.8, to establish acceptable values and ranges. The Permittee may supplement the performance test data with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. The Permittee shall develop and keep on-site a parameter monitoring plan, which explains the procedures used to document proper operation of the NOx emission controls. The parameter monitoring plan shall contain all elements of §60.4355(a)(1) through (a)(6). As an alternative to a parameter monitoring plan in this Section, the Permittee can develop and keep on-site a QA plan as described in §75.19(e)(5) or in Section 2.3 of Appendix E to Part 75 and Section 1.3.6 of Appendix B to Part 75, if the combustion turbines (ID Nos. ES-13 and ES-14) are also regulated under Part 75.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the parameter monitoring plan is not developed or kept on-site.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the QA plan (alternative to a parameter monitoring plan) as described in §75.19(e)(5) or in Section 2.3 of Appendix E to Part 75 and Section 1.3.6 of Appendix B to Part 75 is not developed or kept on-site.

[§60.4355]

m. If the Permittee opts to determine fuel sulfur to comply with the fuel sulfur content limit in Section 2.1 F.3.d. above, the Permittee shall monitor total sulfur content of the fuel being fired in the combustion turbines (ID Nos. ES-13 and ES-14), except as provided in §60.4365 (See Section 2.1 F.3.n. below).

The sulfur content of the fuel shall be determined using total sulfur methods in §60.4415. Alternatively, the Permittee can use methods in §60.4360 if the total sulfur content of the gaseous fuel during the most recent performance test was less than half the fuel sulfur content limit in Section 2.1.F.3.d. above.

The Permittee shall determine sulfur content value of natural gas once per unit operating day if the fuel is supplied without intermediate bulk storage and the Permittee is not demonstrating fuel sulfur content using the options in §60.4365.

The Permittee can develop custom fuel schedules to determine total sulfur content of gaseous fuels or the Permittee can use one of two approved custom schedules without prior EPA approval as per §60.4360(c).

If fuel sulfur determination from any fuel monitoring occurring in any unit operating hour, results in SO_2 emissions (except during startup, shutdowns, and malfunction) exceeding emission limit in Section 2.1 F.3.d. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

[§§§60.4360, 60.4370, and 60.4415]

n. As an alternate to Section 2.1 F.3.m. above, the Permittee can choose not to monitor the total potential sulfur emissions of the fuel combusted in the turbines (ID Nos. ES-13 and ES-14), if it can be demonstrated that the potential sulfur emissions do not exceed 0.06 lb SO_2/million Btu emission limit.

The Permittee can perform this demonstration by using the fuel quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw), the total sulfur content for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet and has the potential sulfur emissions of less than 0.06 lb SO_2/million Btu.

The other option for this demonstration is through representative fuel sampling data showing that the potential sulfur emissions of the fuel does not exceed 0.06 lb SO_2/million Btu. In this case, the Permittee shall provide at a minimum the amount of data in Section 2.3.1.4 or 2.3.2.4. of Appendix D of Part 75.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the Permittee does not make the above demonstration for natural gas and fuel oil, or the demonstration indicate that the total sulfur content of natural gas and fuel oil exceed the sulfur content limit of 20 grains per 100 standard cubic feet and 0.05 weight percent (500 ppmw), respectively, or the SO_2 emissions excluding the emissions during start-up, shutdown, and malfunction, from the combustion turbines (ID Nos. ES-13 and ES-14) exceed the emission limit in Section 2.1 E.3.c. above.

[§§60.4365]

Reporting [15A NCAC 2Q .0508(f)]

o. The Permittee shall submit a notification of the date construction of an affected facility is commenced, postmarked no later than 30 days after such date. [§60.7(a)(1)]

p. The Permittee shall submit a notification of the date of initial start-up of an affected facility, postmarked within 15 days after such date. [§60.7(a)(3)]

q. The Permittee shall submit a notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with §60.13(c). Notification shall be postmarked not less than 30 days prior to such date. [§60.7(a)(5)]

r. The Permittee shall submit reports of excess emissions and monitor downtime in accordance with §60.7(c) for the combustion turbines (ID Nos. ES-13 and ES-14). The Permittee shall report excess emissions for all periods of operation, including start-up, shutdown, and malfunction. These reports shall be postmarked by the 30th day following the end of each 6-month period. [§§60.4375(a) and 60.4395]

   i. If the combustion turbine is using water to fuel ratio monitoring, excess emissions and monitor downtime shall be determined as below:

      (A) An excess emission is any unit operating hour for which the 4-hour rolling average water to fuel ratio, as measured by the continuous monitoring system, falls below the acceptable steam or water to fuel ratio needed to demonstrate compliance with §60.4320, as established during the performance test required in §60.8. Any unit operating hour in which no water or steam is injected into the turbine when a fuel is being burned that requires water injection for NO_X control will also be considered an excess emission.

      (B) A period of monitor downtime is any unit operating hour in which water or steam is injected into the turbine, but the essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid.

   ii. If the combustion turbine is using NOx CEM as described in §§60.4335(B) and 60.4345, excess emissions

and monitor downtime shall be determined as below:

(A) An excess emissions is any unit operating period in which the 30-day rolling average NO_X emission rate exceeds the applicable emission limit in §60.4320. For the purposes of this Subpart, a "30-day rolling average NO_X emission rate" is the arithmetic average of all hourly NO_X emission data in ppm or ng/J (lb/MWh) measured by the CEM equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NO_X emissions rates for the preceding 30 unit operating days if a valid NO_X emission rate is obtained for at least 75 percent of all operating hours.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if you will use this information for compliance purposes.

(C) For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard. [§60.4380(b)]

iii. For turbines required to monitor combustion parameters or parameters that document proper operation of the NOx emission controls, excess emissions and monitor downtime shall be determined as below:

(A) An excess emission shall be defined as a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the combustion turbines. [§60.4380(c)(1)]

(B) If the Permittee opts to monitor combustion parameters or parameters that document proper operation of the NOx emission controls for the turbines, a period of monitor downtime shall be defined as a unit operating hour in which any of the required parametric data are either not recorded or are invalid. [§60.4380(c)(2)]

iv. If the Permittee chooses the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime shall be defined as follows [§60.4385]:

(A) For samples of gaseous fuel, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

(B) If the option to sample each delivery of fuel oil has been selected, the Permittee shall immediately switch to one of the other oil sampling options (i.e., daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur content of a delivery exceeds 0.05 weight percent. The Permittee shall continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and the Permittee shall evaluate excess emissions according to this Section 2.1 F.3.r.iv. When all of the fuel from the delivery has been burned, the Permittee may resume using the as-delivered sampling option.

(C) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

s. The Permittee shall submit a written report of the results of each performance test required in §60.4340(a) before the close of business on the 60th day following the completion of the performance test. [§60.4375(b)]

t. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+		Control Technology
			Natural Gas	No. 2 Fuel Oil	

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+ Natural Gas	No. 2 Fuel Oil	Control Technology
Combustion Turbines (ID Nos. ES-13 and ES-14)	NOx (as NO_2)	Combined Cycle With Duct Firing	2 ppmvd at 15% O_2 [30-day rolling average] [First 500 hours of operation of SCR] 2.5 ppmvd at 15% O_2 [30-day rolling average]	-	Dry-low NOx Combustors and Selective Catalytic Reduction
		Combined Cycle Without Duct Firing	[After 500 hours of operation of SCR] 2 ppmvd at 15% O_2 [30-day rolling average] [First 500 hours of operation of SCR] 2.5 ppmvd at 15% O_2 [30-day rolling average]	10 ppmvd at 15% O_2 [24-hour rolling average]	Dry-low NOx Combustors (natural gas only), Water Injection (No. 2 fuel oil only), and Selective Catalytic Reduction
		Simple Cycle	[After 500 hours of operation of SCR] 9 ppmvd at 15% O_2 [24-hour rolling average]	42 ppmvd at 15% O_2 [24-hour rolling average]	Dry-low NOx Combustors (natural gas only) and Water Injection (No. 2 fuel oil only)

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+ Natural Gas	Emission Limits*+ No. 2 Fuel Oil	Control Technology
Combustion Turbines (ID Nos. ES-13 and ES-14)	CO	Combined Cycle With Duct Firing	8 ppmvd at 15% O_2 at 60%-100% load (Stack Test, 3 run average)	-	good combustion control
		Combined Cycle Without Duct Firing	4 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 90%-100% load (Stack Test, 3 run average)	good combustion control
			10 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	20 ppmvd at 15% O_2 at 80%-90% load (Stack Test, 3 run average)	
				30 ppmvd at 15% O_2 at 70%-80% load (Stack Test, 3 run average	
		Simple Cycle	4 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 90%-100% load (Stack Test, 3 run average)	good combustion control
			10 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	20 ppmvd at 15% O_2 at 80%-90% load (Stack Test, 3 run average)	
				30 ppmvd at 15% O_2 at 70%-80% load (Stack Test, 3 run average)	

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+ Natural Gas	Emission Limits*+ No. 2 Fuel Oil	Control Technology
Combustion Turbines (ID Nos. ES-13 and ES-14)	VOC (as CH_4)	Combined Cycle With Duct Firing	3 ppmvd at 15% O_2 at 60%-100% load (Stack Test, 3 run average)	-	good combustion control
		Combined Cycle Without Duct Firing	1 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	good combustion control
		Simple Cycle	5 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	good combustion control
Combustion Turbines (ID Nos. ES-13 and ES-14)	PM/PM10 (filterable and condensible)	Combined Cycle With Duct Firing	0.0059 lb/million Btu (Stack Test, 3 run average)	-	use of natural gas (0.2 grain/100 sft^3 sulfur content)
		Combined Cycle Without Duct Firing	0.0071 lb/million Btu (Stack Test, 3 run average)	0.0435 lb/million Btu (Stack Test, 3 run average)	use of natural gas (0.2 grain/100 sft^3 sulfur content) and No. 2 fuel oil (0.0015%w sulfur content)
		Simple Cycle	0.0069 lb/million Btu (Stack Test, 3 run average)	0.0432 lb/million Btu (Stack Test, 3 run average)	use of natural gas (0.2 grain/100 sft^3 sulfur content) and No. 2 fuel oil (0.0015%w sulfur content)

* BACT emission limits shall apply to each source (ID Nos. ES-13 and ES-14). Emissions resulting from start-up, shutdown or malfunction above those given in Section 2.1 F.4.a. above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized.

For the simple cycle operation using natural gas, periods of excess emissions due to start-up and/or shutdown <u>or</u> operation below 60% load shall not exceed two hours in any 24-hour block period beginning at midnight. For the simple cycle operation using fuel oil, periods of excess emissions due to start-up and/or shutdown <u>or</u> operation below 70% load shall not exceed two hours in any 24-hour block period beginning at midnight. In no case shall the start-up and/or shutdown or operation below 60% load (natural gas)/70% load (fuel oil) exceed two hours in any 24-hour block period beginning at midnight for simple-cycle operations.

For the combined cycle operation using natural gas, periods of excess emissions due to start-up and/or shutdown <u>or</u> operation below 60% load shall not exceed six hours in any 24-hour block period beginning at midnight. For the combined cycle operation using fuel oil, periods of excess emissions due to start-up and/or shutdown <u>or</u> operation below 70% load shall not exceed six hours in any 24-hour block period beginning at midnight. In no case shall the start-up and/or shutdown or operation below 60% load (natural gas)/70% load (fuel oil) exceed six hours in any 24-hour block period beginning at midnight for combined-cycle operations.

Start-up for both simple cycle and combined cycle operations is defined as the period from initial firing to 60% load for natural gas and initial firing to 70% load for fuel oil. Shutdown for both simple cycle and combined cycle operations is defined as the period from 60%

load to flame out for natural gas and 70% load to flameout for fuel oil.

+ Compliance with the BACT limits (except for NOx BACT for combined cycle operation) shall be based on 3-run average of a stack test. Any use of continuous emission monitoring systems data for demonstrating compliance with BACT for any pollutants (except NOx for combined cycle operation) will require reevaluation of applicable BACT limits.

d. The following emission limits shall apply and shall not be exceeded in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530 and 40 CFR 51.166(k):

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS			
		Annual tons/yr[a]	per 24-hour lbs	per 8-hour lbs	per 1-hour lbs
Combustion Turbines (ID Nos. ES-13 and ES-14)	Nitrogen Oxides (As Nitrogen Dioxide)	545.3	-	-	-
	Particulates/PM-10 (Filterable And Condensable)	-	1,337.3	-	-
	Carbon Monoxide	-	-	1,066.9	133.4

[a] Tons per consecutive 12-month period based on a maximum 2,000 operating hours for simple cycle operations in each combustion turbine (ID Nos. ES-13 and ES-14), a maximum of 1,000 operating hours for fuel oil firing in each combustion turbine (ID Nos. ES-13 and ES-14) in either simple or combined cycle operations, a maximum of 8,760 hours for combined cycle operations for natural gas firing in each combustion turbine (ID Nos. ES-13 and ES-14), and 100% load.

Testing [15A NCAC 2Q .0508(f)]

e. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits for NOx, CO, and VOC in Section 2.1 F.4.a. above by testing one of these combustion turbines (ID Nos. ES-13 and ES-14) within 180 days of initial start-up of the first combustion turbine (either ES-13 or ES-14) in simple cycle mode for both natural gas and No. 2 fuel oil firing.

Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits for NOx, CO, and VOC in Section 2.1 F.4.a. above by testing one of these combustion turbines (ID Nos. ES-13 and ES-14) within 180 days of initial start-up of the first combustion turbine (either ES-13 or ES-14) in combined-cycle mode for both natural gas and No. 2 fuel oil firing. The Permittee shall measure NOx, CO, and VOC emissions for each scenario: combined cycle with duct firing and combined cycle without duct firing.

Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ.

Performance tests for NOx, CO, and VOC shall be conducted at ± 25 percent of 100 percent peak load or at the highest achievable load point if at least 75 percent peak load cannot be achieved in practice. Number of runs and time required for each run for the performance tests shall be in accordance with the approved testing protocol and Section 2.1 F.4.a. above. The ambient temperature for each test run shall be above 0^0F. The averaging time for demonstrating compliance for NOx, CO, and VOC shall be those in the Section 2.1 F.4.a. above.

If the average of all runs of any performance test for NOx or CO or VOC emissions exceed the respective emission limits in Section 2.1 F.4.a. above or the stack tests are not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

No emission testing is required for compliance with PM/PM10 emission limits in Section 2.1 F.4.a. and b. above.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

f. The maximum annual hours of operation for each combustion turbine (ID Nos. ES-13 and ES-14) shall not exceed 1,000 full load equivalent hours per rolling 12-month period when firing No. 2 fuel oil.

g. The maximum annual hours of operation for simple cycle operation for each combustion turbine (ID Nos. ES-13 and ES-14) shall not exceed 2,000 full load equivalent hours per rolling 12-month period.

h. The Permittee shall record and maintain records of the actual number of hours of operation for simple cycle operation and fuel oil firing for each combustion turbine (ID Nos. ES-13 and ES-14). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained or if the hours of operation for simple cycle operation for any combustion turbine (ID Nos. ES-13 and ES-14) exceeds 2,000 full load equivalent hours per rolling 12-month period or the hours of operation for fuel oil firing in any combustion turbine (ID Nos. ES-13 and ES-14) exceeds 1,000 full load equivalent hours per rolling 12-month period.

i. Only natural gas shall be burned during summer months (April through October) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed one hour per week per turbine), and during compliance testing.

j. No monitoring/recordkeeping is required for emissions of CO, VOC, and PM/PM10 from the combustion turbines (ID Nos. ES-13 and ES-14).

k. The Permittee shall monitor NOx emissions from the combustion turbines (ID Nos. ES-13 and ES-14) using CEMS for both simple and combined cycle operations, in order to demonstrate compliance with the NOx BACT emission limits. If the NOx CEMS does not comply with the requirements of §60.4335(b) and §60.4345 or if the NOx emissions (except during startup, shutdowns, and malfunction) exceed the NOx BACT emission limits in Section 2.1 F.4.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

l. In addition to the NOx emissions monitoring requirement in Section 2.1 F.4.i. above, the Permittee shall comply with the following requirements for NOx emissions from the combustion turbines (ID Nos. ES-13 and ES-14) 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_x 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_x 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.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the ammonia injection rate to the SCR system is not continuously measured and recorded when the turbine is operating in a combined cycle mode of operation or the ammonia injection rate is less than the injection rate established during the performance test in Section 2.1 F.4.c. above.

Reporting [15A NCAC 2Q .0508(f)]

m. The Permittee shall submit a written report of the results of each performance test required in Section 2.1 F.4.c. above, before the close of business on the 60th day following the completion of the performance test.

n. For combustion turbines (ID Nos. ES-13 and ES-14) when operating in either simple cycle or combined cycle mode of operation, the Permittee shall submit reports of excess emissions and monitor downtime in accordance with §60.7(c). The Permittee shall report excess emissions for all periods of operation, including start-up, shutdown, and malfunction. These reports shall be postmarked by the 30th day following the end of each 6-month period.

   i. For the NOx CEM, excess emissions and monitor downtime due to the combined cycle operations firing natural gas shall be as defined below:

      (A) An excess emission is any unit operating period in which the 30-day rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. A "30-day rolling average NO_X emission rate" is the arithmetic average of all hourly NO_X emission data in ppm measured by the continuous emission monitoring equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NO_X emissions rates for the preceding 30 unit operating days if a valid NO_X

emission rate is obtained for at least 75 percent of all operating hours.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration.

ii. For the NOx CEM, excess emissions and monitor downtime due to the combined cycle operations firing fuel oil shall be as defined below:

(A) An excess emission is any unit operating period in which the 24-hour rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at loads above 70 percent at least 15 minutes apart.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration.

iii. For the NOx CEM, excess emissions and monitor downtime due to the simple cycle operations firing natural gas shall be as defined below:

(A) An excess emission is any unit operating period in which the 24-hour rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at loads above 60 percent at least 15 minutes apart.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration

iv. For the NOx CEM, excess emissions and monitor downtime due to the simple cycle operations firing fuel oil shall be as defined below:

(A) An excess emission is any unit operating period in which the 24-hour rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at loads above 70 percent at least 15 minutes apart.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration

m. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

State-Only Requirement

5. 15A NCAC 2D .0530(h): PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	MODE OF OPERATION	EMISSION LIMITS*		CONTROL TECHNOLOGY
			Natural Gas	No. 2 Fuel Oil	
Combustion Turbines (ID Nos. ES-13 and ES-14)	SO_2[4]	Combined Cycle With Duct Firing	0.0006 lb/million Btu [1-hour average]	-	Use of natural gas (0.2 grain/100 sft^3 sulfur content)
		Combined Cycle Without Duct Firing	0.0006 lb/million Btu [1-hour average]	0.00152 lb/million Btu [1-hour average]	Use of natural gas (0.2 grain/100 sft^3 sulfur content) and No. 2 fuel oil (0.0015%w sulfur content)
		Simple Cycle	0.0006 lb/million Btu [1-hour average]	0.00152 lb/million Btu [1-hour average]	Use of natural gas (0.2 grain/100 sft^3 sulfur content) and No. 2 fuel oil (0.0015%w sulfur content)

* BACT emission limits shall apply to each source (ID Nos. ES-13 and ES-14). Emissions resulting from start-up, shutdown or malfunction above those given in Section 2.1 F.5.a. above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized.

For the simple cycle operation using natural gas, periods of excess emissions due to start-up and/or shutdown or operation below 60% load shall not exceed two hours in any 24-hour block period beginning at midnight. For the simple cycle operation using fuel oil, periods of excess emissions due to start-up and/or shutdown or operation below 70% load shall not exceed two hours in any 24-hour block period beginning at midnight. In no case shall the start-up and/or shutdown or operation below 60% load (natural gas)/70% load (fuel oil) exceed two hours in any 24-hour block period beginning at midnight for simple-cycle operations.

For the combined cycle operation using natural gas, periods of excess emissions due to start-up and/or shutdown or operation below 60% load shall not exceed six hours in any 24-hour block period beginning at midnight. For the combined cycle operation using fuel oil, periods of excess emissions due to start-up and/or shutdown or operation below 70% load shall not exceed six hours in any 24-hour block period beginning at midnight. In no case shall the start-up and/or shutdown or operation below 60% load (natural gas)/70% load (fuel oil) exceed six hours in any 24-hour block period beginning at midnight for combined-cycle operations.

Start-up for both simple cycle and combined cycle operations is defined as the period from initial firing to 60% load for natural gas and initial firing to 70% load for fuel oil. Shutdown for both simple cycle and combined cycle operations is defined as the period from 60% load to flame out for natural gas and 70% load to flameout for fuel oil.

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3.

[4] The BACT for this pollutant is a "state-only" requirement.

Monitoring/Record keeping [15A NCAC 2D .0530(h)]

c. The Permittee shall demonstrate compliance with the SO_2 emission limit in Section 2.1 F.5.a. above, by using the fuel quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract for the fuel, specifying that the total sulfur content for natural gas is 0.2 grains or less per 100 standard cubic feet and 0.0015 weight percent or less for No. 2 fuel oil.

The Permittee shall keep records of the valid purchase contract, tariff sheet, or transportation contract for a period of two years after the date on which the record was made.

Alternatively, the Permittee can demonstrate compliance through representative fuel sampling data showing that the potential sulfur emissions of the fuel does not exceed 0.2 grain sulfur per 100 standard cubic feet and 0.0015 weight percent sulfur for No. 2 fuel oil. In this case, the Permittee shall provide at a minimum the amount of data in Section 2.3.1.4 or 2.3.2.4. of Appendix D of Part 75.

Reporting [15A NCAC 2D .0530(h)]

d. No reporting is required for sulfur dioxide emissions from the firing of natural gas and No. 2 fuel oil.

6. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY [40 CFR 63 Subpart YYYY]

a. For combustion turbines (ID Nos. ES-13 and ES-14), the Permittee shall demonstrate compliance upon startup with all applicable provisions, including emission limitations, operating limitations, monitoring, record keeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart YYYY "National Emission Standards of Hazardous Air Pollutants for Stationary Combustion Turbines".

b. The formaldehyde emissions from combustion turbines (ID Nos. ES-13 and Es-14) shall not exceed 91 ppbvd at 15 percent O_2. [Table 1 to 40 CFR 63.6100]

c. The combustion turbines (ID Nos. ES-13 and ES-14) shall be subject to either of the following operating limitations: If these turbines are equipped with the oxidation catalysts, the Permittee shall maintain the 4-hour rolling average of the catalyst inlet temperature within the range suggested by the catalyst manufacturer. If these turbines are not equipped with the oxidation catalysts, the Permittee shall maintain any operating limitations approved by the EPA. [Table 2 to 40 CFR 63.6100]

The Permittee has chosen to demonstrate compliance with the formaldehyde emission limitation in Section 2.1 F.6.b. above, without installing oxidation catalysts on the combustion turbines (ID Nos. ES-13 and ES-14). The Permittee shall, therefore, be required to maintain any operating limitations approved by EPA.

d. The Permittee shall be in compliance with the emission limitation and operating limitations at all the time except during startup, shutdown, and malfunctions. [40 CFR 63.6105a)]

e. The Permittee shall maintain the combustion turbines, oxidation catalyst or other air pollution control equipment (if installed to comply with formaldehyde emission limit) in a manner consistent with good air pollution control practices for minimizing emissions at all times including startup, shutdown, and malfunction. [40 CFR 63.6105(b)]

Testing [15A NCAC 2D .1111]

f. The Permittee shall conduct initial performance tests on combustion turbines (ID Nos. ES-13 and ES-14) for formaldehyde within 180 calendar days from initial startup, in accordance with General Condition JJ. The Permittee shall also conduct subsequent performance tests on an annual basis for formaldehyde. If the average of three one-hour runs of any performance tests, conducted at any load condition within plus or minus 10 percent of 100 percent load, is above the formaldehyde emission limit given in Section 2.1 F.6.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

[40 CFR 63.7(a)(2), 40 CFR 63.6110(a), and 40 CFR 63.6115]

The Permittee shall petition EPA for operating limitations that it will monitor to demonstrate compliance with the formaldehyde emission limit for combustion turbines (ID Nos. ES-13 and ES-14). The petition for additional operating limitations shall contain information as described in 40 CFR 63.6120(f). The Permittee shall measure these parameters during the initial performance test and continuously monitor thereafter.

Alternatively, the Permittee may petition the EPA for approval of no additional operating limitations. The petition for no additional operating limitations shall contain information as described in 40 CFR 63.6120(g).

The Permittee shall not conduct the initial performance test until after EPA approves or disapproves the petition for additional operating limitations or the petition for no additional operating limitations.

If the petition for additional operating limitations or no operating limitations, is not submitted to EPA or the Permittee conducts the initial performance test for formaldehyde before EPA approves or disapproves the petition or the Permittee does not continuously monitor any approved additional operating parameters after EPA approves it, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

[40 CFR 63.6120(e), (f), and (g), 40 CFR 63.6125(b) and 40 CFR 63.6140(a)]

Monitoring [15A NCAC 2Q .0508(f)]

g. Except for monitor malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), the Permittee shall conduct all parametric monitoring at all times the stationary combustion turbines are operating. [40 CFR 63.6135(a)]
h. The Permittee shall not use data recorded during monitor malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this Subpart, including data averages and calculations. The Permittee shall use all the data collected during all other periods in assessing the performance of the control device or in assessing emissions from the new or reconstructed stationary combustion turbines. [40 CFR 63.6135(b)]

Recordkeeping [15A NCAC 2Q .0508(f), and 40 CFR 63.6155 and 40 CFR 63.6160]

i. The Permittee shall keep a copy of each notification and report that the Permittee submitted to comply with this Subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that the Permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).
j. The Permittee shall keep records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).
k. The Permittee shall keep records of the occurrence and duration of each startup, shutdown, or malfunction as required in 40 CFR 63.10(b)(2)(i).
l. The Permittee shall keep records of the occurrence and duration of each malfunction of the air pollution control equipment, if applicable, as required in 40 CFR 63.10(b)(2)(ii).
m. The Permittee shall keep records of all maintenance on the air pollution control equipment as required in 40 CFR 63.10(b)(iii).
n. The Permittee shall keep records for continuous monitoring of the operating limitations that have been included in the approved petition by the EPA.
o. The Permittee shall maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection according to 40 CFR 63.10(b)(1).
p. As specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee shall retain the records of the most recent 2 years on site or the records must be accessible on site. The records of the remaining 3 years may be retained off site.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the records in Section 2.1 F.6.i. through p. above are not maintained.

Reporting [15A NCAC 2Q .0508(f), and 40 CFR 63.6140(b), 40 CFR 63.6145 and 40 CFR 63.6150]

q. The Permittee shall report each instance in which the Permittee did not meet each emission limitation or operating limitation.
r. The Permittee shall report each instance in which the Permittee did not meet all applicable requirements in Table 7 of this Subpart. These instances are deviations from the emission and operating limitations in this Subpart. These deviations shall be reported according to the requirements in 40 CFR 63.6150.
s. The Permittee shall submit all applicable reports in Subpart A, "General Provisions".
t. The Permittee shall submit an Initial Notification not later than 120 calendar days after the start-up.
u. If the Permittee is required to conduct an initial performance test, the Permittee shall submit a notification of

intent to conduct an initial performance test at least 60 calendar days before the initial performance test is scheduled to begin as required in 40 CFR 63.7(b)(1).

v. If the Permittee is required to comply with the emission limitation for formaldehyde, the Permittee shall submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii). For each performance test required to demonstrate compliance with the emission limitation for formaldehyde, the Permittee shall submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test.

w. The Permittee shall submit semiannual compliance report containing the information described in (a)(1) through (a)(4) of 40 CFR 63.6150. The semiannual compliance report shall be submitted by the dates specified in paragraphs (b)(1) through (b)(5) of 40 CFR 63.6150, unless the Administrator has approved a different schedule.

x. The Permittee shall submit annual reports as per the dates included in (d)(1) through (d)(5) of 40 CFR 63.6150.

y. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

7. 15A NCAC 2D .2400: CLEAN AIR INTERSTATE RULES

The Permittee shall comply with all applicable requirements in 15A NCAC 2D .2400 for combustion turbines (ID Nos. ES-13 and ES-14).

G. One natural gas-fired auxiliary boiler (16.74 million Btu per hour heat input rate, ID No. ES-15)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
None	Recordkeeping	15A NCAC 2D .0524 (40 CFR 60 Subpart Dc)
Nitrogen Oxides (As NO_2) Carbon Monoxide Volatile Organic Compounds PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from this source (ID No. ES-15) into the atmosphere shall not exceed 0.19 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in this source (ID No. ES-15).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source (ID No. ES-15) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas for this source (ID No. ES-15).

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source (ID No. ES-15) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from this source (ID No ES-15).

4. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART Dc)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Dc, including Subpart A "General Provisions."
[15A NCAC 2D .0524]

Recordkeeping [15A NCAC 2Q .0508(f)]

b. In addition to any other recordkeeping required by 40 CFR 60.48c or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amount of each fuel combusted during each operating day.

However, if the Permittee is combusting only natural gas in the affected facility (ID No. ES-15), the Permittee may elect to record and maintain records of the amount of natural gas combusted during each calendar month.

Such records shall be maintained for a period of two years following the date of such record.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained or the records are not maintained for a period of two years following the date of such record. [§60.48c(g)]

Reporting [15A NCAC 2Q .0508(f)]

c. The Permittee shall submit a notification of the date construction of an affected facility is commenced, postmarked no later than 30 days after such date. [§60.7(a)(1) and §60.48c(a)]

d. The Permittee shall submit a notification of the date of initial start-up of an affected facility, postmarked within 15 days after such date. [§60.7(a)(3) and §60.48c(a)]

e. The Permittee shall submit a summary report of recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS	CONTROL TECHNOLOGY
Auxiliary Boiler (ID No. ES-15)	Nitrogen Oxides (as NO_2)	0.018 lb/million Btu	Low-NOx burner
	Carbon Monoxide	0.037 lb/million Btu	Good combustion control
	VOC (as CH_4)	0.016 lb/million Btu	Good combustion control
	PM/PM10 (filterable and condensable)	0.01lb/million Btu	Good combustion control

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for emissions of NOx, CO, VOC, and PM/PM10 from the firing of natural gas in this source.

6. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID No. ES-15). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

i. Inspect the burner, and clean or replace any components of the burner as necessary;

ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,

iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this

requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

c. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.
   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

d. No reporting is required.

H. Three natural gas-fired fuel gas heaters (5 million Btu per hour heat input rate each, ID Nos. ES-16, ES-17, and ES-18)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
Nitrogen Oxides (As NO_2) Carbon Monoxide Volatile Organic Compounds PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from these sources (ID Nos. ES-16, ES-17, and ES-18) into the atmosphere shall not exceed 0.19 pounds per million Btu heat input each. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 H.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in these sources (ID Nos. ES-16, ES-17, and ES-18)).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources (ID Nos. ES-16, ES-17, and ES-18) shall not exceed 2.3 pounds per million Btu heat input each. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 H.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas for these sources (ID Nos. ES-16, ES-17, and ES-18).

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources (ID Nos. ES-16, ES-17, and ES-18) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 H.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from these sources (ID Nos. ES-16, ES-17, and ES-18).

4. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS	CONTROL TECHNOLOGY
Fuel Gas Heaters (ID Nos. ES-16, ES-17, and ES-18)	Nitrogen Oxides (as NO_2)	0.08 lb/million Btu each	Low-NOx burner
	Carbon Monoxide	0.08 lb/million Btu each	Good combustion control
	VOC (as CH_4)	0.05 lb/million Btu each	Good combustion control
	PM/PM10 (Filterable and condensable)	0.007 lb/million Btu each	Good combustion control

b. The following emission limits shall apply and shall not be exceeded in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530 and 40 CFR 51.166(k):

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS[a]			
		Annual Tons/yr[a]	Per 24-hour lbs	Per 8-hour lbs	Per 1-hour lbs
Fuel Gas Heaters (ID Nos. ES-16, ES-17, and ES-18)	Nitrogen Oxides (As Nitrogen Dioxide)	3.5	-	-	-
	Particulates/Pm-10 (Filterable And Condensable)	-	1.92	-	-
	Carbon Monoxide	-	-	6.4	0.8

[a] All emission limits include emissions of two fuel gas heaters only. Tons per consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. Only two fuel gas heaters (ID Nos. ES-16, ES-17, and ES-18) can operate at any given time. The Permittee shall record and maintain records of the operation of fuel gas heaters (ID Nos. ES-16, ES-17, and ES-18). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained or if more than two fuel gas heaters operate at any given time.

d. The Permittee shall make available the records in Section 2.1 H.4. c. above, to the representatives of the DAQ upon request.

5. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID Nos. ES-16, ES-17, and ES-18). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burner, and clean or replace any components of the burner as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

   The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

c. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

d. No reporting is required.

I. One multi-cell cooling tower (150,000 gallons per minute recirculation water flow rate, ID No. Tower5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tons/hr Or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons/hr Where: E = allowable emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 2D .0515
PM/PM10	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source (ID No. Tower5) shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tons per hour
or
$E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons per hour

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in 2.1 I.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate matter emissions from this source.

2. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS*	CONTROL TECHNOLOGY
Cooling Tower (ID No. Tower5)	PM/PM10	0.0005% drift loss [3-hour rolling average]	Drift Eliminators

* BACT emission limits shall apply at all times except during the following: Emissions resulting from start-up, shutdown or malfunction above those given in Section 2.1 I.2.a. above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized.

Testing [15A NCAC 2Q .0508(f)]

b. No emission testing is required for compliance with PM/PM10 emission limit for this source (ID No. Tower5) in Section 2.1 I.2.a. above.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for PM/PM10 emissions from this source (ID No. Tower5).

J. One No. 2 fuel oil fixed-roof storage tank with atmospheric vents (not to exceed 3.5 million gallons capacity, ID No. TK-5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
VOC's	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Emission Source	Pollutant	Emission Limit Annual (Tons/Yr)*	Control Technology
Fuel Oil Storage Tank (ID No. TK-5)	VOC's	0.35	Storage of low vapor pressure material (< 3.5 psia)

* Tons per consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. The maximum throughput for No. 2 fuel oil for the storage tank (ID No. TK5) shall not exceed 28,284,500 gallons per year.

c. The Permittee shall keep records for the storage tank (ID No. TK-5) on a monthly basis for No. 2 fuel oil in a written or electronic format. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of No. 2 fuel oil used is not monitored or the annual throughput for the storage tank (ID No. TK5) exceeds the limit included in Section 2.1 J.1.a. above.

K. Three natural gas-fired fuel gas heaters (8.75 million Btu per hour heat input rate each, ID Nos. ES-21, ES-22, and ES-23)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from these sources (ID Nos. ES-21, ES-22, and ES-23) into the atmosphere shall not exceed 0.19 pounds per million Btu heat input each. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 K.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in these sources (ID Nos. ES-21, ES-22, and ES-23).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources (ID Nos. ES-21, ES-22, and ES-23) shall not exceed 2.3 pounds per million Btu heat input each. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 K.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

a. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas for these sources (ID Nos. ES-21, ES-22, and ES-23).

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources (ID Nos. ES-21, ES-22, and ES-23) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 K.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for visible emissions from these sources (ID Nos. ES-21, ES-22, and ES-23).

4. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID Nos. ES-21, ES-22, and ES-23). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   iv. Inspect the burner, and clean or replace any components of the burner as necessary;
   v. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
   vi. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

   The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

c. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

d. No reporting is required.

L. Two natural gas-fired fuel gas heaters (2.6 million Btu per hour heat input rate each, ID Nos. ES-19 and ES-20)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from these sources (ID Nos. ES-19 and ES-20) the atmosphere shall not exceed 0.19 pounds per million Btu heat input each. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 L.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in these sources (ID Nos. ES-19 and ES-20)).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources (ID Nos. ES-19 and ES-20) shall not exceed 2.3 pounds per million Btu heat input each. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 L.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas for these sources (ID Nos. ES-19 and ES-20).

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources (ID Nos. ES-19 and ES-20) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 L.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from these sources (ID Nos. ES-19 and ES-20).

4. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID Nos. ES-19 and ES-20). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

e. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burner, and clean or replace any components of the burner as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

   The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

f. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

g. No reporting is required.

2.2 - Phase II Acid Rain Permit Requirements

ORIS code: 7805
Effective: January 1, 2010 through December 31, 2014

1. Statement of Basis

Statutory and Regulatory Authorities: In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended and Titles IV and V of the Clean Air Act, the Department of Environment and Natural Resources, Division of Air Quality issues this permit pursuant to Title 15A North Carolina Administrative Codes, Subchapter 2Q .0400 and 2Q .0500, and other applicable Laws.

2. SO_2 Allowance Allocations and NO_x Requirements for each affected unit

		2006	2007	2008	2009	2010
Unit 1 (IC Turbine) **Unit 2 (IC Turbine)** **Unit 3 (IC Turbine)** **Unit 4 (IC Turbine)** **Unit 6 (IC Turbine)** **Unit 7 (IC Turbine)** **Unit 8 (IC Turbine)** **Unit 13 (IC Turbine)** **Unit 14 (IC Turbine)**	SO_2 allowances, under Tables 2, 3, or 4 of 40 CFR part 73.	NA*	NA*	NA*	NA*	NA*
	NO_x limit	NA**				

* SO_2 allowances are not allocated by U.S. EPA for new units under 40 CFR part 72.
** Does not apply for gas or oil-fired units.

3. Comments, Notes and Justifications

None.

4. Phase II Permit Application (attached)

The Phase II Permit Application submitted for this facility, as approved by the Department of Environment and Natural Resources, Division of Air Quality, is part of this permit. The owners and operators of these Phase II acid rain sources must comply with the standard requirements and special provisions set forth in the following attached application:

Acid Rain Permit Application dated December 14, 2009

2.3 - Clean Air Interstate Rules (CAIR) Permit Requirements

ORIS code: 7805

The following sources are affected CAIR units:

PERMITTED SOURCE ID No.	CAIR ID No.
Unit 1	1
Unit 2	2
Unit 3	3
Unit 4	4
Unit 6	6
Unit 7	7
Unit 8	8

A. 15A NCAC 2D .2403: NITROGEN OXIDE EMISSIONS

1. The total nitrogen oxide (NOx) emissions from the affected CAIR units listed above at the Richmond County Combustion Turbine Facility shall not exceed, except as provided in 15A NCAC 2D .2408: [15A NCAC 2D .2403]
   a. 374 tons annually for 2009-2014
   b. 318 tons annually for 2015 and later
   If any of the CAIR sources listed above is a new source for which allocations have not been included in the table in 15A NCAC 2D .2403, the CAIR designated representative may submit a request to be allocated CAIR NOx allowances for those sources using the procedures in 40 CFR 96.142(c)(2) and (3).
2. The affected CAIR NOx sources shall comply with the requirements of 15A NCAC 2D .2400 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2403 shall be subject to the provisions of 40 CFR 96.106(f). [15A NCAC 2D .2403]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2403 and 15A NCAC 2D .2407(a)(1)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.106(b) and (e), and 40 CFR 96 Subpart HH for each CAIR NOx unit.
5. The emissions of nitrogen oxides of a CAIR NOx source shall not exceed the number of allowances that it has in its compliance account established and administered under Rule .2408 of this Section.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HH shall be used to determine compliance by each CAIR NOx source with its emissions limitation according to 40 CFR 96.106(c) including 96.106(c)(5) and (6).
7. The provisions of 40 CFR 96.106(d) shall be used for excess emissions.

B. 15A NCAC 2D .2405: NITROGEN OXIDE EMISSIONS DURING OZONE SEASON

1. Ozone season NOx emissions from the affected CAIR units listed above at the Marshall Steam Station shall not exceed, except as provided in 15A NCAC 2D .2408: [15A NCAC 2D .2405(a)(1) and (b)]
   a. 335 tons during the ozone season for 2009-2014; and
   b. 285 tons during the ozone season for 2015 and later
   The ozone season shall be defined as the period of time extending from May 1st to September 30th of each calendar year. If any of the CAIR sources listed above is a new source for which allocations have not been included in the table in 15A NCAC 2D .2405, the CAIR designated representative may submit a request to be allocated CAIR NOx ozone season allowances for those sources using the procedures in 40 CFR 96.342(c)(2) and (3).
2. The affected CAIR NOx Ozone Season sources shall comply with the requirements of 15A NCAC 2D .2400 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2405 shall be subject to the provisions of 40 CFR 96.306(f). [15A NCAC 2D .2405]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2405 and 15A NCAC 2D .2407(a)(3)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.306(b) and (e), and 40 CFR 96 Subpart HHHH for each CAIR Ozone Season NOx unit.

5. The nitrogen oxide ozone season emissions of a CAIR NOx Ozone Season source shall not exceed the number of allowances that it has in its compliance account established and administered under 15A NCAC 2D .2408. For purposes of making deductions for excess emissions for the ozone season in 2008 under the NOx SIP Call (15A NCAC 2D .1400), the Administrator shall deduct allowances allocated under this Rule (15A NCAC 2D .2405) for the ozone season in 2009.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NOx Ozone Season source with its emissions limitation according to 40 CFR 96.306(c) including 96.306(c)(5) and (6).
7. The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

C. 15A NCAC 02D .2404: SULFUR DIOXIDE EMISSIONS

1. The annual allocation of sulfur dioxide allowances shall be determined by EPA. The allocations for CAIR SO_2 units are listed in the table below and reflect the absence of allocations listed in 40 CFR 73.10:

SOURCE	ALLOCATION FOR 2000-2009	ALLOCATION FOR 2010 AND LATER
Unit 1	0	0
Unit 2	0	0
Unit 3	0	0
Unit 4	0	0
Unit 6	0	0
Unit 7	0	0
Unit 8	0	0

2. The affected CAIR SO2 sources shall comply with the requirements of 15A NCAC 2D .2400 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2404 shall be subject to the provisions of 40 CFR 96.206(f). [15A NCAC 2D .2404]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2404 and 15A NCAC 2D .2407(a)(2)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.206(b) and (e), and 40 CFR 96 Subpart HHH for each CAIR SO2 unit.
5. The emissions of sulfur dioxides of a source described in Section 2.5.C.1 above shall not exceed the number of allowances that it has in its compliance account established and administered under Rule 15A NCAC 2D .2408.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHH shall be used to determine compliance by each CAIR SO2 source with its emissions limitation according to 40 CFR 96.206(c) including 96.206(c)(5) and (6).
7. The provisions of 40 CFR 96.206(d) shall be used for excess emissions.

D. CAIR Permit Application

The permit application submitted for this facility, as approved by the Department of Environment and Natural Resources, Division of Air Quality, is part of this permit. The owner and operator of these CAIR NOx and SO2 sources must comply with the standard requirements and special provisions set forth in the following attached application:

CAIR Permit Application dated June 26, 2007

SECTION 3 - GENERAL CONDITIONS (version 3.6)

This section describes terms and conditions applicable to this Title V facility.

A. **General Provisions** [NCGS 143-215 and 15A NCAC 2Q .0508(i)(16)]

1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 2D and 2Q.
2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 2Q .0507(k) and .0508(i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environment and Natural Resources upon request.

C. **Severability Clause** [15A NCAC 2Q .0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 2Q .0507(e) and 2Q .0508(i)(16)]
Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

Supervisor, Stationary Source Compliance
North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

All submittals shall include the facility name and Facility ID number (refer to the cover page of this permit).

E. **Duty to Comply** [15A NCAC 2Q .0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action,

for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

F. **Circumvention** - STATE ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

G. **Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 2Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 2Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 2Q .0524 and 2Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 2Q.0524 and 2Q .0505.
3. Minor Permit Modifications [15A NCAC 2Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 2Q .0515.
4. Significant Permit Modifications [15A NCAC 2Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 2Q .0516.
5. Reopening for Cause [15A NCAC 2Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 2Q .0517.

H. **Changes Not Requiring Permit Modifications**
1. Reporting Requirements
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

2. Section 502(b)(10) Changes [15A NCAC 2Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.
   d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 2Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or

b. the change is not covered under any applicable requirement.

4. Emissions Trading [15A NCAC 2Q .0523(c)]
To the extent that emissions trading is allowed under 15A NCAC 2D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 2Q .0523(c).

I.A. **Reporting Requirements for Excess Emissions and Permit Deviations**
[15A NCAC 2D .0535(f) and 2Q .0508(f)(2)]
"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 2D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 2Q .0700. *(Note: Definitions of excess emissions under 2D .1110 and 2D .1111 shall apply where defined by rule.)*
"Deviations" - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 2D .0535 as follows:
   a. Pursuant to 15A NCAC 2D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 2D .0535(f)(3).

Permit Deviations

3. Pursuant to 15A NCAC 2Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
   a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 2D .0535 quarterly. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.B. **Other Requirements under 15A NCAC 2D .0535**
The Permittee shall comply with all other applicable requirements contained in 15A NCAC 2D .0535, including 15A NCAC 2D .0535(c) as follows:

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 2D .0535(c)(1) through (7).
2. 15A NCAC 2D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

J. **Emergency Provisions** [40 CFR 70.6(g)]

The Permittee shall be subject to the following provisions with respect to emergencies:

1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
   a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
   b. the permitted facility was at the time being properly operated;
   c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
   d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 2Q .0508(e) and 2Q .0513(b)]

This 15A NCAC 2Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 2Q .0500 renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 2Q .0512(b)(1), this 15A NCAC 2Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 2Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 2Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 2Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 2Q .0508(i)(4)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 2Q .0508(i)(9)]

1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 2Q .0507(f)]

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 2Q .0508(f) and 2Q .0508 (l)]

The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring

information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 2Q .0508(n)]
The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:
1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. **Certification by Responsible Official** [15A NCAC 2Q .0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 2Q .0512]
1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
   a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
   b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
   c. the applicable requirements under Title IV; or
   d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 2Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 2Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 2Q .0519]
The Director may terminate, modify, or revoke and reissue this permit if:
1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. **Insignificant Activities** [15A NCAC 2Q .0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 2Q .0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. **Inspection and Entry** [15A NCAC 2Q .0508(l) and NCGS 143-215.3(a)(2)]

1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
   a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
   b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
   c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
   d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 2Q .0508(i)(10)]

1. The Permittee shall pay all fees in accordance with 15A NCAC 2Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environment and Natural Resources. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 2Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 2Q .0207]

The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 2Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

Y. **Confidential Information** [15A NCAC 2Q .0107 and 2Q. 0508(i)(9)]

Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 2Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 2Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 2Q .0100 and .0300]

A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 2Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 2Q .0505 and .0507]

The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 2Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History** [15A NCAC 2Q .0507(d)(4)]

The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 2Q .0501(e)]

1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and

recovery equipment specified in 40 CFR Part 82 Subpart F.

2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 2Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** -
FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. **Title IV Allowances** [15A NCAC 2Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 2D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 2D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 2D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 2D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 2D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 2D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 2Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 2D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report

the average production rates determined during each testing period.

4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
   a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
      (1) Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
      (2) Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
      (3) Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
   b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 2D .2600 has precedence over all other tests.

KK. **Reopening for Cause** [15A NCAC 2Q .0517]

1. A permit shall be reopened and revised under the following circumstances:
   a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
   b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
   c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
   d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 2Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 2Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 2Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 2Q .0508(i)(16)]

The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. During operation the monitoring recordkeeping and reporting requirements as prescribed by the permit shall be implemented within the monitoring period.

MM. **Fugitive Dust Control Requirement** [15A NCAC 2D .0540] - STATE ENFORCEABLE ONLY

As required by 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 2D .0540(f). "Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas,

process areas stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

NN. **Specific Permit Modifications** [15A NCAC 2Q.0501 and .0523]

1. For modifications made pursuant to 15A NCAC 2Q .0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 2Q .0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 2Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
   a. a description of the change at the facility;
   b. the date on which the change will occur;
   c. any change in emissions; and
   d. any permit term or condition that is no longer applicable as a result of the change.

   In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

OO. **Third Party Participation and EPA Review** [15A NCAC 2Q .0521, .0522 and .0525(7)]

For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 2Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
BTU	British thermal unit
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
DAQ	Division of Air Quality
DENR	Department of Environment and Natural Resources
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
OAH	Office of Administrative Hearings
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TPY	Tons Per Year
VOC	Volatile Organic Compound

NORTH CAROLINA
DIVISION OF AIR QUALITY

Preliminary Determination and Air Permit Review

Permit Issue Date: xx

Region: Fayetteville Regional Office
County: Richmond
NC Facility ID: 7700070
Inspector's Name: James Moser
Date of Last Inspection: 05/11/2012
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): DEP Carolinas Inc. - Richmond Cty Comb Turbine

Facility Address:
DEP Carolinas Inc. - Richmond Cty Comb Turbine
198 Energy Way
Hamlet, NC 28345

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:
NSPS:
NESHAP: MACT YYYY
PSD: Major Modification: PM10, PM2.5, NOx, CO, VOC, and GHG
PSD Avoidance:
NC Toxics: No
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Kim Kashmer Senior Environmental Specialist (910) 205-2111 198 Energy Way Hamlet, NC 28345	Teresa Wilson Station Manager 198 Energy Way Hamlet, NC 28345	Ann Quillian Sr. Environmental Specialist (919) 546-6610 410 S. Wilmington Street Raleigh, NC 27601

Application Data

Application Number: 7700070.12B
Date Received: 08/30/2012
Application Type: Modification
Application Schedule: PSD

Existing Permit Data

Existing Permit Number: 08759/T14
Existing Permit Issue Date: 05/20/2013
Existing Permit Expiration Date: 03/31/2016

Review Engineer: Rahul Thaker

Review Engineer's Signature: **Date:** October 14, 2013

Comments / Recommendations:
Issue 08759/T15
Permit Issue Date:
Permit Expiration Date:

1.0 Purpose of Application

Progress Energy Carolinas, Inc., Richmond Combustion Turbine Facility (now renamed, "Duke Energy Progress", hereinafter "DEP") submitted a Prevention of Significant Deterioration (PSD) application to increase the permitted operations of existing simple cycle combustion turbines (ID Nos. Units 1 through 4, and 6), from 2,000 hours to 8,760 hours annually on a full load equivalent basis for each turbine, when burning natural gas, but did not propose any changes to the existing fuel oil annual limit (1,000 full load equivalent hours for each turbine).

It needs to be stated here that this proposed increase in annual operations of the above simple cycle turbines does not involve any physical changes to the turbines nor does it modify the operations of any other permitted sources (other than the affected simple cycle turbines) at the facility (i.e., there will be no debottlenecking of any other sources at the facility).

The Permittee has stated that the increase in the permitted hours of operation when burning natural gas for these five combustion turbines will provide the DEP the operational flexibility to promptly dispatch these cost-effective units to meet the regional power demand.

The application has been deemed "complete" for PSD as of 12/3/2012. NC Division of Air Quality ("DAQ") will process the application using the procedure in 15A NCAC 2Q .0501(d)(1), satisfying the permitting requirements in both 2D .0530 (PSD) and 2Q .0500 (Title V).

2.0 Existing Facility Operations

DEP owns and operates an electric power generating facility in Hamlet, NC. The facility operates in accordance with the current air quality permit No. 08759T14. It consists of the following permitted equipment:

- Five natural gas/No. 2 oil-fired GE Frame 7FA simple cycle combustion turbines (Units 1 through 4 and 6)
- Two natural gas/No. 2 fuel oil-fired GE Frame 7FA combined cycle combustion turbines (Units 7 and 8)
- Two natural gas/No. 2 fuel-oil fired Siemens SGT6-5000F simple/combined cycle combustion turbines (Units 13 and 14).
- Ancilliary equipment including auxiliary boilers (ES-10 and ES-15), gas heaters (ES-16, ES-17, ES-18, ES-21, ES-22 and ES-23), dew point heaters (ES-19 and ES-20), cooling towers (Tower4 and Tower5), and fuel oil storage tanks (TK-1, TK-2 and TK-5).

As stated above in Section 1.0, simple cycle turbines (Units 1 through 4 and 6) are currently permitted to operate for a maximum of 2,000 hours (full load operation) each annually including an allowance of 1,000 hours per year (full load operation) each when burning No. 2 fuel oil.

Piedmont Natural Gas owns and operates several of the above ancillary equipment (ES-16, ES-17, ES-18, ES-21, ES-22 and ES-23) although these sources are included in the current air quality permit for DEP. The Permittee has submitted a separate application (7700070.11A) to remove these sources from its air quality permit.

Finally, one other ancillary equipment (auxiliary boiler ES-15) has not been constructed.

3.0 Project Description

3.1 Site/Regional Description

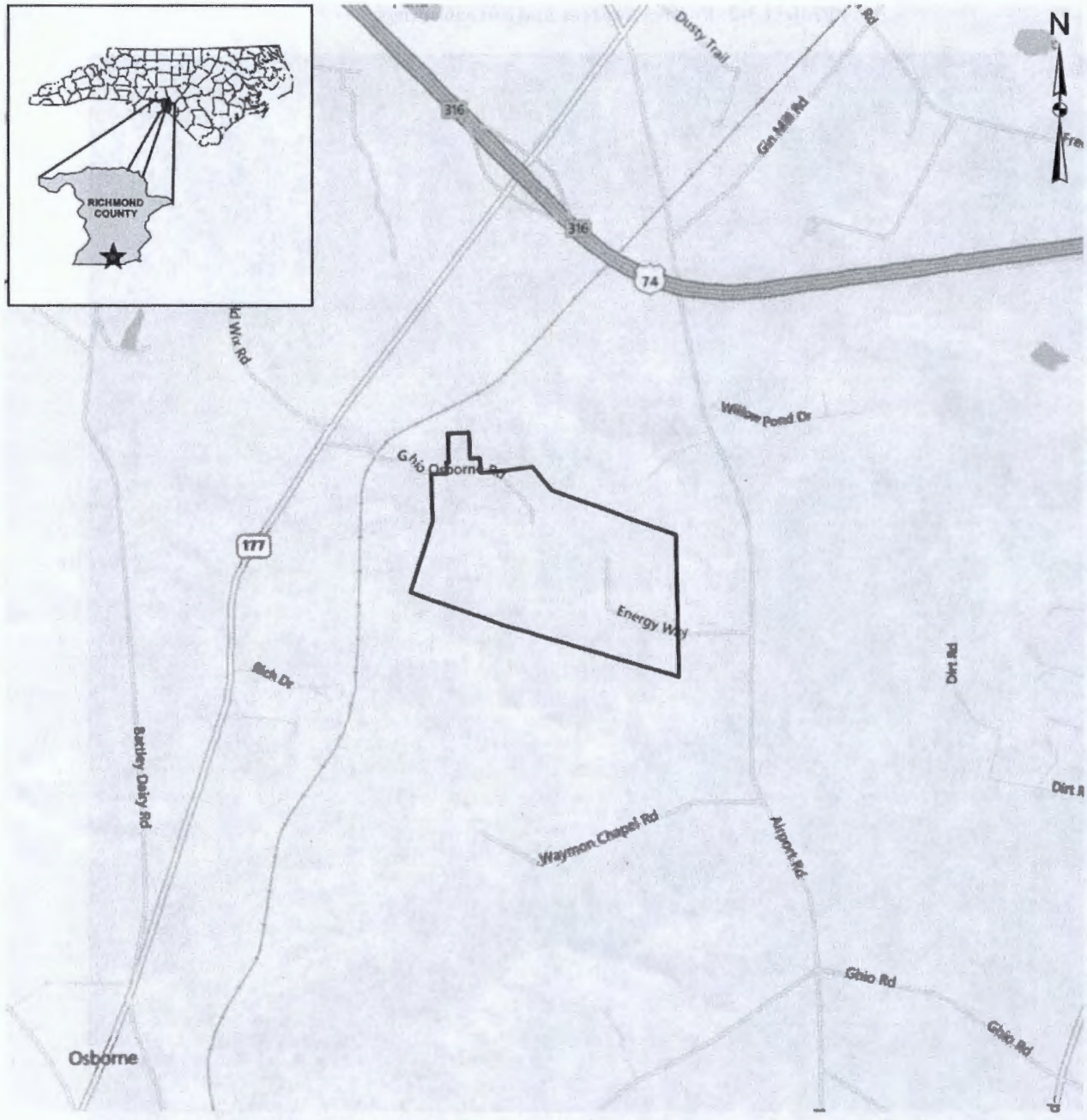
The facility is located in Richmond County. Its coordinates are 34° 50' 17" (latitude) and 79° 44' 23" (longitude). It is located in the southern Piedmont region of North Carolina, approximately 3 miles north of the South Carolina state line. This region is characterized by gently undulating terrain with elevations primarily 300 to 400 feet above mean sea level. The land use surrounding the facility is rural with a scattered mix of light industry, agricultural, and residential uses. Figures 3-1 below shows facility location.

Air Quality in Richmond County with respect to the National Ambient Air Quality Standards (NAAQS) is classified below in accordance with §81.334:

Pollutant	Attainment Status
PM_{10}	Attainment
$PM_{2.5}$	Unclassifiable/Attainment (both annual and 24-hour NAAQS)
Sulfur Dioxide	Attainment
Nitrogen Dioxide	Attainment (annual NAAQS), Unclassifiable/Attainment (1-hr NAAQS)
Carbon Monoxide	Unclassifiable/Attainment
Ozone	Unclassifiable/Attainment (both 1-hr and 8-hr ozone NAAQS)
Lead	Unclassifiable/Attainment

Richmond County is considered a Class II area with ambient air increments for PM_{10}, $PM_{2.5}$, SO_2, and NO_2. The closest Class I area from this facility is the Cape Romain National Wilderness Area, which is located approximately 195 kilometers southeast of the facility.

Figure 3-1: Project Location



3.2 Project Sources

As stated in Section 2.0 above, existing, five simple cycle combustion turbines (ID Nos. Units 1 through 4 and 6) are GE Frame 7FA turbines (Model 7FA.03). The commercial operation dates for these turbines are May 2001 (Units 1 through 4) and May 2002 (Unit 6). They are currently permitted to operate for 2,000 hours each (full load operation) annually including 1,000 hours (full load operation) on No. 2 fuel oil. The increase in annual operation of the existing turbines to 8760 hours does not involve any physical changes to the associated turbines nor does it

change the operation of any other sources located at the facility (i.e., no de-bottlenecking). Figure 3-2 below includes project sources and its surroundings.

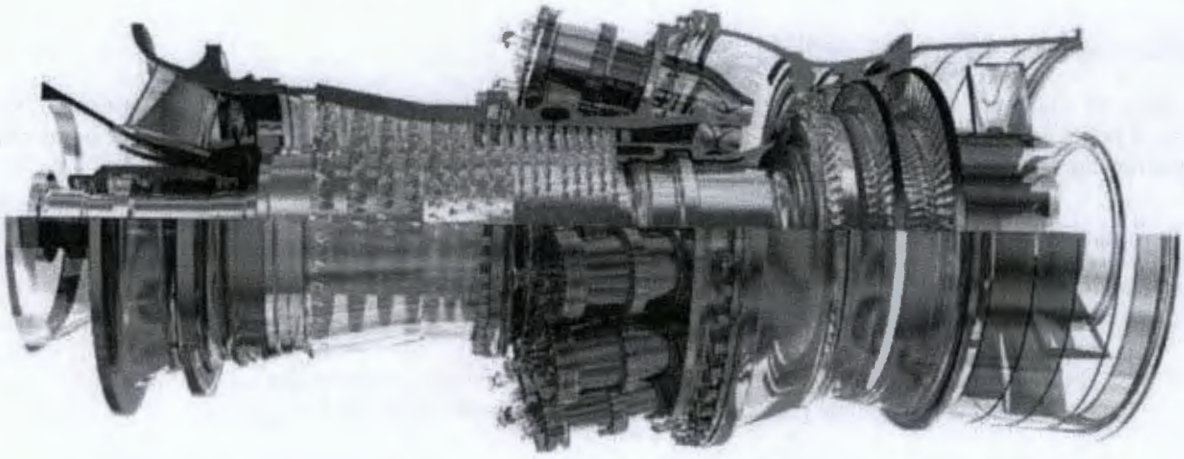
Project 3-2: Project Sources and Surroundings

Simple Cycle Combustion Turbines

The combustion turbines (also called "gas turbines") consist of three major components: compressor, combustor, and power turbine. First, the intake air is filtered, then, cooled using evaporative cooling techniques, and finally, compressed in a multiple-stage axial flow compressor. Then, the compressed air and fuel are mixed and burned in the

turbine combustion chamber. Lean pre-mix dry low NOx combustors minimize the emissions of NOx while combusting natural gas. Hot exhaust gases from the combustion chamber are expanded through a multi-stage power turbine that results in energy to drive both the air compressor and power generator. Exhaust gases exit the power turbine at approximately 1100°F. Figure 3-3 below is a GE 7 FA combustion turbine, showing all major components as discussed above.

Figure 3-3: GE 7 FA Combustion Turbine



The combustion turbines are typically designed to operate in the dry low-NOx mode at loads from about 60 percent to up to base load rating.

The production of electricity using a combustion turbine engine coupled with a shaft driven generator is referred to as the Brayton Cycle. This power generation cycle has a thermal efficiency that generally approaches 40 percent. This is also referred to as "simple-cycle" and has been traditionally utilized for electricity peaking generation since the unit and its output can be brought on line very quickly. The largest energy loss from the cycle is from the turbine exhaust in which heat is discarded to the atmosphere at about 1,100°F.

As per GE, the output of a 7FA simple cycle combustion turbine is 183MW corresponding to a heat rate of 9,360 Btu/kWh[1]. The Permittee has provided the actual information on the operations of these turbines indicating that the output of each of these turbines recently ranged between 178 to 187 MW (winter) and 159 to 169 MW (summer)[2] and estimated the actual thermal efficiency of 33%.

3.3 Project Emissions

Emissions of PM, PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO, VOC, and GHG are expected due to burning of natural gas in simple cycle combustion turbines. The emissions increases due to the proposed change in annual operation of these turbines are discussed in detail in Section 4.0 and summarized below:

- Particulate Matter (PM): 274 tons/yr (TPY)
- PM_{10}: 274 TPY
- $PM_{2.5}$: 274 TPY
- SO_2: 16 TPY
- NOx: 1,205 TPY
- CO: 484 TPY
- VOC: 46 TPY

[1] Heavy Duty Gas Turbine Products, GE Energy, GEA-12985H (06/09).
[2] PEC Integrated Resource Plan, submitted to NCUC, September 2012.

- GHG (as CO_2e): 3,144,123 TPY

Each of these simple cycle combustion turbines is exhausted through a dedicated 115-feet stack. The exhaust parameters for each include the exit velocity of 151.8 ft/sec and temperature of 1,066°F.

4.0 Regulatory Applicability

Simple cycle combustion turbines (Units 1 through 4 and 6) are currently subject to the following applicable requirements:

15A NCAC 2D .0521 "Control of Visible Emissions"

The intent of this Rule is to prevent, abate and control emissions generated from fuel burning operations and industrial processes where visible emissions can be reasonably expected to occur, except during startup, shutdowns, and malfunctions approved as such according to procedures approved under 15A NCAC 2D .0535.

For sources manufactured after July 1, 1971, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. However, except for sources required to install, operate, and maintain continuous opacity monitoring systems (COMS), compliance with the 20 percent opacity limit shall be determined as follows:

i. No six-minute period exceeds 87 percent opacity;
ii. No more than one six-minute period exceeds 20 percent opacity in any hour; and
iii. No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

Excess emissions during startup and shutdown shall be excluded from the determinations in paragraphs i. and ii. above, if the excess emissions are exempted according to the procedures set out in 2D .0535(g). Excess emissions during malfunctions shall be excluded from the determinations in paragraphs i. and ii. above, if the excess emissions are exempted according to the procedures set out in 2D .0535(c).

All periods of excess emissions shall be included in the determinations in paragraphs i. and ii. above, until such time that the excess emissions are exempted according to the procedures in 2D .0535.

The above referred turbines are subject to an opacity limit of 20% in accordance with the current air quality permit. All applicable requirements in this regulation have been included in the current permit and no changes are required due to proposed increase in annual operations of the turbines.

Visible emissions due to burning of natural gas are expected to be very low due to inherently clean fuel. Compliance with this applicable requirement is expected.

15A NCAC 2D .0524 "New Source Performance Standards"

The provisions of 40 CFR 60 Subpart GG "Standards of Performance for Stationary Gas Turbines" are applicable to any stationary gas turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the lower heating value of the fuel fired, if it commences construction, modification, or reconstruction after October 3, 1977. There are a few exceptions to this applicability. The NSPS was lastly revised on July 8, 2004 (69 FR 41346).

The above referred simple cycle combustion turbines are subject to the requirements in this NSPS. All applicable requirements (emissions standards, testing, monitoring, record keeping, and reporting) in this NSPS have been included in the current permit and no changes are required due to proposed increase in annual operations of the turbines.

The NSPS provision in §60.14 defines "modification" as "any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies". The increase in emission rate is to be evaluated on an hourly basis (e.g. kg/hr or lb/hr.). As stated in Sections 1.0

and 2.0 above, since the proposed project (i.e., changes in annual operations of each simple cycle turbine) does not impact any hourly emission rate to which a standard applies, the "modification" provision is not applicable.

In addition, the NSPS provision in §60.15 "reconstruction" does not apply as the project does not involve any replacement of the components of the existing facility. Again as discussed above, the project does not involve any physical changes to the existing simple cycle combustion turbines. Thus, these units are not "reconstructed" and they will continue to be subject to the requirements in NSPS Subpart GG.

Finally, it needs to be stated here that EPA has separately promulgated an NSPS in 40 CFR 60 Subpart KKKK "Standards of Performance for Stationary Combustion Turbines", 71 FR 38482, July 6, 2006. This standard applies to any stationary combustion turbine that commences construction, modification, or reconstruction after February 18, 2005. The proposed changes to the existing turbines do not make them subject to this NSPS, because they are subject to NSPS Subpart GG, and both "modification" and "reconstruction" provisions are not triggered as discussed above.

15A NCAC 2D .0530 "Prevention of Significant Deterioration"

United States (US) Congress first established the New Source Review (NSR) program as a part of the 1977 Clean Air Act Amendments and modified the program in the 1990 amendments. The NSR program includes a requirement for a pre-construction review before beginning of the actual construction for both attainment areas and non-attainment areas. The NSR program for attainment and non-attainment areas are called "Prevention of Significant Deterioration" (PSD) and "Non-attainment New Source Review" (NAA NSR), respectively. The NSR focuses on industrial facilities, both new and modified, that create large increases in the emissions of specific pollutants.

The basic goal of PSD is to ensure that the air quality in attainment areas (e.g., Richmond County, NC, for PM_{10}, $PM_{2.5}$, NOx (as NO_2), SO_2, CO, ozone, and lead) does not significantly deteriorate while maintaining a margin for future industrial growth.

Under PSD, all major new or modified stationary sources of air pollutants as defined in §169 of the CAA must be reviewed and permitted, prior to construction, by EPA or the appropriate permitting authority, as applicable, in accordance with §165 of CAA. A "major stationary source" is defined as any one of 28 named source categories (e.g., "fossil fuel-fired steam electric plants of more than 250 million Btu per hour heat input"), which emits or has a potential to emit (PTE) 100 tons per year of any "regulated NSR pollutant", or any other stationary source (i.e., other than 28 named source categories), which emits or has the potential to emit 250 tons per year of any "regulated NSR pollutant".

Pursuant to the Federal Register notice on February 23, 1982 (47 FR 7836), North Carolina (NC) has full authority from the US Environmental Protection Agency (EPA) to implement the PSD regulations in the State effective May 25, 1982. NC's State Implementation Plan (SIP) - approved PSD regulations have been codified in 15A NCAC 2D .0530, which implement the requirements of 40 CFR 51.166 "Prevention of Significant Deterioration of Air Quality". The version of the CFR incorporated in the NC's SIP is that of June 13, 2007 with a few exceptions and it does not include any subsequent amendments or editions to the referenced material. Refer to Table 1 to §52.1170. It should be noted here that on September 1, 2013, NC adopted changes to its PSD regulation incorporating explicitly both PM_{10} and $PM_{2.5}$ increments, however, these changes have not yet been approved by EPA.

The DEP facility is an existing PSD major stationary source, classified under the category of "fossil fuel-fired steam electric plants of more than 250 million Btu per hour heat input". As stated above, this category is one of the 28 named source categories. The facility emits or has a potential to emit 100 tons per year for several regulated NSR pollutants; PM_{10}, $PM_{2.5}$, SO_2, NO_x (as NO_2), CO, VOC and GHG.

Because this existing facility is considered a major stationary source, any modification to an existing major source resulting in significant emission increases for any regulated NSR pollutants, is subject to PSD review and must meet appropriate review requirements. Thus, any emission increases as a result of this modification must be compared to the "significance levels" included in 40 CFR 51.166(b)(23)(i), to determine which pollutants must undergo PSD review.

The Permittee has performed a PSD applicability analysis for the project for determination of whether the project results in an emission increase of any regulated NSR pollutant above the applicable significance thresholds.

Using the "actual-to-projected actual test", the Permittee has performed calculations for actual (pre-change) and projected actual (post-change) emissions for regulated NSR pollutants expected to be emitted from the referred combustion sources.

The requirement in 15A NCAC 2D .0530 for "baseline actual emissions" (BAE) provides that the Permittee can choose any consecutive 24-month as a baseline period from the look-back period of 5 years from the date of the receipt of the complete application. The requirement also specifies that the DAQ Director can allow a different look-back period not to exceed 10 years immediately preceding the date of the receipt of the complete application, if the Permittee can demonstrate that it is more representative of normal source operation.

The actual emissions (i. e., baseline actual emissions) for the existing emissions unit (such as simple cycle combustion turbine Unit 1) have been estimated for the consecutive 24-month period, from January 2010 to December 2011. DAQ deemed this application complete on December 3, 2012. Thus, the selected baseline period (January 2010 to December 2011) meets the above requirement.

The projected actual emissions (PAE) for each of these turbines have been estimated based upon 8,760 hours of operation, burning natural gas at a maximum heat input rate of 1,628 million Btu per hour, and the emissions factors consisting of the proposed BACT (same as the currently approved BACT), AP-42 (Section 3.1) and Part 98 (40 CFR).

Emissions Increases for the Proposed Project

Regulated NSR Pollutant	Baseline Actual Emissions Tons Per Year	Projected Actual Emissions Tons Per Year	Emissions Increase/Decrease Tons Per Year	Significant Emission Rate Tons Per Year	Major Modification Review Required?
PM	90	364	274	25	No
PM_{10}	90	364	274	15	Yes
$PM_{2.5}$	90	364	274	10	Yes
SO_2	5.3	21	16	40	No
NOx (as NO_2)	328	1533	1205	40	Yes
CO	158	642	484	100	Yes
VOC	15	61	46	40	Yes
Lead	Negligible	Negligible	Negligible Increase	0.6	No
Sulfuric Acid Mist	Negligible	Negligible	Negligible Increase	7	No
GHG as CO_{2e}	1027391	4171515	3144123	75000	Yes

Notes: Both BAE and PAE include emissions associated with startups, shutdowns, and malfunctions. In addition, the combustion emissions due to burning of natural gas in the simple cycle turbines are stack emissions and hence, there are not any fugitive emissions expected from the operations of combustion turbines. BAE and PAE for PM, PM-10, and PM2.5 include filterable and condensable portions.

Using this procedure and as shown in the table above, the following can be concluded:

- The change in emissions due to the project for PM_{10}, $PM_{2.5}$, NOx (as NO_2), CO, VOC, and GHG will exceed their respective PSD significance thresholds. Hence, PSD major modification review is required for these pollutants.

- For lead and sulfuric acid mist, the change in emissions due to the project is expected to be much less than their respective PSD significance thresholds. Thus, PSD major modification review is not required for these pollutants.

It needs to be clarified that PM is not a "regulated NSR pollutant", even though; EPA has established its "significant emission rate". The rationale for this conclusion is as follows:

The definition of "regulated NSR pollutant" in §51.166(b)(49) reads in part as follows:

> "Any pollutant that is subject to any standard promulgated under Section 111 of the act."

EPA has promulgated numerous Section 111 standards (such as NSPS) for PM for various source categories. Thus, one may be inclined to conclude that PM is a "regulated NSR pollutant" under PSD. However, as per the memorandum[3], EPA's position is that "the existing NSPS for particulate matter would serve as adequate surrogates for limiting ambient amounts of PM-10, the intended "regulated air pollutant"". EPA also believes that "the control of pollutant (such as PM) under an NSPS does not automatically result in that pollutant being considered regulated if the intended pollutant is already being regulated under the separate legal authority".

Because PM-10 is the "intended pollutant" for control of PM emissions in various Section 111 standards (such as NSPS) and PM-10 is already regulated under the Section 109 of the CAA (separate legal authority), PM is not a "regulated NSR pollutant" under PSD. Hence, applicability review for PM is not required under PSD program. Moreover, as stated in Section 5.0 below, emissions of simple cycle combustion turbines are expected to be primarily in the size range of PM_{10} and less, so any BACT analysis for PM is considered redundant.

Thus, DEP has performed the following PSD reviews and analyses for emissions of PM_{10}, $PM_{2.5}$, NOx (as NO_2), CO, VOC, and GHG, from simple cycle combustion turbines (Units 1 through 4 and 6). These reviews and analyses are required for each affected new or modified emission unit causing or contributing to an emission increase of any regulated NSR pollutant equaling or exceeding its significance threshold, as per 15A NCAC 2D .0530.

- BACT analysis
- Air quality analysis
- Source impact analysis
- Additional impacts analysis

Refer to Sections 5.0 through 8.0 below for discussion of each of the above requirements of PSD.

<u>15A NCAC 2D .1112 "112(g) Case by Case maximum Achievable Control Technology"</u>

The referred simple cycle turbines are currently subject to the requirements in §112(g) of the Clean Air Act (CAA) in accordance with the current permit. The established §112(g) determination (i.e., Section 2.2 A.1. in the current permit) includes the requirement of application of proper combustion control as MACT.

Separately, EPA has promulgated a §112(d) MACT in 40 CFR 63 Subpart YYYY "National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines", 69 FR 10512, March 5, 2004.

The provision in 15A NCAC 2D .1112(h) requires the DAQ to reopen the existing Title V permit for any source subject to §112(g) to incorporate the promulgated §112(d) standard (e.g., MACT Subpart YYYY), using the procedures in 2Q .0517 "reopening for cause".

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[3]Definition of Regulated Pollutant for Particulate Matter for Purposes of Title V, Lydia Wegman, EPA OAQPS, RTP, NC, October 16, 1995. It should be noted, however, that the other guidance issued by EPA OAQPS office were later refuted by the agency. For example, refer to December 13, 2005 letter from Steve Page, EPA OAQPS to Paul Plath, E3 Consulting, regarding IGCC as BACT. This guidance was later refuted by the EPA *In re Desert Rock Energy Company*, Slip. Op. at 68-69.

In addition, the provision in 2D .1112(i) requires that the DAQ can include a compliance date in the permit for the promulgated §112(d) standard for the source that has obtained a final MACT determination as per §112(g). If the §112(d) standard does not include a compliance date for the affected unit in §112(g), the DAQ shall establish a compliance date in the permit that assures that the owner or operator shall comply as expeditiously as practicable, but not longer than eight years from the promulgation of §112(d) standard.

Thus, the above referred simple cycle combustion turbines must comply with the requirements in 40 CFR 63 Subpart YYYY "National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines", on or after March 5, 2012 (not more than eight years from the promulgation date of March 5, 2004). Thus, §112(g) determination as included in the current permit will be removed and replaced with all applicable requirements of the MACT.

The §112(d) MACT (40 CFR 63 Subpart YYYY) requirements are discussed as below:

§63.6090(a)(1) includes the trigger date of January 14, 2003, defining "existing stationary combustion turbine". Then, §63.6090(b)(4) states that "existing" stationary combustion turbines in all subcategories do not have to meet the requirements in this Subpart and Subpart A. No initial notification is necessary for existing stationary combustion turbine.

As discussed elsewhere, the referred turbines are "existing", as they commenced construction before January 14, 2003. Thus, these existing simple cycle combustion turbines are subject to this MACT standard but there are not any requirements to comply. In summary, the revised permit will include the applicability of this MACT (i.e., §112(d) MACT) and exclude the existing case-by-case MACT requirement in §112(g).

<u>15A NCAC 2D .2400 "Clean Air Interstate Rules"</u>

The above referred simple cycle turbines are currently subject to the requirements in 2D .2400. As per the current permit, the combustion turbines units 1 through 4, 6, 7 and 8 are subject to the requirements in 2D .2403 (annual NOx), .2405 (ozone season NOx), and .2404 (annual SO_2):

The allocations for NOx are as follows:

Annual NOx

374 tons annually for 2009-2014
318 tons annually for 2015 and later

Ozone season

335 tons during the ozone season for 2009-2014; and
285 tons during the ozone season for 2015 and later

Annual SO_2

The annual allocations for SO_2 shall be determined by the EPA. The above referred units are required to comply with the trading program for SO_2 as administered by EPA. Finally, all monitoring including record keeping and reporting requirements have been included in the current permit for each of these pollutants.

The proposed changes to the annual operation of the turbines do not result into any changes to the current permit.

<u>15A NCAC 2Q .0402 "Acid Rain Permitting Procedures"</u>

The above referred simple cycle turbines are currently subject to the requirements in 2Q .0402. As per the current permit, SO_2 allowances are not allocated to any "new unit" in 40 CFR 72 and NOx emission limit is not established for any gas or oil fired unit. The proposed changes to the annual operation of the turbines do not require any changes to the current permit.

5.0 BACT Analysis

The CAA defines BACT as follows:

> "The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutant which will exceed the emissions allowed by any applicable standard established pursuant to section 111 or 112 of this Act. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to enactment of the federal Clean Air Act Amendments of 1990."

Given the variation between emission sources, facility configuration, local air-sheds, and other case-by-case considerations, Congress determined that it was impossible to establish a single BACT determination for a particular pollutant or source. Economics, energy, and environmental impact are mandated in the CAA to be considered in the determination of case-by-case BACT for specific emission sources. In most instances, BACT may be defined through an emission limitation. In cases where this is impracticable, BACT can be defined by the use of a particular type of control device, work practice, or fuel type. In no event can a technology be recommended which would not comply with any applicable standard of performance under CAA §§111 (NSPS) or 112(HAPs).

The EPA developed guidance referred to as "Top-Down" BACT process for PSD applicants for determining BACT. However, NC DAQ does not strictly adhere to EPA's "top-down" guidance. Rather, NCDAQ implements BACT in accordance with the statutory and regulatory language. As such, NCDAQ's BACT conclusions may differ from those of the EPA.

As stated above, the major modification review is triggered for the project (i.e., increase in operating hours for natural gas for five simple cycle combustion turbines, Units 1 through 4 and 6) under PSD due to changes in emissions for PM_{10}, $PM_{2.5}$, NOx (as NO_2), CO, VOC, and GHG, exceeding their respective significance thresholds. As per §51.166(j)(3), each emissions unit contributing to this change in emissions must apply BACT for each of these pollutants.

The emission unit must be defined so that a BACT analysis can be performed. In this case, the applicant has proposed a revision to an existing turbine burning primarily gas, with a limit of no more than 1000 hours of fuel oil. The threshold question is whether the project is defined as a combustion turbine or a combustion turbine with 1000 hours of oil. The EPA recently addressed this same question when performing a BACT analysis for the Florida Power & Light Company's Port Everglades facility.[4] The FPL project consisted three, natural gas/fuel oil fired combined cycle combustion turbines. Like the case at hand, EPA had to determine whether BACT applied to the project as defined by the applicant (i.e. a combustion turbine with 1000 hours of oil) or whether the project was simply a combustion turbine. Although EPA's justification was not entirely clear, they agreed with the applicant that the project included 1000 hours of oil. The lack of clarity in EPA's determination was the result of their decision to define the project as a combustion turbine with 1000 hours of oil based on their finding that restricting fuel oil beyond 1000 hours was not technically feasible (under Step 2 of EPA's BACT process). According to EPA,

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[4] Preliminary Determination & Statement of Basis, Prevention of Significant Deterioration Permit PSD-EPA-4010 for Greenhouse Gas Emissions, Florida Power & Light Company, Port Everglades Next Generation Clean Energy Center Project, US EPA, May 29, 2013,
http://www.epa.gov/region4/air/permits/ghgpermits/porteverglades_ghg.html.

> Based on the information provided by the applicant, factors that must be accounted for include: the need for electric system reliability and integrity, the need for fuel diversity and supply reliability, the need for base load generating capacity, the need for adequate electricity at a reasonable cost, and whether it is the most cost-effective alternative available. FPL's natural gas supply is limited by the number of pipelines that serve the state. The limited number of independent pipelines represents a source of unique risk in system and fuel reliability. The potential for temporary disruption of supply at the critical entry points, primarily the Gulf of Mexico, could occur due to hurricanes or through gas industry operational issues. While the cost of electricity was identified by the applicant as one of the reasons for needing a varied fuel source, it was not the only reason. Based on the need for reliability and the risk associated with Florida's limited pipeline system, the use of natural gas as the sole fuel source is not technically feasible for this project.

The rational provided above suggests that the EPA believes that further limiting fuel oil beyond the 1000 hours proposed would redefine the source. The need for oil as an alternate fuel appears to be founded, in part, on the risk of losing natural gas as a result of a *force majeure* although some of the EPA's language is broader. In addition, the EPA agreed that the need for "fuel diversity" and the need for "electricity at a reasonable cost" were factors in supporting their decision. In other words, EPA's analysis appears to rely both on a *force majeure* event as well as the lower cost of natural gas that attends the ability to burn fuel oil as well. It should be noted that other combustion turbine facilities operated by DEP are limited to the exclusive use of natural gas in North Carolina. This does not erode the arguments made by EPA in defining a source, but does establish that combustion turbines can technically and cost effectively operate using natural gas only. As such, the EPA proceeded with a BACT analysis treating the emissions unit as a gas-fired unit with 1000 hours of fuel oil.

The Permittee in this case points out that some of the rational relied upon by EPA in the FPL case are present in this case.

First, the Permittee argues that the initial PSD application submitted in 1999 for these combustion turbines included the use of natural gas and limited fuel oil as a back-up fuel and the DAQ issued the PSD permit and the final determination including 112(g) determination in November 1999 providing for 1,000 hours per year (full load equivalent) of No. 2 fuel oil usage. The Permittee emphasizes that the DAQ acknowledged that cost-effectiveness for obtaining uninterruptible gas supply during certain peak gas usage (for heating) and wintertime periods would be prohibitive and therefore any limit on burning fuel oil, beyond the 1000 hours, would be inappropriate. In other words, the use of oil allowed the facility to negotiate a lower price for the natural gas burned in the turbine.

Second, the Permittee states that the policy of the State of NC is "to promote adequate, reliable and economical utility service to all of the citizens and residents of the State". Refer NCGS §62-2(a)(3). Further, the NC's General Statute (GS) at §62-110.1(e) requires the North Carolina Utilities Commission (NCUC) to "consider resource and fuel diversity and reasonably anticipated future operating costs" when determining an approval for "Certificate for Construction of Generating Facility". The Permittee adds that NCUC's Order Granting Certificate for Public Convenience and Necessity for Richmond Combustion Turbine Facility (issuance date 11/2/1999) included that these turbines "will be primarily fueled by natural gas, however, they will be running on fuel oil if natural gas is not available during certain times of the year" and found that "CP&L (now DEP) is required to secure and maintain adequate and reliable resources to meet anticipated demand for electricity in its assigned territory." Also, as per the Permittee, the NCUC pointed out in the Order that the generating equipment sometimes become unavailable due to required outages (e.g., maintenance), repairs, abnormal weather, and fuel interruption (e.g., hurricanes, heavy load on fuel supply, etc.). The Permittee concluded that maintaining back-up fuel capability meets the requirement on "securing and maintaining adequate resources to meet electric demand."

Third, the Permittee references North American Electric Reliability Corporation (NERC)'s report[5] which includes recommendation for maintaining back-up fuel oil during the supply interruptions of natural gas. Thus, the report includes recommendation for maintaining fuel switching capabilities to prepare for unexpected supply disruptions.

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[5] 2013 Special Reliability Assessment: Accommodating an Increased Dependence on Natural Gas for Electric Power Phase II: A Vulnerability and Scenario Assessment for the North American Bulk Power System, NERC, May 2013.

Fourth, the DEP references the US Congressional Research Office report[6], which includes the following discussions:

> "Natural gas production from Gulf of Mexico and Louisiana state lands has been recovering since the storms, but the equivalent of 10% of U.S. consumption remains shut-in because of production or transport problems. Unlike refined products, which can be imported, there is little extra available supply. Despite a normal storage situation as of late October, winter shortfalls are possible if deliverability does not increase or demand does not respond to high prices."
>
> "With natural gas, about 85% of the nation's supply comes from domestic production; there is very little opportunity to import replacement supply. As of October, nearly 10% of total nationwide consumption was shut-in because of production problems in the Federal Offshore Gulf of Mexico, or because of damage to critical infrastructure."

The Permittee points out that NC Division Emergency Management (NC DEM) gave a presentation at the 2011 Fall Conference of the NC Emergency Managers Association, acknowledging that hurricane impacts (of Katrina and Rita) along the Gulf of Mexico did affect the NC's fuel supply.

Finally, the Permittee references the Federal Energy Commission (FERC) and NERC report[7], which evaluated the impact of unusually cold winters in the Southwest US. These agencies found that those natural gas generating units that have capability to switch to fuel oil could remain in operation during the cold weather event. The FERC/NERC recommended that generating units not only be able to switch to fuel oil, but also that they maintain and periodically operate with back-up fuel to ensure they are reliable to operate under such adverse conditions.

DEP, thus, concluded that previously approved 1,000 hours per consecutive 12 months per combustion turbine for back-up No. 2 fuel oil continues to be necessary to meet the state-imposed requirements to maintain adequate and reliable resources.

DAQ agrees with EPA that the inclusion of 1000 hrs fuel oil combustion defines this source. If the facility were not so defined, a BACT analysis may show that the exclusive use of natural gas might be BACT. However, consistent with the definition of a source, removal of fuel oil capability would "disrupt the basic business purpose of the proposed facility" as discussed in EPA guidance[8]. DAQ believes the fuel diversity (such as fuel oil back-up for natural gas) is very important in order to provide reliable service to the assigned territories for Richmond County Combustion Turbine Facility, considering the clear mandate for consideration of fuel diversity for NCUC as afforded in the NCGS. DAQ also believes that the back-up fuel oil meets the state mandated requirement to maintain adequate and reliable resources for generating equipment.

Therefore, DAQ agrees that the project should be defined as a gas-fired combustion turbine with 1000 hours of oil. Accordingly, the BACT limits, including the GHG BACT limits, will include, as appropriate, emission limits for the unit when the unit burns gas and a separate limits when the unit burns oil.

BACT for $PM_{10}/PM_{2.5}$

Emissions of $PM_{10}/PM_{2.5}$ from combustion turbines are primarily a result of inert solids contained in the fuel and water (when water injection is used for emission control) and unburned pyrolized hydrocarbons. These particles pass through the turbine and are emitted in the exhaust gas. Essentially all particulate matter emissions from gas turbines are less than 1 micron in diameter and are therefore within the $PM_{10}/PM_{2.5}$ range.

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[6] Oil and Gas Disruption from Hurricanes Katrina and Rita, Congressional Research Service, Library of Congress, October 21, 2005.

[7] Report on Outages and Curtailments During the Southwest Cold Weather of February 1-5, 2011 - Causes and Recommendations, FERC and NERC, August 2011.

[8] PSD and Title V Permitting Guidance for Greenhouse Gases, EPA-457/B-11-001, OAQPS, EPA, RTP, NC, March 2011.

Emissions of $PM_{10}/PM_{2.5}$ from combustion turbines are inherently low because they achieve high combustion efficiencies and burn clean fuels such as natural gas. Clean fuels are needed to prevent damage to the turbine blades and other high precision turbine components. Combustion turbines are designed and operated to burn the fuel as completely as possible in order to attain the highest possible thermal efficiency.

$PM_{10}/PM_{2.5}$ Control Alternatives

Units 1, 2, 3, 4, and 6 simple cycle turbines are currently permitted with a BACT of 0.0055 lb/million Btu (filterable only) for natural gas-firing using combustion controls for PM/PM10 emissions. Any new add-on emission control technologies for additional reduction of $PM_{10}/PM_{2.5}$ will have to be installed as a retrofit to the existing units. DEP has considered the use of clean fuel (i.e., natural gas) as $PM_{10}/PM_{2.5}$ BACT for the proposed increase in annual operations of combustion turbines when burning natural gas. The Permittee has not considered any add-on controls (e.g., fabric filters and electrostatic precipitators) for control of emissions of $PM_{10}/PM_{2.5}$, because neither of these add-on control options has been demonstrated in practice. This lack of consideration for any add-on controls for combustion turbines burning natural gas is supported by the EPA's RBLC database information. In general, high exhaust flow rates and low particulate loading from the combustion turbines make these add-on controls technically infeasible. The Permittee has also contended that even if these add-on controls are to be found technically feasible, due to very low emissions of $PM_{10}/PM_{2.5}$ from combustion turbines, any add-on controls would be likely deemed prohibitive considering the economic impact.

$PM_{10}/PM_{2.5}$ BACT Determination

The Permittee has proposed a BACT of 0.0055 lb/million Btu (filterable only) for natural gas-firing using combustion controls and clean fuels (natural gas and low sulfur fuel oil) for the existing simple cycle combustion turbines burning natural gas.

DAQ has reviewed the recent BACT determinations as available in the EPA's RBLC database. Refer to a compilation in Appendix 1. DAQ agrees with the Permittee that there are not any add-on controls approved by any permitting authority for emissions of $PM_{10}/PM_{2.5}$ from combustion turbines and all determinations consist of use of clean fuels (natural gas and low sulfur distillate oil) and good combustion control, as BACT for simple cycle combustion turbines burning natural gas.

It needs to be emphasized here that the §302(k) of the CAA defines **"emissions limitation"** as "a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or **operational standard** promulgated under this Act."

DAQ believes that the use of pipeline quality gas during all operating conditions is in fact an operational standard for $PM_{10}/PM_{2.5}$ emissions, thus satisfying the statutory definition of an "emissions limitation".

Moreover, the regulatory definition of BACT (40 CFR 51.166(b)(12)) provides that if the reviewing authority (DAQ) determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed.

DAQ believes that establishing such a small numerical limit (e.g., 0.0055 lb/million Btu filterable only) for $PM_{10}/PM_{2.5}$ emissions and then, requiring a verification using the stack testing, is impractical and onerous, considering the estimated cost of $5,000 for each stack test for each pollutant, notwithstanding the number of turbines requiring stack testing. This cost is excessive given the statutory factors that must be considered for each BACT limit and therefore the DAQ – the permitting authority – concludes that imposing numerical limitations on these simple cycle combustion turbines boilers is not feasible.

In addition, the Permittee proposed emission limit of 0.0055 lb/million Btu (filterable only) equates to an emission rate of 8.9 lbs/hr (filterable only) for each turbine. With the project emissions (i.e., net increase in emissions) of

approximately 274 tons/yr (both filterable and condensible) for $PM_{10}/PM_{2.5}$, the maximum impact predicted to be only 0.061 ug/m^3 (annual basis). This predicted impact is approximately 6% and 20% of the Class II significant impact levels (SILs) of 1 ug/m^3 (PM_{10}) and 0.3 ug/m^3 ($PM_{2.5}$), respectively, on an annual averaging basis.

DAQ concludes that it is economically unreasonable to impose numerical limit with the stack testing to verify compliance where each turbine emits low $PM_{10}/PM_{2.5}$ (8.9 lbs/hr filterable only) and the impact of project emissions of these pollutants is significantly lower than the established SILs for these pollutants (6% and 20% of the Class II SILs). In summary, DAQ proposes to establish the use of good combustion control and natural gas with low sulfur distillate oil as BACT for the proposed project.

BACT for NOx (as NO_2)

Factors affecting NO_x formation include turbine design, ambient conditions, turbine load and fuel type. Two types of NO_x emissions from combustion turbines are of concern: thermal NO_x and fuel NO_x. Thermal NOx generation can be explained by a chemical reaction sequence called the "Zeldovich Mechanism". This set of chemical reactions postulates that the generation of thermal NOx is an exponential function of the flame temperature and a linear function of the residence time of the hot gases at the flame temperature. Thus, temperature and residence time determine thermal NOx levels in combustion turbines.

For a given fuel, because the flame temperature is a function of the equivalence ratio, the highest rate of thermal NOx generation occurs at the equivalence ration of 1.0, when the temperature is equal to adiabatic flame temperature. NO_x formation decreases rapidly for either fuel rich combustion (equivalence ratio greater than 1.0) or fuel lean combustion (equivalence ratio less than 1.0). Therefore, local flame stoichiometry is critical in achieving reductions in thermal NO_x.

Fuel NO_x is formed by the reaction of fuel-bound nitrogen compounds with oxygen. Natural gas has negligible chemically-bound nitrogen (although some molecular nitrogen is present). Fuel NO_x emissions in combustion turbines are inherently negligible when firing natural gas as compared to fuel oil.

Thus, essentially, all NO_x formed from natural gas combustion is thermal NOx.

Finally, the combustion for natural gas firing is more easily controlled than for fuel oil. This leads to higher thermal NO_x and fuel NO_x contributions from oil firing.

NO_x Control Alternatives

The current permit for Richmond County includes approved NOx BACT for Units 1, 2, 3, 4, and 6 as the use of dry-low NO_x combustors and water injection with corresponding emissions limits of 10.5 ppmvd and 42 ppmvd, when burning natural gas and fuel oil, respectively. Since these are existing units, any new, add-on emission control technologies for additional reduction of NO_x, will have to be installed as a retrofit.

Techniques used to reduce NO_x formation for combustion turbines during the combustion process are deemed as "combustion controls." Techniques applied downstream of the combustion zone, after NO_x formation, to reduce NO_x emissions are called as "post-combustion controls". The following includes discussion on DLN, water or steam injection, and SCR, SCONOx, SNCR, NSCR, and XONON^{TM}.

Dry Low-NO_x Combustor

A Dry low-NOx combustor (DLN) is a combustion control technique that reduces the formation of NO_x through enhanced mixing of combustion fuel and air. DLN is currently applicable only to firing natural gas because the technology to create the required homogeneous fuel-air mixture with liquid fuels is not commercially available. The design of the combustor is a major factor in determining the amount of NO_X formation. This technology relies on establishing fuel-lean zones within the combustor and staged combustion. The first stage uses a pilot burner for flame stabilization followed by a secondary stage of multiple fuel injection nozzles where a lean premixture of fuel and air are burned in order to assure a uniform mixture and the avoidance of high temperature regions in the combustor.

The existing GE 7FA simple cycle combustion turbines at the facility include DLN-2.6 technology when firing natural gas for control of NOx emissions. The key feature of the DLN-2.6 is the addition of sixth burner located in the center of the five existing DLN-2 burners. The DLN-2.6 will allow the NOx reduction to 10.5 ppm when firing natural gas.

DAQ considers DLN a technically feasible technology for simple cycle combustion turbines burning natural gas.

Water or Steam Injection

In this technique, either demineralized water or steam is injected into the turbine combustion chamber. The moisture acts as a heat sink, reducing the peak flame temperature, thus reducing the formation of thermal NO_x. Equivalent levels of NO_x control are achieved with either water or steam injection. Wet injection is normally used only when burning fuel oil on modern dual-fuel combustors where DLN is used when burning natural gas. DEP is currently using water injection when firing distillate fuel oil in the existing dual fuel, simple cycle combustion turbines.

DAQ considers water injection a technically feasible for combustion turbines firing fuel oil only.

Selective Catalytic Reduction (SCR)

SCR is a post-combustion control technology whereby ammonia is injected into the exhaust gas upstream of a catalyst bed, and is normally used in conjunction with other combustion control(s) to achieve a higher degree of control than either technology alone can provide. The ammonia reacts with NO_x in the exhaust gas to form molecular nitrogen and water vapor. Most commercial SCR systems utilize base metal catalysts (vanadium- or titanium-based) and operate over a temperature range of approximately 500-750°F. A given catalyst achieves effective NO_x control within a 100-200°F temperature-window. At temperatures outside this window, the catalyst becomes ineffective and NO_x reduction decreases. Excess temperatures can permanently damage the catalyst. Also, at low temperatures unreacted ammonia can "slip" through and be emitted to the atmosphere.

SCR systems have been determined to be LAER and BACT to reduce NO_x emissions for many combined-cycle base-load installations firing natural gas or firing natural gas as the primary fuel with limited hours of fuel oil firing as backup.

However, conventional SCR is not applicable to simple-cycle turbines due to materials temperature limitations, which preclude its application in high-temperature simple-cycle turbine exhaust (1000°F-1100°F). High temperature SCR (hot SCR) is technically feasible for simple-cycle turbines, but has only been "demonstrated in practice" for aero-derivative gas turbines (typically less than 50 MW unit) and not for F-Class Frame turbines, such as at the DEP facility. Hot SCR is considered technically infeasible for large F-Frame combustion turbines operating in simple-cycle mode.

Therefore, DAQ considers SCR (conventional or hot SCR) a technically infeasible technology for reduction of NOx emissions from natural gas fired simple cycle turbines at this facility.

$SCONO_X$™

$SCONO_X$™ is a patented process by Goal Line Environmental Technologies that employs post-combustion catalytic absorption to reduce emissions of NO_X and CO. The system uses a catalyst to oxidize CO to CO_2 and NO to NO_2, where the NO_2 is absorbed onto the catalyst surface through the use of a potassium carbonate coating (oxidation/absorption cycle). A dilute hydrogen reducing gas is passed across the catalyst surface in the absence of oxygen and the absorbed NO_2 is released as N_2 and water (regeneration cycle). CO_2 in the regeneration gas reacts with potassium nitrates to form potassium carbonate, which was the coating on the catalyst surface before the oxidation/absorption cycle began, causing the catalyst to be continuously regenerated. Because the regeneration cycle must take place in an oxygen-free environment, a section of catalyst undergoing regeneration must be isolated from the exhaust gas.

This technology is a new and emerging control technology. It can operate effectively over a wide operating temperature range of 450-700°F and it is also capable of operating at temperatures as low as 300°F. NOx emissions level to 3 ppmvd at 15 percent O_2 has been demonstrated on a 30 MW combined cycle turbine.

The technology has not been commercially applied to any type of large combustion turbines such as F-Class Frame turbines at DEP. Some of the serious issues with this technology are concerns regarding catalyst poisoning, significant consumption of water, and more frequent cleaning and maintenance.

Therefore, NCDAQ considers $SCONO_X$™ a technically infeasible technology for this project.

Selective Non-Catalytic Reduction (SNCR)

SNCR is a post-combustion flue gas treatment similar to selective catalytic reduction (SCR) except that instead of using a catalyst, a reducing compound such as ammonia or urea is injected into the exhaust gas to react with and reduce NO_x emissions. SNCR has been used extensively in boiler, heater, and incineration applications. However, it has not been applied to combustion turbines. The flue gas temperatures in the range of 1600-1900°F are required for optimum performance of this technology. These required temperatures are much more than the exhaust temperature of approximately 1100°F for the simple cycle combustion turbines. This temperature restriction makes application of this technology impractical as a means of control for NO_x emissions. There are no known applications of SNCR on simple or combined cycle combustion turbines.

It needs to be noted here that ExxonMobil markets the SNCR technology (using aqueous or anhydrous ammonia as reagent) as Thermal DeNOx and Fuel Tech Inc. sells the SNCR technology (using urea) as NOxOUT for stationary combustion sources. None of these technologies are applicable to combustion turbines due to the same reasons as discussed above.

Therefore, NC DAQ considers SNCR a technically infeasible technology.

Nonselective Catalytic Reduction (NSCR)

NSCR is also a post-combustion flue gas treatment technique, typically using a platinum/rhodium catalyst, and is commonly used to control automobile exhaust emissions. It requires a fuel-rich combustion environment with little excess air and oxygen content in the exhaust gas below approximately 3%. This condition does not exist for the simple cycle combustion turbines at the facility, which will operate with excess air containing approximately 14-16% oxygen.

Therefore, NC DAQ considers NSCR as technically infeasible technology.

XONON™

XONON™ is an emerging technology that can result in NO_X levels as low as 3 ppmvd (on small scale units) using catalytic flameless combustors that operate at temperatures below that which results thermal NO_X formation begins. This technology has been installed on small simple cycle combustion turbines (15 MW). The technology has not been proven to be commercially available for large simple cycle combustion turbines such as those at this facility.

Therefore, NCDAQ concludes that the XONON™ is a technically infeasible technology.

NOx (as NO_2) BACT Determination

The Permittee has stated that the SCR technology has not been demonstrated for large simple cycle combustion turbines. Thus, the Permittee has proposed a BACT of 10.5 ppmvd at 15% O_2 for natural gas-firing using DLN for the modified simple cycle combustion turbines, which is the same as the BACT as approved for the pre-modified turbines.

DAQ agrees with the Permittee that SCR has not been demonstrated in practice for large GE 7FA turbines and thus, it is not a technically feasible technology on such units.

DAQ has reviewed the recent BACT determinations as available in the EPA's RBLC database. Refer to a compilation in Appendix 1. DAQ agrees with the Permittee that almost all determinations require DLN technology as part of BACT for large natural gas-fired simple cycle combustion turbines. There are a few determinations (CA-1175, CA-1176, NJ-0075, NJ-0076 and NJ-0077) which seem to require SCR on simple cycle combustion turbines, but each of these units appear to be much smaller (50-65 MW) as compared to each of the simple cycle unit at DEP (each unit rated at 173 MW). Further, one determination (FL-0310, Shady Hills Generating Station) includes an emission limit of 9 ppmvd for simple cycle combustion turbine using DLN. It needs to be emphasized here that the unit at Shady Hills is GE 7FA.05 model (223 MW each) as compared to the units at DEP are GE 7FA.03 model (173 MW each). As stated above, the units at DEP started operating more than 12 years ago. While it is not known whether the units at Shady Hills are in operation and whether the lower emission limit (9 ppm) has been demonstrated using DLN. In general, it is expected that newer GE 7FA models (such as .05) would have higher efficiency and thus lower emissions (such as 9 ppm) v/s the older GE 7FA models (such as .03) and thus higher emissions (10.5 ppmvd).

Moreover, with the project emissions (i.e., net increase in emissions) of 1205 tons/yr for NOx (as NO_2), the maximum impact predicted to be only 0.263 ug/m^3 (annual basis). This predicted impact is approximately 26% of the Class II SIL of 1 ug/m^3 (NO_2) annual averaging basis.

DAQ believes that it is economically unreasonable to impose more stringent limit where no add-on technology has been demonstrated for larger GE 7GA simple cycle combustion turbines and the impact of project emissions (net increase in emissions) is significantly lower than the established SIL for NO_2 (26% of Class II SIL). Thus, DAQ proposes to approve 10.5 ppmvd at 15% O_2 on 24-hour rolling average basis using DLN as NOx BACT, when burning natural gas for the modified simple cycle combustion turbines (Units 1 through 4 and 6). Compliance will be determined using a continuous emission monitoring system (CEM).

BACT for CO

CO is formed as a result of incomplete combustion of fuel. Control of CO is accomplished by providing adequate fuel residence time, mixing, and temperature in the combustion zone to ensure complete combustion. These factors, however, also tend to result in increased emissions of NO_x. Conversely, a low NO_x emission rate achieved through flame temperature control (by dry lean pre-mix natural gas fired burners) can result in higher levels of CO emissions. Thus, a compromise is established whereby the combustion conditions are set to achieve the lowest NO_x emission rate possible while keeping CO emission rates at acceptable levels.

CO emissions from gas turbines are a function of oxygen availability (excess air), flame temperature, residence time at flame temperature, combustion zone design, and turbulence. CO control methods include exhaust gas cleanup methods such as catalytic oxidation, and front-end methods such as combustion control wherein CO formation is suppressed within the combustors.

CO Control Alternatives

Good Combustion Control Practices

Good combustion control practices rely on efficient operation of the combustion turbine. Emissions of CO are minimized due to better combustion efficiency through optimum design and operation of the combustion turbine. This includes proper air-to-fuel ratios, and a turbine design that provides the necessary temperature, residence time and mixing conditions in the combustion zone. As a result of economic incentives as well as air pollution concerns, manufacturers have attempted to maximize the combustion efficiency of turbines. Due to high combustion efficiency of combustion turbines (near 99 percent), CO emissions are inherently low.

Catalytic Oxidation

Catalytic oxidation is an add-on or post-combustion control in which the turbine exhaust gases pass through a catalyst bed (typically platinum/rhodium), where CO is oxidized to carbon dioxide. No supplementary reactant is used in conjunction with an oxidation catalyst.

Catalytic oxidation is considered a technically feasible option for simple combustion turbines burning natural gas with control efficiency in the range of 80 to 90 percent.

Energy, Economic, and Environmental Impacts

Energy

The only significant energy impact due to operation of CO catalyst is the backpressure penalty due to pressure drop across the catalyst bed. Thus, the overall simple cycle efficiency is reduced as some energy will have to be expended to overcome the pressure drop.

The applicant has assumed 0.1 percent energy penalty, which results in a loss of 200 KW which is equivalent to 1,752,000 kilowatt-hours per year (kW-hours per year) per each turbine. Assuming an energy need of 12,000 kW-hours per year per household, the lost energy would be sufficient to supply the electrical needs of 146 households. The cost of the additional fuel to overcome this energy need has been taken into consideration in the economic impact.

Economic

The Permittee has conducted an economic impact analysis for catalytic oxidation using the EPA data.[9] This analysis includes natural gas fired simple cycle turbines operating for 8,760 hours and assumed control efficiency for CO catalyst at 90%. The cost recovery factor is based on 15 years of lifetime for oxidation technology equipment and an annual interest rate of 7%. The average cost effectiveness has, thus, been estimated to be $5,188 per ton of CO.

Environmental

The installation of an oxidation catalyst can result in collateral emission increases of PM_{10} and sulfuric acid mist from the turbines. Conversion of CO to greenhouse gases (GHG) in the form of CO_2 is expected due to this oxidation technology, therefore additional emissions of GHG will also be a concern. Finally, disposal of spent catalyst is also considered a potential negative environmental effect.

CO BACT Determination

The Permittee has concluded that the economic impact due to installation of oxidation catalyst for further removal of CO from the exhaust of simple cycle combustion turbine is too high ($5188/ton of CO) and hence, it has proposed a BACT of 9 ppmvd for natural gas-firing using combustion controls for the modified simple cycle combustion turbines, which is the same as the approved BACT for the pre-modified turbines.

DAQ has reviewed the recent BACT determinations as available in the EPA's RBLC database. Refer to a compilation in Appendix 1. DAQ agrees with the Permittee that permitting agencies have typically required BACT emission limit based upon good combustion control for large natural gas-fired simple cycle combustion turbines. However, there are a few determinations (NJ-0075 and NJ-0076) which have required oxidation technology on simple cycle combustion turbines, but each of these units are much smaller (65 MW) as compared to each of the simple cycle unit at DEP (each unit rated at 173 MW).

DAQ agrees with the Permittee that the economic impact of oxidation technology for additional removal of CO from these turbines is prohibitive. DAQ also believes that energy and environmental impacts are also significant. Thus, DAQ proposes to approve CO BACT as 9 ppmvd on 3-hour average basis using good combustion control for the modified simple cycle combustion turbines (Units 1 through 4 and 6) burning natural gas. Compliance will be based upon 3-hour stack test.

BACT for VOC

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[9] EPA Air Pollution Control Cost Manual, 6th ed., EPA OAQPS, RTP, NC, EPA/452/B-02-001, January 2002.

Volatile organic compounds (VOC) are formed as a result of incomplete fuel combustion. With natural gas, some organics are carried over as unreacted, trace constituents of the gas, while others may be pyrolysis of the heavier hydrocarbon constituents.

VOC emissions are affected by the gas turbine operating conditions. VOC emissions are higher for gas turbines operating at low loads as compared similar gas turbines operating at higher loads. VOC emissions can also increase due to low combustion temperature, ambient conditions, insufficient residence time, and insufficient oxygen as a result of low air-to-fuel ratio or inadequate mixing (which in turn can be due to improper burner settings and/or deteriorated burner components).

Control of VOC is accomplished by providing adequate fuel residence time, mixing, and temperature in the combustion zone to ensure complete combustion. However, these factors can have an adverse impact on emissions of NO_x.

VOC Control Alternatives

The following includes discussion on "good combustion control practices" and catalytic oxidation.

Good Combustion Control Practices

Good combustion control practices rely on efficient operation of the combustion turbine. Emissions of VOCs are minimized due to better combustion efficiency through optimum design and operation of the combustion turbine. This includes proper air-to-fuel ratios, and a turbine design that provides the necessary temperature, residence time and mixing conditions in the combustion zone. As a result of economic incentives as well as air pollution concerns, manufacturers have attempted to maximize the combustion efficiency of turbines. Due to high combustion efficiency of combustion turbines (near 99 percent), VOC emissions are inherently low.

Catalytic Oxidation

Catalytic oxidation is an add-on or post-combustion control in which the turbine exhaust gases pass through a catalyst bed (typically platinum/rhodium), where hydrocarbons are oxidized to carbon dioxide and water vapor to a lesser extent. No supplementary reactant is used in conjunction with an oxidation catalyst.

Catalytic oxidation is considered a technically feasible option for simple combustion turbines burning natural gas with control efficiency in the range of 80 to 90 percent.

Energy, Economic, and Environmental Impacts

Energy

The only significant energy impact due to operation of oxidation catalyst is the backpressure penalty due to pressure drop across the catalyst bed. Thus, the overall simple cycle efficiency is reduced as some energy will have to be expended to overcome the pressure drop.

The applicant has assumed 0.1 percent energy penalty, which results in a loss of 200 KW which is equivalent to 1,752,000 kilowatt-hours per year (kW-hours per year) per each turbine. Assuming an energy need of 12,000 kW-hours per year per household, the lost energy would be sufficient to supply the electrical needs of 146 households. The cost of the additional fuel to overcome this energy need has been taken into consideration in the economic impact.

Economic

The Permittee has conducted an economic impact analysis for catalytic oxidation using the EPA data.[10] This analysis includes natural gas-fired simple cycle turbines operating for 8,760 hours and assumed control efficiency

[10] EPA Air Pollution Control Cost Manual, 6th ed., EPA OAQPS, RTP, NC, EPA/452/B-02-001, January 2002.

for VOC for catalytic oxidation at 90%. The cost recovery factor is based on 15 years of lifetime for oxidation technology equipment and an annual interest rate of 7%. The average cost effectiveness has, thus, been estimated to be $54,983 per ton of VOC.

Environmental

The installation of an oxidation catalyst can result in collateral emission increases of PM_{10} and sulfuric acid mist from the turbines. Conversion of CO to greenhouse gases (GHG) in the form of CO_2 is expected due to this oxidation technology, therefore additional emissions of GHG will also be a concern. Finally, disposal of spent catalyst is also considered a potential negative environmental effect.

VOC BACT Determination

The Permittee has concluded that the economic impact due to installation of catalytic oxidation technology for further removal of VOC from the exhaust of simple cycle combustion turbines is too high ($54,933/ton of VOC) and hence, it has proposed a BACT of 1.4 ppmvw as carbon, using combustion controls for the modified simple cycle combustion turbines burning natural gas, which is the same as the approved BACT for the pre-modified turbines.

DAQ has reviewed the recent BACT determinations as available in the EPA's RBLC database. Refer to a compilation in Appendix 1. DAQ agrees with the Permittee that permitting agencies have typically required BACT emission limit for VOC based upon good combustion control for large natural gas-fired simple cycle combustion turbines. However, there are a few determinations (NJ-0075, NJ-0076, CA-1174, CA-1175, and CA-1176) which have required oxidation technology on simple cycle combustion turbines, but each of these units appear to be much smaller (50-65 MW) as compared to each of the simple cycle unit at DEP (each unit rated at 173 MW)).

DAQ also agrees with the Permittee that economic impact due to oxidation technology for additional removal of VOC from these turbines is prohibitive. DAQ believes that energy and environmental impacts are also significant. Thus, DAQ proposes to approve VOC BACT as 1.4 ppmvw as carbon on 3-hour average basis using good combustion control when burning natural gas for the modified simple cycle combustion turbines (Units 1 through 4 and 6). Compliance will be based upon 3-hour stack test.

BACT for GHG

GHGs are defined in 40 CFR 51.166(b)(48) as a single air pollutant, which is the aggregate group of six greenhouse gases: CO_2, N_2O, CH_4, HFCs, PFCs, and SF_6. CO_2 emissions result from the oxidation of carbon in the fuel, CH_4 emissions result from incomplete combustion, and N_2O emissions result primarily from low temperature combustion. CO_2, N_2O, and CH_4 are the principal GHGs that will be emitted from the combustion turbines burning natural gas. Emissions of CH_4 and N_2O from the combustion turbines are extremely low and as a result, control options for these pollutants are not discussed.

EPA recommends that permit applicants and permitting authorities identify all "available" GHG control options that have the potential for practical application to the source under consideration. In the *PSD and Title V Permitting Guidance for GHGs* (EPA, 2011), EPA emphasizes two mitigation approaches for CO_2: energy efficiency and carbon capture and storage (CCS). This guidance also states that clean fuels, which would reduce GHG emissions be considered, while not fundamentally redefining the source.

GHG emission control options for this BACT analysis are discussed below which is mostly taken from the application.

GHG Control Alternatives

Clean Fuels

The definition of BACT in 40 CFR 51.166(b)(12) includes use of clean fuels as a pollution control technique. The combustion of natural gas emits almost 30 percent less CO_2 than fuel oil, and just under 45 percent less CO_2 than coal (source: www.naturalgas.org). In addition, the CO_2 emission factor associated with natural gas combustion is

one of the lowest in Table C-1 of 40 CFR 98. DEP Richmond County facility simple cycle turbines' primary fuel is already natural gas. The project is only requesting an increase in natural gas operating hours. Therefore, the project meets the clean fuel analysis of the GHG BACT evaluation.

Energy Efficiency

Energy efficiency falls under the general category of lower-polluting processes and practices. Applying technologies, measures, and options that are energy efficient translates not only into the reduction of emissions of a particular regulated NSR air pollutant undergoing BACT review, but it also may achieve collateral reductions of emissions of other pollutants. When the efficiency of the power generation process is increased, less fuel is burned to produce the same amount of electricity. This provides the benefits of lower fuel costs and reduced air pollutant emissions (including CO_2 on a lb/MWh basis).

DEP already has in place measures to manage the operating and energy efficiency of the simple cycle combustion turbines These include the following:

- Latest Burner Technology (GE Model 7FA.03, DLN 2.6)
- Continuous Dynamics Monitoring System (CDMS)
- Operating Logic Software: OpFlex™
- Good Combustion, Operating and Maintenance Practices.

Latest Burner Technology (GE Model 7FA.03, DLN 2.6) – The Richmond County Units 1-4, 6 are General Electric (GE) Model 7FA.03 (previously referred to as Model PG724FA), simple cycle combustion turbine-electrical generators. They are equipped with dry-low NO_x (DLN) combustors that are General Electric DLN-2.6 can-annular combustor design. These combustors have been designed to accommodate very efficient combustion while minimizing the formation of thermal NO_x. The utilization of pre-mixed fuel and air in combination with multiple stages of combustion results in efficient low-NO_x combustion. In addition, the increased combustor firing temperature improves the overall efficiency of the combustion turbine.

Continuous Dynamics Monitoring System (CDMS) - While the heart of the "good combustion practices" are a result of using the DLN-2.6 combustors, GE has further improved the unit's performance using advanced controls software and Continuous Dynamics Monitoring (CDM) enhancements. These enhancements include onsite visual tools for monitoring combustion dynamics and performing diagnostics on the unit.

Operating Logic Software: OpFlex™ - General Electric (GE) has developed operating software under the trade name OpFlex™ that can more efficiently manage the CTs' operating profile. OpFlex™ enhancements include increased output, improved peak output, as well as reduced fuel consumption. It is based on the use of actual operating data from the machine in order to maximize its efficiency at full load operation. Proper operation and maintenance according to GE specifications are ensured by tuning control curves and monitoring the stress on hot gas path components in order to optimize performance.

This program, which was installed in the 2007-2008 timeframe, was an upgrade to the original GE turbine operating logic program for natural gas combustion of these Richmond CTs. Opflex™ does not affect the operating software during fuel oil combustion on a dual fuel unit and it does not modify the turbine's existing physical configuration, hardware, or ancillary equipment. However it allows the turbine unit to temporarily operate at a higher temperature at peak load and increase peak megawatt output within established constraints based on operational data feedback (e.g. temperature and NO_x ppm). This system uses a NO_x CEMs feedback loop for each turbine to provide data to optimize combustion as well as provide feedback to the logic controller to stay below current NO_x emission limits. Note that OpFlex™ does not affect intermediate or low load operation.

Good Combustion, Operating and Maintenance Practices - Good combustion and operating practices are an option which improves the fuel efficiency of combustion turbines. Good combustion practices also include proper maintenance and tune-up of the combustion turbines per the manufacturer's specifications. The Richmond County facility has already implemented good combustion, operating, and maintenance practices, such as the following:

Good Combustion Technique	Practice	Standard
Operator Practices	• Official documented operating procedures, which are updated as required for equipment or practice changes. • Procedures include startup, shutdown, and malfunction. • Operating logs/record keeping.	• Maintain written site specific operating procedures in accordance with GCPs, including startup, shutdown, and malfunction.
Maintenance Knowledge	• Training on applicable equipment and procedures.	• Equipment maintained by personnel with training specific to equipment.
Maintenance Practices	• Official documented maintenance procedures, updated as required for equipment or practice change. • Routinely scheduled evaluation, inspection, overhaul as appropriate for equipment involved. • Maintenance logs/record keeping.	• Maintain site specific procedures for best/optimum maintenance practices. • Scheduled periodic evaluation, inspection, overhaul as appropriate.
Fuel Quality Analysis and Fuel Handling	• Monitor fuel quality. • Fuel quality certification from supplier, if needed. • Periodic fuel sampling and analysis. • Fuel handling practices. • Use pipeline quality natural gas.	• Fuel analysis where composition could vary. • Fuel handling procedures applicable to the fuel.

Carbon Capture and Storage (CCS)

Carbon Capture and Storage (CCS) falls under the category of add-on controls, which are air pollution control technologies that remove pollutants from a facility's emissions stream. As identified in EPA's, *PSD and Title V Permitting Guidance for Greenhouse Gases*, EPA classifies CCS as an add-on pollution control technology that is "available" for large CO_2-emitting facilities including fossil fuel-fired power plants and industrial facilities with high purity CO_2 streams. As a result, EPA requires that CCS be considered in Step 1 of the BACT analysis. CCS is composed of three main components: CO_2 capture and/or compression, transport, and long-term storage.

CO_2 Capture

Before CO_2 gas can feasibly be stored, it must be captured as a relatively pure gas. Most power plants and other large point sources use air-fired combustors, a process that exhausts CO_2 diluted with nitrogen. According to the U.S. Department of Energy, flue gas from the combustion of fossil fuels contains approximately 5 to 15 percent CO_2. For effective carbon sequestration, the CO_2 in these exhaust gases must be separated and concentrated.

According to the Department of Energy's National Energy Technology Laboratory (NETL), technologies for capturing CO_2 from relatively dilute streams such as those produced by power generation facilities are less common. These technologies currently include amine and chilled ammonia solvent systems, which have been used with coal-based power plant applications.

The Carbon Sequestration Leadership Forum (CSLF), a ministerial-level international climate change initiative comprised of 24 member nations representing over 60 percent of the world's population, states: "Evolutionary improvements in existing CO_2 capture systems and revolutionary new capture and sequestration concepts will be needed to bring carbon capture costs down." The most likely options currently identifiable for CO_2 separation and capture include the following:

- Absorption (chemical and physical)

- Adsorption (physical and chemical)
- Low-temperature distillation
- Gas separation membranes
- Mineralization and biomineralization (http://www.cslforum.org/education/index.html#inFocus).

Per the *Report of the Interagency Task Force on Carbon Capture and Storage* (August 2010) and International Energy Agency GHG Research & Development Program, *RD&D Database: CO_2 Capture Commercial Projects*, the following are example projects on slip streams at coal-fired power plants:

- AEP Mountaineer (September 2009-May 2011): A post-combustion CO_2 capture project was conducted using Alstom's chilled ammonia process to capture 50,000 tonnes CO_2 between September 2009 and May 2011 on a 20 MW_e slipstream from the exhaust of its 1,300 MW coal-fired plant in New Haven, West Virginia. The captured CO_2 was sequestered in deep geologic formations beneath the Mountaineer site.

- First Energy R.E. Burger (December 2008-December 2010): This CO_2 capture pilot test used Powerspan's ECO_2® technology on a 1 MW_e slipstream from the outlet of the R.E. Burger Station (near Shadyside, Ohio) demonstration-scale 50 MW ECO unit. The ECO system was designed to control SO_2, NO_X, oxidized mercury, and fine particulate matter from a slipstream of a 156 MW coal boiler. The ECO_2® CO_2 capture system uses a proprietary ammonia-based solvent in a thermal swing absorption (TSA) process to remove CO_2 from the flue gas. The project handled 25 TPD dried, compressed, and sequestration-ready CO_2, but the literature did not suggest that the CO_2 was permanently sequestered in any geologic formation or by any other means.

- AES Warrior Run (2000-Present): This project captures 110,000 TPY CO_2 using the ABB/Lummus monoethanolamine (MEA) solvent-based system from a small slipstream of the 180 MW_e coal-fired circulating fluidized bed (CFB) power plant at the AES Warrior Run station in Cumberland, Maryland. The extracted CO_2 is then used in the food processing industry.

- AES Shady Point (1991-Present): Approximately 66,000 TPY CO_2 is captured using the ABB/Lummus' MEA technology from a small slipstream of a 320 MW coal-fired CFB boiler at the AES Shady Point station in Panama, Oklahoma. It is then used for food processing, freezing, beverage production, and chilling purposes.

- IMC Chemicals (formerly Searles Valley Minerals) (1978-Present): This project captures 270,000 TPY CO_2 from the flue gas of two 52-56 MW industrial coal boilers using an amine scrubbing technology. The captured CO_2 is then used for the carbonation of brine for soda ash production.

- WE Energy Pleasant Prairie (June 2008-October 2009): Approximately 15,000 TPY CO_2 was captured using the Alstom's chilled ammonia process from a 5 MW_e slipstream of the 1,210 MW coal-fired power plant at WE Energy's Pleasant Prairie, Wisconsin station. The literature does not specify if the CO_2 was permanently sequestered in any geologic formation.

These projects have demonstrated that small-scale CO_2 capture on a slipstream of a power plant's emissions using various solvent based scrubbing processes are technically feasible. However until these post combustion technologies are installed in a full scale manner on a power plant, they are not considered "available" in terms of BACT.

In addition to the small scale CO_2 capture projects mentioned above, Florida Power & Light (FP&L) captured approximately 320-350 TPD CO_2 using the Fluor Econamine FG^{SM} scrubber system on 15 percent of the flue gas from its 320 MW_e 2 x 1 natural gas combined cycle unit in Bellingham, Massachusetts from 1991 to 2005. Due to the 2004-2005 natural gas price increase, this facility changed from a base/intermediate load plant to a peaking

plant, which made the continued operation of the capture plant uneconomical. The captured CO_2 was compressed and stored on site for sale to nearby major food processing plants. Although this project indicates small-scale CO_2 capture is technically feasible for natural gas combined cycle flue gas, it too does not support the availability of full-scale CO_2 capture at a simple cycle plant.

Per the *Report of the Interagency Task Force on Carbon Capture and Storage* (August 2010), more large scale CCS demonstration projects have been proposed through the DOE Clean Coal Power Initiative (CCPI). Some of these include the following:

- Basin Electric: This project proposes the amine-based capture of 900,000 tonnes per year of CO_2 from a 120 MW equivalent slipstream at a North Dakota plant for use in an enhanced oil recovery (EOR) application and/or saline storage.

- NRG Energy: This proposal includes the amine-based capture of 400,000 tonnes per year of CO_2 from a 60 MW equivalent slipstream at a Texas plant for use in an EOR application.

- American Electric Power: An ammonia-based capture of 1.5 million tonnes per year of CO_2 from a 235 MW equivalent slipstream at a West Virginia plant for saline storage is proposed.

None of these facilities are fully designed, constructed, or operating. Furthermore, American Electric Power has already announced that its CCS project has been put on hold due to the lack of federal carbon limits.

As noted above, these projects are neither full scale nor do they propose post combustion capture of CO_2 from a simple cycle combustion turbine. Coal combustion would result in approximately 20-30% higher concentration of CO_2 in the slipstream than from natural gas combustion. Therefore the cost per ton of CO_2 compressed would be higher for natural gas combustion.

In addition, prior to sending the CO_2 stream to the appropriate sequestration site, it is necessary to compress the CO_2 from near atmospheric pressure to pipeline pressure. The compression of the CO_2 would require a large auxiliary power load, resulting in additional fuel combustion (and CO_2 emissions) to generate the same amount of power. While carbon capture technology may be technologically available on a small-scale, it has not been demonstrated for full-scale natural gas simple cycle plants. CCS is not commercially available as BACT for the CTs given the limited deployment of only slipstream/demonstration applications of CCS.

CO_2 Transport

As described above, CO_2 capture has not been demonstrated in practice on a full size power plant and therefore not commercially available as BACT. However if capture technology were available, a method of transporting CO_2 to an appropriate storage location would be required as there is no geologic sink available in the local vicinity of the Richmond County facility. The below is a discussion on the feasibility of transporting CO_2 from the exhaust of the five simple cycle units to an appropriate sequestration site.

Pipelines are the most common method for transporting large quantities of CO_2 over long distances. Shipping CO_2 via pipeline involves compressing gaseous CO_2 to a pressure above 1,160 pounds per square inch (psi), to increase CO_2 density and make it easier and less expensive to ship. A CO_2 pipeline would be similar to a high pressure natural gas pipeline. However CO_2 can also be transported as a liquid in seagoing vessels or via tankers on roads or railways. In these instances, the CO_2 is held in insulated tanks at low temperatures and relatively low pressures.

The lowest cost transport option is by pipeline. Per Duke University's *Carbon Capture, Pipeline and Storage: A Viable Option for North Carolina Utilities?* (March 2007), 3,000 miles of commercial CO_2 pipeline for enhanced oil recovery operate in the United States today. However there are engineering and safety considerations for large scale CO_2 piping projects which include the following:

- CO_2 must be completely dehydrated to prevent carbonic acid formation and degradation of the pipeline.
- Supercritical CO_2 physical and chemical properties require the use of specific materials and sealants.

- Since CO_2 is denser than air, an unlikely large accidental release would dissipate quickly and not pose any danger. However in the right topographical location the release may become trapped at ground level, presenting a hazard to humans and other animals in the immediate vicinity.

Despite these challenges, system failures with adverse results are rare. Cost-effective system management and risk mitigation measures are possible for existing and new CO_2 pipelines.

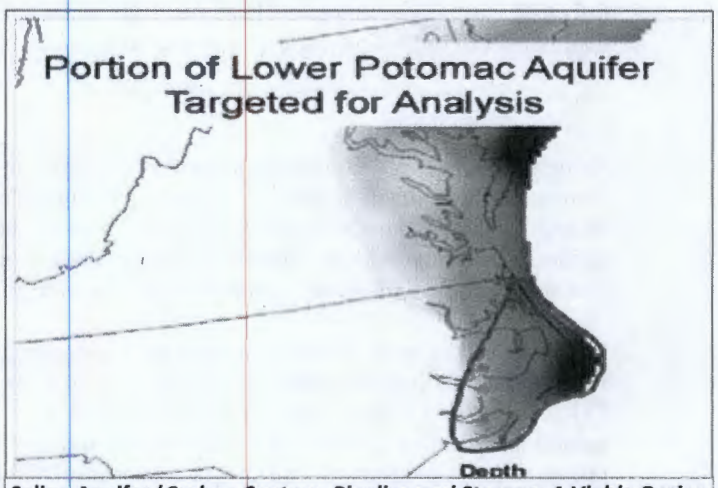
The cost of constructing a dedicated CO_2 pipeline depends on the length and diameter of the pipe, the cost of the right of way on which it is constructed, and the type of terrain through which it travels. The pipe's length is determined by the distance from the CO_2 source to the geologic reservoir injection site. The required pipe diameter is proportional to the maximum flow rate of CO_2 emitted at the source. The adequate pressure maintained along the pipeline is dependent upon the pressure suitable for injection.

According to Duke University's *Carbon Capture, Pipeline and Storage: A Viable Option for North Carolina Utilities?* (March 2007) of the total up-front costs, the right of way costs comprise approximately 5-10%, miscellaneous costs account for 20%, labor expenses account for 45-50%, and materials comprise approximately 25%. The pipeline right of way to the closest geologic sink could cost in the millions of dollars, which is very costly for only few years of storage per the same Duke University working paper.

CO_2 Storage

Geologic formations such as depleted oil and gas reservoirs, unmineable coal seams, and underground saline formations are potential options for long-term CO_2 storage. Pressurized CO_2 is injected into deep geologic formations through drilled wells. Under high pressure, CO_2 turns to liquid and can move through a formation as a fluid. Once injected, the liquid CO_2 tends to be buoyant and will flow upward until it encounters a barrier of non-porous rock, which can trap the CO_2 and prevent further upward migration. When CO_2 is injected into a coal seam, it is adsorbed onto the coal surfaces, and methane gas is released and produced in adjacent wells. There are other mechanisms for CO_2 trapping as well: CO_2 molecules can dissolve in brine; react with minerals to form solid carbonates; or adsorb in the pores of the porous rock.

The identification of potential carbon sinks would require in-depth examination of regional geologic characteristics. Extensive geophysical exploration to determine the approximate volume of a sink as well as any potential weaknesses in the structural integrity of the formation would be needed. Prior to full-scale injection of CO_2 into a reservoir, a test well would be drilled and pilot testing be performed, during which CO_2 is injected and tracked as it moves throughout the subsurface.



Saline Aquifer (*Carbon Capture, Pipeline and Storage: A Viable Option for North Carolina Utilities?*, The Nicholas Institute for Environmental Policy Solutions and The Center on Global Change, Duke University, March 8, 2007, E. Williams, N. Greenglass, and R. Ryals)

North Carolina's geology is poorly suited for carbon storage. According to Duke University's *Carbon Capture, Pipeline and Storage: A Viable Option for North Carolina Utilities?* (March 2007), the eastern geomorphic province, the Coastal Plain, is the only potential geologic storage location. In this region, only one saline aquifer located in the Lower Potomac area may be appropriate for geologic carbon storage based on minimum acceptable depth of the aquifer.

Electric Motor

One possible method of operating these simple cycle combustion turbines is to operate the units with electric engine. The DAQ evaluated two methods of calculating CO_2 emissions: EPA method and a DOE method.

Both methods require an estimate of the electricity generation mix in NC. As of 2010, NC's fuel mix is assumed to be 55.3% for coal, 34.3% for nuclear, 4% for natural gas, 4% for hydro and less than 2% for other fuels. Normalizing (excluding other fuels) will result a fuel mix of 56.4% coal, 35% nuclear, 4.1% natural gas and 4.1% hydro.

So the CO_2 produced per kWh is based on the following:

Coal: $$\left(\frac{93.40\ kg\ CO_2}{mmBtu}\right)\left(\frac{2.2\ lb}{kg}\right)\left(\frac{ton}{2000\ lb}\right)\left(\frac{9.486 \times 10^{-10}\ mmBtu}{2.778 \times 10^{-10}\ MWh}\right) = \mathbf{0.3508}\ \frac{ton\ CO_2}{MWh}$$

Nuclear: $\frac{0\ ton\ CO_2}{MWh}$

Natural Gas: $$\left(\frac{100{,}000\ Btu}{therm}\right)\left(\frac{2.778 \times 10^{-10}\ MWh}{9.486 \times 10^{-10}\ mmBtu}\right)\left(\frac{mmBtu}{10^6\ Btu}\right) = 0.0293\ \frac{MWh}{therm}$$

Where for Natural Gas: $$\left(\frac{0.005306\ metric\ ton\ CO_2}{therm}\right)\left(\frac{5 \times 10^{-4}\ ton}{0.001\ metric\ ton}\right) = 0.002680\ \frac{ton\ CO_2}{therm}$$

Therefore, $$\left(\frac{0.002680\ ton\ CO_2}{therm}\right)\left(\frac{therm}{0.0293\ MWh}\right) = \mathbf{0.09147}\ \frac{ton}{MWh}$$

Hydro: $\approx \frac{0\ ton\ CO_2}{MWh}$

For the Mix: Coal + Nuclear + Natural Gas + Hydro

$$0.564\left(0.3508\ \frac{ton\ CO_2}{MWh}\right) + 0 + 0.041\left(0.09147\ \frac{ton\ CO_2}{MWh}\right) + 0$$

$$= 0.19785\ \frac{ton\ CO_2}{MWh} + 0 + 0.00375\ \frac{ton\ CO_2}{MWh} + 0$$

$$= 0.202\ \frac{ton\ CO_2}{MWh}$$

Determine electricity output load for the 915 MW (each turbine rated at 183 MW, Units 1 through 4 and 6):

(915 MW) (8760 hr) = 8,015,400 MWh

Assume a 90% efficiency for the electric motor/electric generator overall.

So the input load would be $= \frac{output}{efficiency}$

$$= \frac{8{,}015{,}400\ MWh\ output}{0.90}$$

= 8,906,000 MWh input

If an electric motor is used to turn the turbine at this facility, there would be no CO_2 emissions on site. However, there would be off-site CO_2 emissions associated with the generation of the electricity to run the motor. In order to estimate these off-site CO_2 emissions, the DAQ used an EPA along with the effective CO_2/MW factor developed above that is specific to North Carolina's all-of-the-above mix..

EPA Method (assumes 100% efficiency fuel to energy)

$$CO_2 \text{ Emission Rate} = (8{,}906{,}000\ MWh)\left(0.202\ \frac{ton\ CO_2}{MWh}\right)\left(\frac{1}{1.00}\right) = 1{,}799{,}012\ tpy\ CO_2$$

DOE Method (assumes 36.5% conversion fuel to energy)

$$CO_2 \text{ Emission Rate} = (8{,}906{,}000\ MWh)\left(0.202\ \frac{ton\ CO_2}{MWh}\right)\left(\frac{1}{0.365}\right) = 4{,}928{,}800\ tpy\ CO_2$$

Using the EPA method, the CO_2 emission rate (1,799,012 tons/yr) for electric motor is below the CO_2 PTE (4,171,515 tons/yr, included in Table on page 8 above) associated with operation of these turbines as combustion turbines. However, because the project is defined as gas-fired combustion turbine with 1000 hours of fuel oil back-up, the requirement to use an electric motor to turn the turbine would redefine the source and therefore this alternative will be eliminated from consideration.

GHG BACT Determination

As discussed above, use of clean fuels such as natural gas and low sulfur distillate oil is considered a technically feasible approach for Units 1 through 4 and 6 for control of GHG emissions. These units are already burning pipeline quality natural gas and low sulfur distillate oil since the initial start-up (more than 12 years ago).

Efficient power generation is also considered to be technically feasible for Units 1 through 4 and 6 turbines. As discussed above, a number of processes/systems are already in place to assure optimum, efficient combustion.

As discussed above, there are no known applications of CCS for controlling CO_2 emissions from large scale, natural gas simple cycle combustion turbine plants, there are no acceptable geologic formations for long term CO_2 storage near the Richmond County facility, and the transportation to the closest possible geologic storage location is very costly. Due to lack of commercial demonstration and the high cost to transport and sequester, CCS is not considered a viable, technically feasible option for controlling the CO_2 emissions from the simple cycle combustion turbines (Units 1 through 4 and 6) at the DEP facility.

Thus, the applicant has proposed the use of clean fuels and energy efficiency as the BACT for controlling GHG emissions from Units 1 through 4 and 6 turbines.

DAQ agrees with the applicant that CCS is not a technically feasible option for emissions of GHG from a large natural gas fired combustion turbines. DAQ proposes to approve the use of clean fuels (natural gas and low sulfur distillate oil as a backup fuel) as BACT for combustion turbine Units 1 through 4 and 6.

BACT Summary

The following Table summarizes the DAQ proposed BACT for simple cycle combustion turbine Units 1 through 4 and 6 burning natural gas at the DEP facility.

Table: BACT

EMISSION SOURCE	POLLUTANT	BACT LIMITS	CONTROL DESCRIPTION
Units 1 through 4 and 6	PM10/PM2.5 (filterable and condensible)	good combustion control and use of natural gas and low-sulfur distillate oil as a back-up fuel	-
Units 1 through 4 and 6	NOx (as NO_2)	10.5 ppmvd at 15% O_2 [CEM:24 hour rolling average]	dry-low NOx
Units 1 through 4 and 6	CO	9 ppmvd at 15% O_2 [Stack Test:3 hour average]	good combustion control

EMISSION SOURCE	POLLUTANT	BACT LIMITS	CONTROL DESCRIPTION
Units 1 through 4 and 6	VOC (as carbon)	1.4 ppmvd at 15% O_2 [Stack Test: 3 hour average]	good combustion control
Units 1 through 4 and 6	GHG	use of natural gas and low-sulfur distillate oil as a back-up fuel	-

6.0 Air Quality Analysis

§51.66(m)(1) requires that the major modification application for a PSD permit include an analysis of the ambient air quality of the area where the source is located for any regulated NSR pollutant exceeding the significant net emissions increase. This analysis is called "pre-application analysis" (generally called the "preconstruction monitoring" requirement). For pollutants with associated NAAQS, the application must include 1 year of continuous monitoring data from the date of the receipt of the complete application. The permitting agency may accept ambient monitoring data for a shorter duration but data cannot be for less than 4 months. For pollutants for which no NAAQS exist, the permitting authority can require an analysis containing such data as it determines appropriate to assess the ambient air quality in the area in which the source is located.

§51.66(m)(2) includes that the owner or operator of a major modification shall, after construction of such modification, conduct such ambient monitoring as the permitting authority determines is necessary to determine the effect emissions from the stationary source or modification may have, or are having, on air quality in any area. This monitoring is called "post-construction monitoring".

However, §51.66(i)(5) includes that permitting authority may exempt a proposed major modification from the requirements of §51.166(m), with respect to monitoring for a particular pollutant, if the net emissions increase of the pollutant from a modification would cause, in any area, air quality impacts less than the following amounts:

Carbon monoxide—575 ug/m^3, 8-hour average;
Nitrogen dioxide—14 ug/m^3, annual average;
$PM_{2.5}$ -4 μg/m^3, 24-hour average;
PM_{10} -10 μg/m^3, 24-hour average;
Sulfur dioxide—13 ug/m^3, 24-hour average;

The above concentration values are called "significant monitoring concentrations (SMC)".

For ozone, no *de minimis* air quality level (or SMC) has been provided. As per EPA, any net emissions increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of air quality data.

This provision in (i)(5) also states that if any regulated NSR pollutant is not included with the associated impact level (SMC), or the concentrations of the pollutant in the area that the major modification would affect is less than the associated SMC, the monitoring (both "preconstruction monitoring" and "post-construction monitoring") may not be required.

As stated above, this modification includes a major modification review for PM_{10}, $PM_{2.5}$, NOx, CO, VOC, and GHG, based on the associated net significant emissions increase. As stated below in Section 7.0, the air quality impacts of PM_{10}, $PM_{2.5}$, and NOx are each less than the impact levels (SMCs) for these pollutants. For CO, no assessment of air quality is required because the concentration of CO in Richmond County is much less than its SMC as included above. Hence. ambient monitoring (both pre and post construction) for PM_{10}, $PM_{2.5}$, NOx, and CO, may be required for this major modification. Moreover, GHG, for which no impact level (SMC) is established in §51.166(i)(5), the monitoring in §51.166(m) cannot be required.

It needs to be emphasized here that US Court of Appeals for the District of Columbia on January 22, 2013 has vacated the above PM2.5 SMC in Sierra Club v. EPA, No. 10-1413. So, it can be argued that the applicant is required to submit to DAQ 1 year of continuous monitoring data from the date of the receipt of the complete application, by installing PM2.5 ambient monitor for the Richmond County ("area of concern"). However, as per EPA guidance[11], DAQ can rely on existing monitoring data, if it is representative of the area of concern, to satisfy this monitoring data requirement. DAQ is collecting continuous monitoring data for PM2.5 at its Candor site in Montgomery County, which is located approximately 24-25 miles from the center of the Richmond County. Specifically, DAQ collects and reports on its website[12] averages for 1-hour duration, and minimum and maximum values on a continuous basis for PM2.5 for Candor, Montgomery County. DAQ believes that this continuous monitoring data at the Candor satisfies the required 1 year monitoring requirement for the applicant, and thus, the DEP (applicant) is not required to submit any pre-construction monitoring data.

Finally for ozone NAAQS, the net significant emissions of NOx are greater than 100 tons per year. So, analysis of ambient air with respect to ozone is required. The Permittee has provided ambient monitoring data of the nearest ozone monitor (Site Number 37-179-0003, 701 Charles St., Monroe, Union County, NC) showing the highest 3-year average of the fourth highest 8-hour average O3 concentrations at the site from 2010 to 2011 to be 0.073 ppm, less than the O_3 NAAQS. DAQ believes that, because the current ambient air monitoring data for O_3 in the region in which the source (facility) is located show attainment of O_3, requirements in §51.166(m) are satisfied for ozone.

7.0 Source Impact Analysis

Preliminary Impact Air Quality Modeling Analysis

The DEP facility area is located in the Piedmont of North Carolina with rolling terrain and land usage being a mix of light industry, agriculture and residential. For modeling purposes, the local area is classified rural, based on the land use type scheme established by Auer 1978.

A fundamental assumption in the modeling analysis was that only annual evaluations periods needed to be demonstrated, because short term emission limits in the permit were not being changed. Thus, no analysis was accomplished for CO, or for any of the short-term periods for PM_{10}, $PM_{2.5}$ and NO_2. Instead, previous demonstrations are considered still valid. It should also be noted that the facility modeled PM10, even though the annual evaluation period has been dropped by EPA and DAQ.

As the first step in the modeling process, DEP performed a Significant Impact Level (SIL) analysis, using maximum facility/project emissions for the annual evaluation period to determine the maximum impact in ambient air. A conservative assumption used in the demonstration was that all five turbines were running 8,760 hours per year. Additionally, the modeling assumed that all five turbines had the same emission rate when operating. In their modeling process, DEP ran the model with 1g/s per stack and then used this result to calculate the various pollutant impacts. In NO_2 calculations, the Tier 2 approach was used by assuming that 75 percent of NO_x emissions are NO_2 emissions. The calculated impacts were then compared to the appropriate annual SIL.

DEP used the current version of the EPA's AERMOD model to evaluate the pollutants' significant emissions. Full terrain elevations were included, as were normal regulatory defaults. A sufficiently dense (100 meters) array of receptors was placed in ambient air beginning at the fence line and was tailored to ensure that the full extent of the Significant Impact Area (SIA) for each pollutant would be detected. The modeling was conducted using five years of representative preprocessed meteorology (Charlotte 1988-1992) based on the surface characteristics (Zo) of the DEP site, which were determined using the EPA AERSURFACE model ("medium" set selected). The modeled results are shown in the following Table and indicate that none of the pollutants would exceed their SIL values. Therefore, no further Class II modeling is required.

Table: Project Impact v/s Class II SIL in ug/m^3

[11] Circuit Court Decision on PM2.5 Significant Impact Levels and Significant Monitoring Concentration", Questions and Answers, USEPA, OAQPS, March 4, 2013.

[12] https://xapps.ncdenr.org/aq/ambient/AmbtPollutant.jsp?pollutant=FRM1HR&date=09%2F24%2F2013

Pollutant	Averaging Period	Maximum Impact	Class II Significant Impact
NO_2	Annual	0.263	1
PM_{10}	Annual	0.034	1
$PM_{2.5}$	Annual	0.034	0.3

It needs to be stated here that in Sierra Club v. EPA, as referred in Section 6.0 above, the Court has vacated and remanded PM2.5 SIL to EPA. Also, as per the EPA guidance included in footnote 11 above, if the difference between the PM2.5 NAAQS (annual) and monitored PM2.5 background concentration (annual basis) (i.e., existing monitored data for Candor, Montgomery County, representing Richmond County) is greater than the PM2.5 SIL, the DAQ can conclude that impact of PM2.5 emissions from the proposed source will not cause or contribute to the violation of PM2.5 NAAQS. The PM2.5 NAAQS (annual) is 15 ug/m^3 and the existing background value for PM2.5 (annual) representing the Richmond County is 9 ug/m^3[13]. Thus, the difference between the NAAQS and the existing background value is 6 ug/m^3, which is greater than the PM2.5 SIL (annual) of 0.3 ug/m^3. Therefore, DAQ concludes that proposed source will not cause or contribute to the violation of PM2.5 NAAQS (annual).

Class II Area Full Impact Air Quality Modeling Analysis

Full NAAQS and Increment analyses were not required as a result of the SIL analysis.

8.0 Additional Impact Analysis

Additional impact analyses were conducted for growth, soils and vegetation, and visibility impairment.

Growth Impacts

Since no new equipment is being added to the facility, DEP expects no new industrial, commercial, or residential growth to be caused by this project.

Soils and Vegetation

The facility has demonstrated that their impacts as a result of this project will not be significant (SIL analysis), and as such, will not have an adverse impact on area soils and vegetation. NCDAQ agrees with this assessment.

Class II Visibility Impairment Analysis

DEP noted that this project only affected annual emission rates, thus no 24 hour rates are being changed. Also, the facility declared that their emissions would have ten percent less opacity with the natural gas operations. Finally, DAQ does not have any designated, visibility-sensitive areas in the vicinity of this facility, so DAQ agrees that no CLASS II visibility modeling is needed.

9.0 Class I Increment/Air Quality Related Values (AQRV) Regional Haze Impact and Deposition Analyses

The closest CLASS I area to the facility is Cape Romain National Wildlife Refuge (NWR) which is about 195 km to the southeast. Linville Gorge and Shining Rock are further away, but still within 300 km of DEP. NCDAQ coordinated with The Federal Land Manager (FLM) and no AQRV analyses were required.

Additionally, DEP performed a CLASS I SIL analysis and determined that impacts at the CLASS I areas are below the CLASS I SIL's. In performing this modeling, DEP utilized AERMOD in a NCDAQ approved screening

[13] PM2.5 design value for 2010-2012 for Montgomery County (for annual NAAQS), http://daq.state.nc.us/monitor/data/pm2pt5/10-12.shtml

technique by placing receptors at a 50 km radius in the direction of the CLASS I areas. Due to the nature of steady state dispersion models like AERMOD, this is considered a conservative representation for distances beyond 50 km. Since the results showed that impacts were below the SIL values, no further CLASS I modeling was required. See results in the following Table:

Table: Project Impact v/s CLASS I SIL, ug/m^3

Pollutant	Averaging Period	50 km Radius Impact	Class I SIL
NO_2	Annual	0.011	0.1
$PM_{2.5}$	Annual	0.002	0.048
PM_{10}	Annual	0.002	0.16

In summary, the proposed project involving increases in annual hours of operation for simple cycle combustion turbine Units 1 through 4 and 6 burning natural gas at DEP project, will not cause or contribute to any violation of the NAAQS, Class I and Class II increments, or any Class I AQRVs.

10.0 Facility Wide Air Toxics

In accordance with the current air permit, the facility has not been triggered into the NC's air toxics program.

As per 2Q .0702(a)(18), the combustion source exemption from air toxics program has been removed for any permitted new or modified source permitted on or after July 10, 2010. Thus, any air toxics emitted from the new or modified combustion source brings into evaluation emissions of all permitted combustion sources including any insignificant combustion activity.

Moreover, recently enacted Session Law 2012-91 [House Bill 952] (June 28, 2012) requires DAQ to determine whether "unacceptable risk to human health" would be present due to any increase in emissions of any NC regulated air toxics from any new or modified source. Any source which is subject to any NESHAPS (Parts 61 or 63) or any case-by-case MACT standard (Section 112j) is deemed "presumed out" (exempt from review) from air toxics program under this Law with DAQ having a rebuttable option to deem the source otherwise by conducting its own analysis for "unacceptable risk to human health".

The increase in air toxics emissions (for pollutants with annual averaging basis) from the affected units 1 through 4 and 6 are expected.

These units are currently subject to the requirements in §112(g) as discussed in Section 4.0 above. So, DAQ initially required the air toxics evaluation including modeling analysis for pollutants with annual averaging basis, which showed facility wide emissions exceeding the applicable toxic air pollutant emissions rate (TPER). However, with further consideration by DAQ and as discussed in the same Section 4.0 above, it was determined that the units are now subject to the requirements in §112(d) MACT (40 CFR 63 Subpart YYYY) and not §112(g). So, air toxics evaluation for the proposed project cannot be required for the proposed sources as they are "presumed out" for air toxics program in accordance with the Session Law. Thus, DAQ reviewed the submitted modeling analysis in accordance with Section 1(a)(5)b. of the Law for arsenic, 1, 3 butadiene, and benzene, and determined that the emissions of these toxic air pollutants for the facility do not present an "unacceptable risk to human health". In summary, the revised permit will not include the modeled rates for these pollutants. Finally, it needs to be noted that the modeling analysis for arsenic should not have been included as the pollutant is not expected to be emitted from the natural gas fired combustion turbines.

11.0 Facility Emissions Review

The following table includes the facility wide emissions as reported to DAQ for the 2011 Annual Emission Inventory (AEI).

Pollutant	Actual Emissions tons/year
Particulate (TSP)	159.2
Particulate (PM-10)	159.2
Particulate (PM-2.5)	154.2
Carbon Monoxide	506.6
Nitrogen Oxides	517.0
Sulfur Dioxide	19.6
Volatile Organic Compounds	49.4
GHG as CO_2e	ND
Single largest HAP	19.9 (formaldehyde)
Total HAP	29.72

ND = No data

12.0 Public Notice/EPA and Affected State(s) Review

Pursuant to 15A NCAC 2Q .0521, a notice of the DRAFT Title V Permit will be placed in the local newspaper. A copy of the public notice is included in Appendix 2. It needs to be emphasized here that this public notice satisfies the requirements in both 15A NCAC 2D .0530 "Prevention of Significant Deterioration" and 2Q .0500 "Title V Procedures".

The notice will provide for a 30-day comment period with an opportunity for a public hearing. Copies of the public notice will be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of the permit application and the proposed permit (in this case, the draft permit) will be provided to EPA for their 45-day review. Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit will be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. A copy of the final permit will also be provided to the EPA upon issuance as per 2Q .0522.

Finally, Appendix 3 to this preliminary determination includes listing of entities and associated materials to be sent for this proposed PSD major modification application, satisfying the requirements in §51.166(q) "public participation".

13.0 Stipulation Review

The following changes were made to the Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, Air Quality Permit No. 08759T14:

Old Page No. [Air Permit No. 08759T14]	New Page No. [Air Permit No. 08759T15]	Condition No.	Changes
Insignificant Activity List	Insignificant Activity List	Attachment to the Cover Letter	Remove source I-5 as per the inspection report.
Entire Permit	Entire Permit	-	Replace the Testing stipulation citation from 2D .2601 to 2Q .0508(f).
5	5	Section 2.1 A. Table	Remove the applicability of 2D .1112 and replace it with 2D .1111.
9	9	Section 2.1 A.3.a.	Revise the Table to include BACT limits in ppm for natural gas burning and as per the approval of this application 7700070.12B. Remove the BACT for opacity. Include GHG BACT.

10	10	Section 2.1 A.3.b.	Revise this Table to include the annual emissions attributable to the additional 6760 hours of natural gas firing for each simple cycle turbine (Units 1 through 4 and 6) as per this application.
10	10	Section 2.1 A.3.e.	Remove the restriction of 2000 hours of annual usage for each of the simple cycle turbines (Units 1 through 4 and 6).
11	11	Section 2.1 B. Table	Remove the applicability of 2D .1112 and replace it with 2D .1111.
16	16	Section 2.1 B.3.b.	Revise this Table to include the annual emissions attributable to the additional 6760 hours of natural gas firing for each simple cycle turbine (Units 1 through 4 and 6) as per this application.
23	22	Section 2.1 F. Table	Correct the reference for CAIR applicability - The requirements for units ES-13 and ES-14 are not part of the CAIR requirements for other units 1 through 8. CAIR language for ES-13 and ES-14 is in Section 2.1 F.7.
-	39	Section 2.1 F.7.	Insert permit language in 2D .2400.
52	-	Section 2.2 A.	Remove this Section as it is not applicable now.
53	51	Section 2.3	Renumber it to Section 2.2 and include the applicability of Units 13 and 14 as per the Phase II application attachment.
54	52	Section 2.4	Renumber it to section 2.3.
54	54	Section 3	Revise the General Conditions.

14.0 Conclusions, Comments, and Recommendations

- The application does not include any approval of an air pollution capture and control system, so, the requirements in 2Q .0112 "applications requiring professional engineer seal" do not apply.
- The proposed project is neither a "new facility" nor an "expansion of existing facility". Hence, consistency determination is not required in accordance with 2Q .0507(d)(3).
- The draft permit was sent to the regional office for review on xx.
- The draft permit was sent to the Permittee for review on xx.
- This engineer recommends issuing the revised permit after the completion of public comment and EPA review periods.

Appendix 1

RBLC Summary

Appendix 2

Public Notice

Appendix 3

Listing of Entities and Associated Materials

NEWSPAPER	Mr. John Charles Robbins Richmond County Daily Journal 105 E. Washington St. Rockingham, NC 28379 (910) 997-4321 jrobbins@civitasmedia.com	Public Notice
OFFICIALS	Mr. Rick Sago Manager, Richmond County P. O. Box 504 Rockingham, NC 28380 (910) 997-8200	Public Notice
SOURCE	Ms. Teresa Wilson Station Manager Richmond County Combustion Turbine Facility Duke Energy Progress, Inc. 198 Energy Way Hamlet, NC 28345 (910) 205-2101	Preliminary Determination, Draft Permit & Public Notice
EPA	Ms. Heather Ceron Air Permits Section U.S. EPA Region 4 Sam Nunn Atlanta Federal Building 61 Forsyth Street, S.W. Atlanta, Georgia 30303-3104 (404) 562-9185	Preliminary Determination, Draft Permit & PublicNotice
	Preliminary Determination, Draft Permit, and Public Notice, via electronic mail to: ceron.heather@epa.gov with cc to: forney.kathleen@epa.gov	
FLM	Ms. Jill Webster Branch of Air Quality 7333 W. Jefferson Avenue, Suite 375 Lakewood, CO 80235-2017 (303) 914-3804	None
FAYETTEVILLE REGIONAL OFFICE	Mr. Steven Vozzo NC DAQ Air Quality Regional Supervisor 225 Green Street, Suite 714 Fayetteville, NC 28301 (910) 433-3361	Preliminary Determination, Draft Permit, Public Notice & Application

North Carolina Department of Environment and Natural Resources
DIVISION OF AIR QUALITY

Pat McCrory, Governor

John E. Skvarla, III, Secretary
Sheila C. Holman, Director

October 15, 2013

Ms. Teresa Wilson
Station Manager
Duke Energy Progress, Inc.
Richmond County Combustion Turbine Facility
198 Energy Way
Hamlet, NC 28345

Dear Ms. Wilson:

SUBJECT: Preliminary Determination and Air Permit Review
Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Richmond County Combustion Turbine Facility
Hamlet, North Carolina, Richmond County
Facility ID 7700070
Application No. 7700070.12B
Draft Air Quality Permit No. 08759T15

Enclosed is a copy of the Preliminary Determination for Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, located in Richmond County, North Carolina.

The public notice is scheduled for publication on October 18, 2013 in the Richmond County Daily Journal and shall be mailed to persons on the Division's mailing list for air quality permit notices.

Should you have any questions concerning this matter, please contact Rahul P. Thaker, P.E., QEP, of my staff at (919) 707-8740.

Sincerely,

Donald R. van der Vaart, Ph.D., J.D., P.E.
Chief

Attachments
cc: Fayetteville Regional Office
Central Files

Permitting Section
1641 Mail Service Center, Raleigh, North Carolina 27699-1641
217 West Jones Street, Raleigh, North Carolina 27603
Phone: 919-707-8405 / Fax: 919-715-0717
Internet: www.ncair.org
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NCDENR

North Carolina Department of Environment and Natural Resources
DIVISION OF AIR QUALITY

Pat McCrory, Governor

John E. Skvarla, III, Secretary
Sheila C. Holman, Director

October 14, 2013

TO: Ms. Heather Ceron
Air Permits Section
U.S. EPA Region 4
Sam Nunn Atlanta Federal Building
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-3104

SUBJECT: Preliminary Determination and Air Permit Review
Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, Hamlet, North Carolina, Richmond County
Facility ID 7700070, Application No. 7700070.12B, Draft Air Quality Permit No. 08759T15

Duke Energy Progress, Inc. d/b/a Duke Energy Progress Richmond County Combustion Turbine Facility has applied to the North Carolina Department of Environment and Natural Resources, Division of Air Quality, for approval of a Prevention of Significant Deterioration (PSD) project for increasing the permitted operations of existing simple cycle combustion turbines (ID Nos. Units 1 through 4, and 6), currently from 2,000 hours to 8,760 hours annually on a full load equivalent basis for each turbine, when burning natural gas.

The project will result in significant emissions increases of PM_{10}, $PM_{2.5}$, NOx (as NO_2), CO, VOC, and GHG.

It is subject to review under the under the North Carolina Administrative Code, Title 15A, Environment Management Subchapter 2D Section .0530 "Prevention of Significant Deterioration" and Subchapter 2Q Section .0500 "Title V Procedures".

Please find a copy of the preliminary determination and air permit review, and the draft permit for this project. The public notice is to be published in the Richmond County Daily Journal on October 18, 2013. If you wish to make any comments on the project, you should submit them in writing no later than thirty (30) days of the date of public notice. Should you have any questions or need further information, please contact Rahul P. Thaker, P.E., QEP, of my staff at (919) 707-8740 or e-mail at Rahul.Thaker@ncdenr.gov.

Sincerely,
Donald R. van der Vaart, Ph.D., J.D., P.E.
Chief

Attachments

Shepherd, Lorinda

From: Hash, Kathy <kathy.hash@ncdenr.gov>
Sent: Thursday, August 08, 2013 2:36 PM
To: teresa.wilson@duke-energy.com; Moser, Jim; affected County Buncombe; barnetwm@forsyth.cc; Jason.rayfield@mecklenburgcountync.gov; affected State Georgia; affected state South Carolina; affected State Tennessee; affected State Virginia; Purvis, James; Shepherd, Lorinda; Ceron, Heather; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party (reservation); NCDENR.DENR.DAQ.Ask_IBEAM
Cc: Gordon, Mike
Subject: Public Notice Documents for Duke
Attachments: Richmond_7700070_T15.pdf; Richmond_7700070_T15Review.pdf; Duke Letters.pdf; PUBLIC NOTICE Duke.pdf

Categories: NC Title V

Hello,
Please Find attached documents pertaining to the subject application for your review and comments.
Engineer : Mike Gordon
Newspaper: NCDENR website
Date of publication for Public Notice August 9, 2013
Public Comment period ends September 8, 2013
EPA Comment period ends September 23, 2013
Please let me know if you have any questions regarding this matter.
Webmaster, Please place appropriate documents on DAQ website.
Thanks,

Kathy

Kathy Hash, Info Processing Assistant
NC DENR, Division of Air Quality
Permits Section 4430-I
1641 Mail Service Center, Raleigh NC 27699-1641
Phone/Fax: 919-707-8734
kathy.hash@ncdenr.gov
www.ncair.org

****
E-mail correspondence to and from this address may be subject to the
North Carolina Public Records Law and may be disclosed to third parties.
****
Please complete the DENR Customer Service Survey by May 31 to give us
feedback on how we are doing and how we can improve:
https://surveymonley.com/s/22013DENRCustomerServive
Please contact eac@ncdenr.gov if you have problems accessing the survey.
****

Ceron, Heather

From: Hash, Kathy <kathy.hash@ncdenr.gov>
Sent: Thursday, August 08, 2013 2:36 PM
To: teresa.wilson@duke-energy.com; Moser, Jim; affected County Buncombe; barnetwm@forsyth.cc; Jason.rayfield@mecklenburgcountync.gov; affected State Georgia; affected state South Carolina; affected State Tennessee; affected State Virginia; Purvis, James; Shepherd, Lorinda; Ceron, Heather; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party; interested party (reservation); NCDENR.DENR.DAQ.Ask_IBEAM
Cc: Gordon, Mike
Subject: Public Notice Documents for Duke
Attachments: Richmond_7700070_T15.pdf; Richmond_7700070_T15Review.pdf; Duke Letters.pdf; PUBLIC NOTICE Duke.pdf

Hello,
Please Find attached documents pertaining to the subject application for your review and comments.
Engineer : Mike Gordon
Newspaper: NCDENR website
Date of publication for Public Notice August 9, 2013
Public Comment period ends September 8, 2013
EPA Comment period ends September 23, 2013
Please let me know if you have any questions regarding this matter.
Webmaster, Please place appropriate documents on DAQ website.
Thanks,

Kathy

Kathy Hash, Info Processing Assistant
NC DENR, Division of Air Quality
Permits Section 4430-I
1641 Mail Service Center, Raleigh NC 27699-1641
Phone/Fax: 919-707-8734
kathy.hash@ncdenr.gov
www.ncair.org

****
E-mail correspondence to and from this address may be subject to the
North Carolina Public Records Law and may be disclosed to third parties.
****
Please complete the DENR Customer Service Survey by May 31 to give us
feedback on how we are doing and how we can improve:
https://surveymonley.com/s/22013DENRCustomerServive
Please contact eac@ncdenr.gov if you have problems accessing the survey.
****

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Air Quality

Pat McCrory
Governor

Sheila C. Holman
Director

John E. Skvarla,III
Secretary

XX

Ms. Teresa Wilson
Station Manager
Duke Energy Progress, Inc.
Richmond County Combustion Turbine Facility
198 Energy Way
Hamlet, NC 28345

Dear Ms. Wilson:

SUBJECT: Air Quality Permit No. 08759T15
Facility ID: 7700070
Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Richmond County Combustion Turbine Facility
Hamlet, North Carolina
Richmond County
Fee Class: Title V

In accordance with your completed Air Quality Permit Application for significant modification of a Title V permit received June 13, 2011, we are forwarding herewith Air Quality Permit No. 08759T15 to Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, Hamlet, Richmond County, North Carolina authorizing the construction and operation, of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 2Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

As the designated responsible official it is your responsibility to review, understand, and abide by all of the terms and conditions of the attached permit. It is also your responsibility to ensure that any person who operates any emission source and associated air pollution control device subject to any term or condition of the attached permit reviews, understands, and abides by the condition(s) of the attached permit that are applicable to that particular emission source.

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to request a formal adjudicatory hearing within 30 days following receipt of

Permitting Section
1641 Mail Service Center, Raleigh, North Carolina 27699-1641
217 West Jones Street, Raleigh, North Carolina 27603
Phone: 919-707-8405 / Fax: 919-715-0717
Internet: www.ncair.org
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this permit, identifying the specific issues to be contested. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with both the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.

You may request modification of your Air Quality Permit through informal means pursuant to NCGS 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of GS 143-215-108A(b) and received written approval from the Director of the Division of Air Quality to commence construction. Failure to receive an Air Quality Permit or written approval prior to commencing construction is a violation of GS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in GS 143-215.114A and 143-215.114B.

This Air Quality Permit shall be effective from XX until March 31, 2016, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

The changes made to the permit are summarized in the attachment to this letter. Should you have any questions concerning this matter, please contact Dr. Michael J. Gordon, D.D.S. at (919) 707-8731.

Sincerely yours,

Donald R. van der Vaart, Ph.D., P.E., J.D.
Chief

Enclosure
c: Heather Ceron, EPA Region 4
Fayetteville Regional Office
Central Files

Air Quality Permit No. 08759T15
Duke Energy Progress, Inc.
Richmond County Combustion Turbine Facility
Insignificant Activities under 15A NCAC 2Q .0503(8)

Emission Source I.D.	Emission Source Description	Regulatory Basis for Exemption
I-2	Seven, 6,200 gallons each, lube oil reservoirs	2Q .0503(8)
I-3	Seven, 500 gallons each, false start drain tanks	2Q .0503(8)
I-4	Seven, 5,000 gallons each, CT wash tanks	2Q .0503(8)
I-5	One 20 kW emergency generator for microwave equipment **MACT ZZZZ**	2Q .0503(8)
I-6	One 3,857 gallons steam turbine lube oil reservoir	2Q .0503(8)
I-7	One 281 gallons steam turbine oil drain tank	2Q .0503(8)
I-8	One 316 gallons steam turbine seal oil vacuum tank	2Q .0503(8)
I-9	Three, 200 gallons each, fuel gas coalescer drain tanks	2Q .0503(8)
I-10	One 100 Gallon Portable Diesel Tank	2Q .0503(8)
I-11	One 300 Gallon Diesel Tank	2Q .0503(8)
I-12	One 300 Gallon Gasoline Tank	2Q .0503(8)

ATTACHMENT
Air Quality Permit No. 08759T15
Duke Energy Progress, Inc.
Richmond County Combustion Turbine Facility

The following changes were made to the Duke Energy Progress, Inc. - Richmond County Combustion Turbine Facility Air Permit No. 08759T14:

Old Page No.	New Page No.	Part, Section, or Condition No.	Change
-	-	Cover	Amended to reflect current permit number, issue date, effective date, and associated application information
4	4	Emissions Source Table	Removed ES-16 to ES-18, and ES-21 to ES-23 natural gas-fired heaters that are owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
4	4	Emissions Source Table	Added footnote clarifying that emissions sources listed by Duke Energy Progress, Inc. are covered under 15A NCAC 2Q .0501(c)(2) rules.
7	7	Section 2.1.A.2	Corrected several references to the CFR that were inaccurate
9	9	Section 2.1.A.3.a	Added statement to footnotes that emissions from startup, shutdown, or malfunction are not included in the BACT averaging period.
10	10	Section 2.1.A.3.g	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4hrs/month.
13	13	Section 2.1.B.2	Corrected several references to the CFR that were inaccurate
15	15	Section 2.1.B.3.a	Added statement to footnotes that emissions from startup, shutdown, or malfunction are not included in the BACT averaging period.
17	17	Section 2.1.B.3.f	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4hrs/month.
22-23	22-23	Section 2.1.F Table	Removed references to compliance demonstration alternatives that Duke Energy Progress, Inc. has requested be removed from the permit
24-30	24-28	Section 2.1.F.3	Inserted table describing emissions limitations according to 40 CFR 60 Subpart KKKK requirements. Deleted verbal description of those requirements stated in table. Duke felt this format more clearly outlined the requirements according to the Subpart.
24-30	24-28	Section 2.1.F.3	Removed compliance demonstration alternatives that will not be used by Duke. This was done at their request to reduce confusion in the permit.
28-30	27-28	Section 2.1.F.3.o	Updated emissions reporting requirements according to the type of operation (simple vs. combined cycle operation)
33-34	31-32	Section 2.1.F.4	Updated BACT requirements listed in the footnotes of the table for clarity at the request of Duke
34	32	Section 2.1.F.4.b	Updated emissions limitations (limits were reduced to reflect standard) that demonstrate compliance with the National Ambient Air Quality Standards (NAAQS).
35	33	Section 2.1.F.4.g	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4hrs/month.

Old Page No.	New Page No.	Part, Section, or Condition No.	Change
36-37	-	Section 2.1.F.5	Removed State only Sulfur Dioxide requirements
53-54	34-35	Section 2.1.F.5 (previously Section 2.1.F.6)	Removed Formaldehyde requirements under 40 CFR 63 Subpart YYYY due to a stay on the effectiveness of the emissions and operating limits under 40 CFR 63.6095(d) that is in place until final action is taken by the EPA in the Federal Register.
41-42	36	Section 2.1.G.4.b	Updated recordkeeping requirements for clarity as requested by Duke.
43-45	-	2.1.H	Removed permit conditions associated with three natural gas heaters (ES-16 to ES-18) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
47	39	2.1.I.1	Added 2D .0524 recordkeeping requirements for the fixed roof oil storage tank (TK-5)
47-49	-	2.1.K	Removed permit conditions associated with three natural gas heaters (ES-21 to ES-23) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
Page 56	Page 56	General Conditions	Updated General Conditions to latest revision

State of North Carolina,
Department of Environment,
and Natural Resources

Division of Air Quality

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date*	Expiration Date*
08759T15	08759T14	xx	March 31, 2016

* Effective dates for the Phase II Acid Rain portion of this permit are from January 1, 2010 to December 31, 2014

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 2D and 2Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 2Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

Permittee:	Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Facility ID:	7700070
Facility Site Location: City, County, State, Zip:	198 Energy Way Hamlet, Richmond County, NC 28345
Mailing Address: City, State, Zip:	198 Energy Way Hamlet, NC 28345
Application Number: Complete Application Date: Primary SIC Code:	7700070.11A June 13, 2011 4911
Division of Air Quality Regional Office Address:	Fayetteville Regional Office 225 Green Street, Suite 714, Fayetteville, NC 28301

Permit issued this the xxth day of xx, xx

Donald R. van der Vaart, Ph.D., P.E., J.D., Chief, Air Permits Section
By Authority of the Environmental Management Commission

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ATTACHMENT

List of Acronyms

Acid Rain Permit Application dated December 14, 2009

CAIR Permit Application dated June 26, 2007

SECTION 1- PERMITTED EMISSION SOURCE (S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE (S) AND APPURTENANCES

The following table contains a summary of all permitted emission sources and associated air pollution control devices and appurtenances:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Units 1* through 4*, and Unit 6* **PSD NSPS Subpart GG**	Five natural gas/No. 2 fuel oil-fired simple-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NOx control	N/A	No Controls
Unit 7* and Unit 8* **PSD NSPS Subpart GG**	Two natural gas/No. 2 fuel oil-fired combined-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with a heat recovery steam generator and a steam turbine, and dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NOx control	Unit 7 SCR Unit 8 SCR	Selective Catalytic Reduction
TK-1 and TK-2 **PSD**	Two, No. 2 fuel oil, fixed-roof storage tanks (not to exceed 5 million gallons capacity each, actual capacity 3.1 million gallons each) with atmospheric vents.	N/A	No Controls
Tower 4 **PSD**	One cooling tower with drift eliminators (123,220 gallons per minute recirculating water flow rate)	N/A	No Controls
ES-10 **PSD NSPS Subpart Dc 2D .1109 Case-by-Case MACT**	One natural gas fired auxiliary boiler (16.74 million Btu per hour nominally rated heat input)	N/A	No Controls
ES-13 and ES-14 **PSD NSPS Subpart KKKK MACT Subpart YYYY**	Two natural gas/No. 2 fuel oil-fired simple/combined cycle internal combustion turbines, each equipped with a heat recovery steam generator, dry Low-NO_x combustors and water injection control, both equipped with a common steam turbine Simple-cycle mode of operation: 2,084 million Btu per hour heat input rate each when firing natural gas 1,983 million Btu per hour heat input rate each when firing No. 2 fuel oil Combined-cycle mode of operation: 2,225 million Btu per hour heat input rate each for gas turbine when firing natural gas and 390 million Btu per hour heat input rate each for duct burner when firing natural gas 1,983 million Btu per hour heat input rate each for gas turbine when firing No. 2 fuel and no duct burner firing in each heat recovery steam generator when firing No. 2 fuel oil	CD13-SCR and CD14-SCR	Selective Catalytic Reduction (applicable for combined-cycle mode of operation only)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-15 **PSD** **NSPS Subpart Dc** **2D .1109 Case-by-Case MACT**	One natural gas-fired auxiliary boiler (16.74 million Btu per hour heat input rate)	N/A	No Controls
ES-19 **2D .1109 Case-by-Case MACT**	One 2.6 million Btu/hr, natural gas dew point heater for ES-13	N/A	No Controls
ES-20 **2D .1109 Case-by-Case MACT**	One 2.6 million Btu/hr, natural gas dew point heater for ES-14	N/A	No Controls
Tower5 **PSD**	One multi-cell cooling tower with drift eliminators (150,000 gallons per minute recirculation water flow rate)	N/A	No Controls
TK-5 **PSD**	One No. 2 fuel oil fixed-roof storage tank with atmospheric vents (not to exceed 3.5 million gallons capacity)	N/A	No Controls

* The compliance demonstration option consisting of NO_x CEMs for each combustion turbine listed (ID No's: Unit 1,2,3,4,6,7, and Unit 8) in Section 2.1.A.2.e and Section 2.1.B.2.e, as well as revisions to the definition of startup and shutdown in Section 2.1.A.3.a.ii and Section 2.1.B.3.a.ii are considered a 15A NCAC 2Q .0501(c)(2) modification. When demonstrating compliance and operating under startup and shutdown conditions listed in theses sections, the permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Source(s) and Control Devices(s) Specific Limitations and Conditions

The emission source(s) and associated air pollution control device(s) and appurtenances listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Five natural gas/No. 2 fuel oil-fired simple-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with dual fuel dry Low-NO_x combustors when firing natural gas and water injection when firing No. 2 fuel oil for NO_x control (ID Nos. Unit 1, Unit 2, Unit 3, Unit 4, and Unit 6)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
Sulfur Dioxide	As defined in specific conditions	15A NCAC 2D .0524 (40 CFR Part 60 Subpart GG)
Nitrogen Oxides	As defined in specific conditions See Section 2.4	15A NCAC 2D .0524 (40 CFR Part 60 Subpart GG) 15A NCAC 2D .2400 (40 CFR Part 96)
Various	As defined in specific conditions	15A NCAC 2D .0530
Hazardous Air Pollutants	As defined in specific conditions and Section 2.2 A.1.	15A NCAC 2D .1112
Sulfur Dioxide Nitrogen Oxides	Phase II Acid Rain Permit Requirements (See Section 2.3)	15A NCAC 2Q .0402

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source shall not be more than **20 percent opacity** (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2D .2601]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

c. To assure compliance, the Permittee shall perform a Method 9 test for 1 hour using a pre-approved protocol to be submitted in accordance with 15A NCAC 2D .2600 and General Condition JJ before the source operates more than 1100 hours using No. 2 fuel oil. This monitoring procedure shall be repeated before each subsequent 1100 hours of operation, from the time of the last test, using No. 2 fuel oil. If the results of this test are above the limit given in Section 2.1 A.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .0508(f)]

d. The Permittee shall keep records of the hours and associated dates, when these sources are in operation, and the dates and results of performance of Method 9 tests. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

e. The Permittee shall submit the results of the Method 9 test within 30 days of completion of the test or at the end of the quarter. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART GG)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 2D .0524, "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60, Subpart GG, including Subpart A "General Provisions."[15A NCAC 2D .0524]

b. **NSPS Emissions Limitations** - As required by 15A NCAC 2D .0524, the following permit limits shall not be exceeded:

AFFECTED FACILITY	POLLUTANT	EMISSION LIMIT
Combustion Turbines (ID Nos. Unit 1- 4, and Unit 6)	Nitrogen Oxides	$STD^{*} = 0.0075 \times [(14.4) / Y^{**}] + F^{***}$
	Sulfur Dioxide	0.015 percent by volume**** or 0.8 percent weight sulfur in fuel

* STD = allowable nitrogen oxide emissions in percent by volume at 15 percent O_2 on a dry basis.
** Y = manufacturer's rated heat rate at manufacturer's rated load or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. Y shall not exceed 14.43 kJ/w-h.
*** F = NOx emission allowance for fuel bound nitrogen as defined in 40CFR60.332(a)(3).
**** Allowable sulfur dioxide emissions at 15 percent O_2 on a dry basis.

Testing [15A NCAC 2D .2601]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.2. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. In addition to any other monitoring requirements of the EPA, the Permittee is required to monitor the following:
   i. The sulfur content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the sulfur dioxide standard in 40 CFR 60.333, using the test methods and procedures in 40 CFR 60.335, except as follows:
      1. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine sulfur content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for sulfur content in accordance with 40 CFR Part 75, Appendix D.
      2. When firing natural gas, the procedures from 40 CFR Part 75, Appendix D shall be used to sample and analyze for sulfur content.

   If the sulfur content of the fuel burned in each combustion turbine is not monitored as specified above or the sulfur dioxide emission rate of combustion turbine is above the limit given in Section 2.1.A.2.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

e. The Permittee shall demonstrate compliance with the NO_x emissions limit through one of the alternative compliance methods (A or B) described below. Compliance Alternative B as provided for in 40 CFR 60.334(b), shall be the mandatory method for compliance demonstration if at any time a unit is subject to Acid Rain provisions and is no longer classified as a "peaking unit" under 40 CFR 72.2.

   Alternative A
   i. The nitrogen content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the nitrogen oxides standard as specified in 40 CFR 60.332, using the test methods and procedures in 40 CFR 60.335, except as follows:
      1. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine nitrogen content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for nitrogen content in accordance with ASTM Method D4629.
      2. Monitoring of fuel nitrogen content shall not be required while pipeline natural gas is the only fuel being fired in the combustion turbines.
   ii. As required by 40 CFR 60.334(a), using the test methods and procedures in 40 CFR 60.335, for each combustion turbine, a continuous monitoring system shall be installed and operated to monitor and record fuel consumption and the ratio of water-to-fuel being fired. The monitoring device shall be calibrated and maintained in accordance with the manufacturer's specifications. This system shall be accurate to within 5.0 percent and must be approved by the DAQ prior to installation.

   Alternative B
   i. The Permittee shall demonstrate compliance with the NOx emission limit using a continuous emission monitoring system (CEMS) installed, certified, maintained, operated, and quality-assured in accordance with 40 CFR Part 75. The missing data substitution methodology provided in 40 CFR 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in 40 CFR 60.7(c). A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NO_x concentration or diluents (or both). The CEMS shall comply with all applicable requirements of 40 CFR 60.334 and 40 CFR 75. If the CEMS does not comply with the applicable requirements of 40 CFR 60.334 and 40 CFR 75, or the NOx emissions from these turbines exceed the emission limits set forth in 40 CFR 60.332, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

   If the nitrogen content of the fuel burned in each combustion turbine is not monitored as specified above or the nitrogen oxides emission rate of any combustion turbine is above the limit given in Section 2.1.A.2.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Reporting [15A NCAC 2Q .0508(f)]

f. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction.

g. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being fired exceeds 0.8 percent by weight.

h. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for nitrogen oxides shall be reported:

   i. For any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332 by the performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in 40 CFR 60.8.

   ii. Where the Permittee has elected to install a CEMS according to Alternative B of 2.1.A.2.e above, reporting shall be in accordance with 40 CFR 60.334(j)(1)(iii). Data must be reduced to hourly averages as specified in 40 CFR 60.13(h). An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NOx concentration exceeds the applicable emission limit in Section 2.1.A.2.b. A "4-hour rolling average NOx concentration" is the arithmetic average of the average NOx concentration measured by the CEMS for a given hour (corrected to 15 percent O2 and, if required under 40 CFR 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NOx concentrations immediately preceding that unit operating hour. Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst-case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of 40 CFR 60.335(b)(1). The Permittee shall comply with all applicable reporting requirements of 40 CFR 60.334.

i. The Permittee shall submit in writing the excess emissions of sulfur dioxide and nitrogen oxides as well as the sulfur content and fuel-bound nitrogen content of the No. 2 fuel oil fired in the combustion turbines and the number of hours of operation of each combustion turbine by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:
   i. Short term maximum emission rates for each simple-cycle combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) shall not exceed:

AFFECTED SOURCE	POLLUTANT	BACT EMISSION LIMIT		BACT CONTROLS
		Natural Gas	No. 2 Fuel Oil	
		Lbs/MMBtu ppm	Lbs/MMBtu ppm	
Combustion Turbines (ID Nos. Unit 1- 4, and Unit 6), per turbine	Opacity	20%	20%	Combustion Control
	Nitrogen Oxides	During initial BACT testing: 0.037 9 ppmvd[b] (24-hour rolling average)[c] After initial BACT testing: 0.043 10.5 ppmvd[b] (24-hour rolling average)[c]	0.175 42 ppmvd[b] (24-hour rolling average)[c]	Natural Gas: Dry-Low NOx Fuel Oil: Water Injection
	Sulfur Dioxide	0.0006	0.054	0.05% Sulfur Fuel Oil
	Carbon Monoxide	0.018 9 ppmvd	0.037 20 ppmvd	Combustion Control
	VOC's	0.0017 1.4 ppmvw	0.004 3.5 ppmvw	Combustion Control
	Particulates/PM-10 (Front half)	0.0055	0.009	Combustion Control
	Sulfuric Acid	N/A	Fuel Oil Sulfur Content	0.05% Sulfur Fuel Oil

a BACT limits shall apply at all times except as provided under Section 2.1 A. 3. a. ii.
b ppmvd = parts per million by volume on a dry basis at 15% O_2.
c 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). Emissions resulting from startup, shutdown, or malfunction shall not be included in the BACT averaging period.

   ii. Emissions resulting from startup, shutdown, or malfunction above those given in Section 2.1.A.3.a.(i) are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. For the simple-cycle turbines, periods of excess emissions due to startup and/or shutdown shall not exceed two hours (120 minutes) in any 24-hour block period beginning at midnight. When using natural gas, startup shall be defined as the period from initial firing to mode 6/6Q (as defined by the manufacturers Dry low NO_x control system information) and shutdown shall be defined as the period from mode 6/6Q to flame out. When using fuel oil, startup shall be the period from initial firing to "water injection in-service" and shutdown shall be from the cessation of water injection to flameout. The facility shall not operate the turbines outside of mode 6/6Q when firing natural gas or without water injection when firing fuel oil at any time after startup and prior to shutdown. Unit emissions shall comply with those given in Section 2.1.A.3.a.i. once mode 6/6Q is reached or, when firing fuel oil, water injection is initiated. Any operation outside of these parameters shall be deemed a startup, shutdown, or malfunction event.

b. The following emission limits apply in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530; 40 CFR 51.166(k):

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT				
		Annual (tons/yr)*	Pounds per 24-hour	Pounds per 8-hour	Pounds per 3-hour	Pounds per 1-hour
Combustion Turbines (ID Nos. Unit 1- 4, Unit 6, Unit 7, and Unit 8), total	Nitrogen Dioxide	1757.0				
	Sulfur Dioxide	357.4	16,632		2079	
	Carbon Monoxide			3640		455
	Particulates/PM-10 (Front Half)	151.8	2856			

* Tons per rolling consecutive 12-month period. Annual emissions for the combustion turbines are for all seven turbines firing fuel oil for 1000 hours per year, five simple-cycle turbines firing natural gas for 1000 hours per year and two combined-cycle turbines firing natural gas for 7760 hours per year, at 100% load.

Testing [15A NCAC 2D .2601]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 3. a. i. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The maximum annual hours of operation for each combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) shall not exceed 1000 full load equivalent hours per rolling consecutive 12-month period when firing No. 2 fuel oil.
e. The maximum annual hours of operation for each simple-cycle combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) shall not exceed 2000 full load equivalent hours per rolling consecutive 12-month period.
f. The Permittee shall record and maintain records of the actual number of hours of operation, and the amounts of each fuel burned during each day for each combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) in accordance with 40 CFR Part 75. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained.
g. Only natural gas shall be burned during summer months (May 1through September 30) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed four hours per month per turbine), and during compliance testing.
h. The sulfur content of the No. 2 fuel oil shall not exceed 0.05 percent sulfur by weight.
i. Water injection shall be used when the combustion turbines are firing No. 2 fuel oil only.
j. The Permittee shall monitor operations to demonstrate compliance with the BACT emission limits as follows:
   i. Determine the sulfur content of the fuel being fired in each combustion turbine in accordance with Section 2.1 A. 2. d. i.
   ii. Determine nitrogen oxide emissions according to:
      1. The requirements of 40 CFR Part 75 Appendix E. At least 45 days prior to performing any required initial performance testing required by the procedure in Appendix E, the Permittee must submit a testing protocol to the Regional Supervisor, Division of Air Quality for review and approval prior to performing such tests.
      2. If the facility has installed CEMS for NO_x monitoring, emissions shall be determined according to Alternative B under Section 2.1.A.2.e.

   Note: If Appendix E is being used in lieu of a NO_x CEM under the Acid Rain Program, then certification to use Appendix E shall be completed no later than the applicable deadline specified in 40 CFR Part 75.4 pursuant to the requirements in §75.20.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the sulfur content of the fuel is not monitored or the nitrogen oxide emissions are not monitored.

Reporting [15A NCAC 2Q .0508(f)]

k. The Permittee shall submit in writing the following reports by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:
   i. Periods of excess emissions for sulfur dioxide for any daily period during which the sulfur content of the No. 2 fuel oil being fired exceeds 0.05 percent by weight, within 30 days after each calendar year quarter for the previous 3-month period; and
   ii. Periods of excess emissions for nitrogen oxides for any 24-hour rolling averaging period during which the concentrations exceed 0.043 lb/MMBtu (10.5 ppmvd) when firing natural gas and 0.175 lb/MMBtu (42 ppmvd) when firing No. 2 fuel oil, as determined by the procedure specified in 40 CFR Part 75 Appendix E, postmarked within 30 days after each calendar year quarter for the previous 3-month period. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NO_x concentrations are obtained at normal operating conditions as defined by 2.1.A.3.a(ii) and at least 15 minutes apart.

B. Two natural gas/No. 2 fuel oil-fired combined-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with a heat recovery steam generator and a steam turbine, and dual fuel dry Low-NO_x combustors when firing natural gas and water injection when firing No. 2 fuel oil for NO_x control (ID Nos. Unit 7 and Unit 8), and associated SCR's (ID No. Unit 7 SCR and Unit 8 SCR)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
Sulfur Dioxide	As defined in specific conditions	15A NCAC 2D .0524 (40 CFR Part 60 Subpart GG)
Nitrogen Oxides	As defined in specific conditions See Section 2.4	15A NCAC 2D .0524 (40 CFR Part 60 Subpart GG) 15A NCAC 2D .2400 (40 CFR Part 96 CAIR)
Various	As defined in specific conditions	15A NCAC 2D .0530
Hazardous Air Pollutants	See Section 2.2 A.1.	15A NCAC 2D .1112
Sulfur Dioxide Nitrogen Oxides	Phase II Acid Rain Permit Requirements (See Section 2.3)	15A NCAC 2Q .0402
PSD Pollutants	Projected Actual Emissions Reporting	15A NCAC 2D .0530(u)

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source shall not be more than **20 percent opacity** (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2D .2601]

b. If emission testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

c. To assure compliance, the Permittee shall perform a Method 9 test for 1 hour using a pre-approved protocol to be submitted in accordance with 15A NCAC 2D .2610 and General Condition JJ before the source operates more than 1100 hours using No. 2 fuel oil. This monitoring procedure shall be repeated before each subsequent 1100 hours of operation, from the time of the last test, using No. 2 fuel oil. If the results of this test are above the limit given in Section 2.1 B.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .0508(f)]

d. The Permittee shall keep records of the hours and associated dates, when these sources are in operation, and the dates and results of performance of Method 9 tests. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

e. The Permittee shall submit the results of the Method 9 test within 30 days of completion of the test or at the end of the quarter. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART GG)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 2D .0524, "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60, Subpart GG, including Subpart A "General Provisions."[15A NCAC 2D .0524]

b. NSPS Emissions Limitations - As required by 15A NCAC 2D .0524, the following permit limits shall not be exceeded:

AFFECTED FACILITY	POLLUTANT	EMISSION LIMIT
Combustion Turbines (ID No.'s. Unit 7 And Unit 8)	Nitrogen Oxides	$Std^{*} = 0.0075 \times [(14.4) / Y^{**}] + F^{***}$
	Sulfur Dioxide	0.015 Percent By Volume**** Or 0.8 Percent Weight Sulfur In Fuel

* STD = allowable nitrogen oxides emissions in percent by volume at 15 percent O_2 on a dry basis.
** Y = manufacturer's rated heat rate at manufacturer's rated load or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. Y shall not exceed 14.43 kJ/w-h.
*** F = NOx emission allowance for fuel bound nitrogen as defined in 40CFR60.332(a)(3).
**** Allowable sulfur dioxide emissions at 15 percent O_2 on a dry basis.

Testing [15A NCAC 2D .2601]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 2. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The sulfur content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the sulfur dioxide standard in 40 CFR 60.333, using the test methods and procedures in 40 CFR 60.335, except as follows:
   i. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine sulfur content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for sulfur content in accordance with 40 CFR Part 75, Appendix D.
   ii. When firing natural gas, the procedures from 40 CFR Part 75, Appendix D shall be used to sample and analyze for sulfur content. If the sulfur content of the fuel burned in each combustion turbine is not monitored as specified above or the sulfur dioxide emission rate of combustion turbine is above the limit given in Section 2.1 B. 2. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

e. The Permittee shall demonstrate compliance with the NO_x emissions limit through one of the alternative compliance methods (A or B) described below. Compliance Alternative B as provided for in 40 CFR 60.334(b), shall be the mandatory method for compliance demonstration if at any time a unit is subject to Acid Rain provisions and is no longer classified as a "peaking unit" under 40 CFR 72.2.

Alternative A

   i. The nitrogen content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the nitrogen oxides standard as specified in 40 CFR 60.332, using the test methods and procedures in 40 CFR 60.335, except as follows:
      1. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine nitrogen content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for nitrogen content in accordance with ASTM Method D4629.
      2. Monitoring of fuel nitrogen shall not be required while pipeline natural gas is the only fuel being fired in the combustion turbines.
   ii. As required by 40 CFR 60.334(a), using the test methods and procedures in 40 CFR 60.335, for each combustion turbine, a continuous monitoring system shall be installed and operated to monitor and record fuel consumption and the ratio of water-to-fuel being fired. The monitoring device shall be calibrated and maintained in accordance with the manufacturer's specifications. This system shall be accurate to within 5.0 percent and must be approved by the DAQ prior to installation.

Alternative B

   i. The Permittee shall demonstrate compliance with the NO_x emission limit using a continuous emission monitoring system (CEMS) installed, certified, maintained, operated, and quality-assured in accordance with 40 CFR Part 75. The missing data substitution methodology provided in 40 CFR 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in 40 CFR 60.7(c). A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NO_x concentration or diluent (or both). The CEMS shall comply with all applicable requirements of 40 CFR 60.334 and 40 CFR 75. If the CEMS does not comply with the applicable requirements of 40 CFR 60.334 and 40 CFR 75, or the NO_x emissions from these turbines exceed the emission limits set forth in 40 CFR 60.332, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Reporting [15A NCAC 2Q .0508(f)]

f. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction.

g. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being fired exceeds 0.8 percent by weight.

h. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for nitrogen oxides shall be reported:
   i. For any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332 by the performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in 40 CFR 60.8.
   ii. Where the Permittee has elected to install a CEMS according to Alternative B of 2.1.B.2.e above, reporting shall be in accordance with 40 CFR 60.334(j)(1)(iii). Data must be reduced to hourly averages as specified in 40 CFR 60.13(h). An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NO_x concentration exceeds the applicable emission limit in Section 2.1.B.2.b. A "4-hour rolling average NO_x concentration" is the arithmetic average of the average NO_x concentration measured by the CEMS for a given hour (corrected to 15 percent O2 and, if required under 40 CFR 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NO_x concentrations immediately preceding that unit operating hour. Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst-case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of 40 CFR 60.335(b)(1). The Permittee shall comply with all applicable reporting requirements of 40 CFR 60.334.

i. The Permittee shall submit in writing the excess emissions of sulfur dioxide and nitrogen oxides as well as the sulfur content and fuel-bound nitrogen content of the No. 2 fuel oil fired in the combustion turbines and the number of hours of operation of each combustion turbine by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

i. Short term maximum emission rates for each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8) shall not exceed:

AFFECTED SOURCE	POLLUTANT	BACT EMISSION LIMITS[a]		BACT CONTROLS
		Natural Gas	No. 2 Fuel Oil	
		lbs/MMBtu ppm	lbs/MMBtu ppm	
Combustion Turbines (ID Nos. Unit 7 and Unit 8), per unit	Opacity	20%	20%	Combustion Control
	Nitrogen Oxides	0.010 2.5 ppmvd[b] (24-hour rolling average)[c,d]	0.054 13 ppmvd[b] (24-hour rolling average)[c,e]	Natural Gas: Dry-Low NO_x And SCR Fuel Oil: Water Injection And SCR
	Sulfur Dioxide	0.0006	0.054	0.05% Sulfur Fuel Oil
	Carbon Monoxide	0.018 9 ppmvd	0.037 20 ppmvd	Combustion Control
	VOC's	0.0017 1.4 ppmvw	0.004 3.5 ppmvw	Combustion Control
	Particulates/PM-10 (Front Half)	0.0055	0.009	Combustion Control
	Sulfuric Acid		Fuel Oil Sulfur Content	0.05% Sulfur Fuel Oil
	Ammonia	10 ppmvd		

a BACT limits shall apply at all times except as provided under Section 2.1 B.3.a.ii.

b ppmvd = parts per million by volume on a dry basis at 15% O_2.

c 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). Emissions resulting from startup, shutdown, or malfunction shall not be included in the BACT averaging period.

d The NO_x emission limit is 2.5 ppmvd for the first 500 hours of operation (on a 24-hour rolling average basis). After 500 hours, the emission limit is 3.5 ppmvd (on a 24-hour rolling average basis). However, the ammonia injection rate shall not exceed that rate established per Section 2.1 B.3.i.i. at each load point. Three months after the 24-hour rolling average exceeds 3.3 ppmvd three times within any rolling 50-hour period, the emission limit changes to 2.5 ppmvd for the next 500 hours of operation. However, the Permittee will not be deemed to be out of compliance until the 24-hour rolling average exceeds 3.5 ppmvd during this three-month period. After any 500-hour period where the 2.5 ppmvd is maintained without exceedance of the 3.3 ppmvd trigger level, the limit reverts back to 3.5 ppmvd.

e The NO_x emission limit is 13 ppmvd for the first 500 hours of operation (on a 24-hour rolling average basis). After 500 hours, the emission limit is 18 ppmvd (on a 24-hour rolling average basis). However, the ammonia injection rate shall not exceed that rate established per Section 2.1 B.3.i.i. at each load point. Three months after the 24-hour rolling average exceeds 17 ppmvd three times within any rolling 50 hour period, the emission limit changes to 13 ppmvd for the next 500 hours of operation. However, the Permittee will not be deemed to be out of compliance until the 24-hour rolling average exceeds 18 ppmvd during this three-month period. After any 500 hour period where the 13 ppmvd is maintained without exceedance of the 17 ppmvd trigger level, the limit reverts back to 18 ppmvd

ii. Emissions resulting from startup, shutdown or malfunction above those given in Section 2.1.B.3.a.(i) are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. For the combined-cycle turbines, periods of excess emissions due to startup and/or shutdown shall not exceed six hours (360 minutes) in any 24-hour block period beginning at midnight. When using natural gas, startup shall be defined as the period from initial firing to mode 6/6Q (as defined by the manufacturers Dry low NOx control system information) and shutdown shall be defined as the period from mode 6/6Q to flame out. When using fuel oil, startup shall be the period from initial firing to "water injection in-service" and shutdown shall be from the cessation of water injection to flameout. The facility shall not operate the turbines outside of mode 6/6Q when firing natural gas or without water injection when firing fuel oil at any time after startup and prior to shutdown. Unit emissions shall comply with those given in Section 2.1.B.3.a.i. once mode 6/6Q is reached for natural gas or, when firing fuel oil, water injection is initiated. Any operation outside of these parameters shall be deemed a startup, shutdown, or malfunction event.

b. The following emission limits apply in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530; 40 CFR 51.166(k):

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT				
		Annual (tons/yr)[a]	Pounds per 24-hour	Pounds per 8-hour	Pounds per 3-hour	Pounds per 1-hour
Combustion Turbines (ID No.'s Unit 1- 4, Unit 6, Unit 7, and Unit 8), total	Nitrogen Dioxide	1757.0				
	Sulfur Dioxide	357.4	16,632		2079	
	Carbon Monoxide			3640		455
	Particulates/PM-10 (Front Half)	151.8	2856			

[a] Tons per rolling consecutive 12-month period. Annual emissions for the combustion turbines are for all seven turbines firing fuel oil for 1000 hours per year, five simple-cycle turbines firing natural gas for 1000 hours per year and two combined-cycle turbines firing natural gas for 7760 hours per year, at 100% load.

Testing [15A NCAC 2D .2601]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The maximum annual hours of operation for each combustion turbine (ID No. Unit 7 and Unit 8) shall not exceed 1000 full load equivalent hours per rolling consecutive 12-month period when firing No. 2 fuel oil.

e. The Permittee shall record and maintain records of the actual number of hours of operation, and the amounts of each fuel burned during each day for each combustion turbine (ID Nos. Unit 7 and Unit 8) in accordance with 40 CFR Part 75. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained.

f. Only natural gas shall be burned during summer months (May 1 through September 30) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed four (4) hours per month per turbine), and during compliance testing.

g. The sulfur content of the No. 2 fuel oil shall not exceed 0.05 percent sulfur by weight.

h. Water injection shall be used when the combustion turbines are firing No. 2 fuel oil only.

i. For each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8) compliance with the BACT NO_X 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_X 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 startup and shutdown periods to the extent recommended by the manufacturer and operated in a manner so as to minimize ammonia slip.

   iii. During NO_X 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.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the nitrogen oxide emissions are not monitored using CEM's, as required in Section 2.1.B.2.e above or the ammonia injection rate to the SCR system is not continuously measured and recorded, as required in Section 2.1.B.3.i(i) above or nitrogen oxide or ammonia emission rate of combustion turbine is above the limit given in Section 2.1.B.3.a(i). above.

j. Under the provisions of North Carolina General Statute 143-215.108, for each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8), the Permittee shall monitor operations to demonstrate compliance with the BACT emission limits as follows:

   i. Determine the sulfur content of the fuel being fired in each combustion turbine in accordance with Section 2.1.B.2.d(i)

   ii. Determine nitrogen oxide emissions according to Alternative B under Section 2.1.B.2.e

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the records required in Section 2.1.B.2 above are not kept or the nitrogen oxide emission rate of combustion turbine is above the limit given in Section 2.1.B.3.a. above.

Reporting [15A NCAC 2Q .0508(f)]

k. The Permittee shall submit in writing the following reports by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:

   i. Periods of excess emissions for sulfur dioxide for any daily period during which the sulfur content of the No. 2 fuel oil being fired exceeds 0.05 percent by weight, within 30 days after each calendar year quarter for the previous 3-month period; and

   ii. Periods of excess emissions for nitrogen oxides for any 24-hour rolling averaging period during which the concentrations exceed 0.010 lb/MMBtu (2.5 ppmvd) when firing natural gas and 0.054 lb/MMBtu (13 ppmvd) when firing No. 2 fuel oil, as determined by the procedure specified in 40 CFR Part 75 Appendix E, postmarked within 30 days after each calendar year quarter for the previous 3-month period. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NO_x concentrations are obtained at normal operating conditions as defined by 2.1.B.3.a(ii) and at least 15 minutes apart.

4. 15A NCAC 2D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

Pursuant to Application 7700070.12A for a modification to repair/ replace equipment and parts associated with Unit 7 and Unit 8, the Permittee shall perform the following:

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .0530(u)]

a. The Permittee shall maintain records of annual emissions sufficient to determine if repair and/or replacement of equipment described in the above modification application resulted in a major modification based on projected actual emissions methodology. These records shall be maintained on a calendar year basis for 10 years following the date regular operations commence after these changes are made. The Permittee may use continuous emissions monitoring data, operational levels, fuel usage data, source test results, or any other readily available data of sufficient accuracy to document actual annual emissions of these sources. The Permittee shall notify the Regional Office within thirty (30) days after the changes to the units are made and submission of such notification shall represent the date regular operations commenced.
b. The Permittee shall submit a report to the director within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).
c. The Permittee shall make the information documented and maintained under this condition available to the Director pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).
d. If the Director determines that actual emissions rate exceeds the projected actual emissions rate in any calendar year and would have resulted in a major modification at the time the application was submitted, the Permittee shall be deemed in non-compliance with 15A NCAC 2D .0530.

C. Two No. 2 fuel oil, fixed-roof storage tanks atmospheric vents (not to exceed 5 million gallons capacity each, actual capacity 3.1 million gallons each, ID Nos. TK-1 and TK-2)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
VOC's	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:
   i. Long term maximum emission rates for fuel oil storage tanks (ID Nos. TK1 and TK2) shall not exceed:

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT Annual (tons/yr)[a]
Fuel Oil Storage Tanks (ID Nos. TK1 and TK2), total	VOC's	5.79

a Tons per rolling consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. The combined maximum throughput for No. 2 fuel oil for two storage tanks shall not exceed 45,480,000 gallons per year.
c. The Permittee shall keep records for fuel consumed from each storage tank on a monthly basis for No. 2 fuel oil in a written or electronic format. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of fuel oil used is not monitored or the combined annual throughput for two storage tanks exceeds the limit included above in Section 2.1.C.1.b.

D. One cooling tower with drift eliminators (ID No. Tower 4)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
Particulate Matter	$E = 4.10P^{0.67}$ for P < = 30 Tons Per Hour $E = 55.0P^{0.11} - 40$ for P > 30 Tons Per Hour Where E = Allowable Emission Rate in Pounds per Hour P = Process Weight in Tons per Hour	15A NCAC 2D .0515
Particulates/PM-10	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{for } P \leq 30 \text{ tons per hour}$$

Or

$$E = 55.0 \times P^{0.11} - 40 \quad \text{for } P > 30 \text{ tons per hour}$$

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 2D .2601]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate matter emissions from this source.

2. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following emission limits apply in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530; 40 CFR 51.166(k):

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT	
		Annual (tons/year)[a]	**Daily** lbs/day
Cooling Tower (ID No. Tower 4)	Particulate/PM-10	6.0	33.12

a Tons per rolling consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for particulate emissions from this source.

E. One natural gas-fired auxiliary boiler (16.74 million Btu per hour nominally rated heat input, ID No. ES-10)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.395 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
None	Recordkeeping	15A NCAC 2D .0524 (40 CFR 60 Subpart Dc)
Nitrogen Oxides (as NO_2) Carbon Monoxide VOC PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas, that are discharged from this source (ID No. ES-10) into the atmosphere, shall not exceed 0.395 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2D .2601]

b. If emission testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 E. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in this source (ID No. ES-10).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source (ID No. ES-10) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2D .2601]

b. If emission testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 E. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from natural gas for this source.

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source (ID No. ES-10) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2D .2601]

b. If emission testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from this source.

4. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART Dc)

Recordkeeping [15A NCAC 2Q .0508(f)]

a. The Permittee shall record and maintain records of the amounts each fuel combusted during each month. Such records shall be maintained for a period of two years following the date of such record. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

5. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS	CONTROL TECHNOLOGY
Auxiliary Boiler (ID No. ES-10)	Nitrogen Oxides (as NO_2)	0.035 lb/million Btu	Low-NOx burner
	Carbon Monoxide	0.037 lb/million Btu	Good combustion control
	VOC (as CH_4)	0.016 lb/million Btu	Good combustion control
	PM/PM10 (Filterable and condensable)	0.01lb/million Btu	Good combustion control

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for emissions of NOx, CO, VOC, and PM/PM10 from the firing of natural gas in this source.

6. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID No. ES-10). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

i. Inspect the burner, and clean or replace any components of the burner as necessary;
ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

c. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

   Reporting [15A NCAC 2Q .0508(f)]

d. No reporting is required.

F. Two natural gas/No. 2 fuel oil-fired simple/combined cycle internal combustion turbines, each equipped with a heat recovery steam generator, dry Low-NO_x combustors and water injection control, both equipped with a common steam turbine (ID Nos. ES-13 and ES-14), and associated SCR's (ID Nos. CD13-SCR and CD14-SCR)

Simple-cycle mode of operation:
- 2,084 million Btu per hour heat input rate each when firing natural gas
- 1,983 million Btu per hour heat input rate each when firing No. 2 fuel oil

Combined-cycle mode of operation:
- 2,225 million Btu per hour heat input rate each for gas turbine when firing natural gas and 390 million Btu per hour heat input rate each for duct burner when firing natural gas
- 1,983 million Btu per hour heat input rate each for gas turbine when firing No. 2 fuel and no duct burner firing in each heat recovery steam generator when firing No. 2 fuel oil

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 lb/million Btu each [When duct burners are operating in heat recovery units]	15A NCAC 2D .0503
Visible Emissions	20 percent opacity each	15A NCAC 2D .0521
Nitrogen Oxides	15 ppm at 15 percent O_2 each [When firing natural gas] 42 ppm at 15 percent O_2 each [When firing No. 2 fuel oil] 96 ppm at 15 percent O_2 each [When operating at less than 75 percent peak load or operating at less than 0°F]	15A NCAC 2D .0524 [NSPS Subpart KKKK]
Sulfur Dioxide	0.06 lb/million Btu heat input each	15A NCAC 2D .0524 [NSPS Subpart KKKK]

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen Oxides (as NO_2) Carbon Monoxide VOC PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
HAPs	Initial Notification Requirements	15A NCAC 2D .1111 [MACT Subpart YYYY]
Nitrogen Oxides	See Section 2.4	15A NCAC 2D .2400
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions	15A NCAC 2Q.0402 [40 CFR 72]

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas and No. 2 fuel oil that are discharged from these sources (duct burners of heat recovery units of each combustion turbine, ID Nos. ES-13 and ES-14) into the atmosphere shall not exceed 0.19 pound per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2D .2601]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 F. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas and No. 2 fuel oil in these sources (duct burners of heat recovery units of each combustion turbine, ID Nos. ES-13 and ES-14).

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources (ID Nos. ES-13 and ES-14) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 2D .2601]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1 F. 2. a., the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas and No. 2 fuel oil in these sources (ID Nos. ES-13 and ES-14).

3. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR PART 60 SUBPART KKKK]

a. The Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart KKKK, including Subpart A "General Provisions."[15A NCAC 2D .0524]

Emission Limitations

b. NOx emissions (except during startup, shutdowns, and malfunction) from each combustion turbine (ID Nos. ES-13 and ES-14) when either combustion turbine only or when both combustion turbine and heat recovery unit are operating, shall not exceed the limitations contained in the following table:

Fuel Type	Operating Conditions*	NO_x Limit at 15 Percent O_2	Duct Firing Allowed?	Averaging Period	
Natural Gas	≥ 75 Percent of Peak Load	15 ppm	Yes	4 hour** rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	Yes	4 hour** rolling average	30 day rolling average
Fuel Oil	≥ 75 Percent of Peak Load	42 ppm	No	4 hour** rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	No	4 hour** rolling average	30 day rolling average

* Peak Load defined as the design capacity at ISO conditions
** 4-hour rolling average shall consist of only simple-cycle operation hours.

[§60.4320]

c. If the total heat input to each combustion turbine (ID Nos. ES-13 and ES-14) is greater than or equal to 50 percent natural gas, the Permittee shall meet the corresponding NOx emission limit in Section 2.1 F.3.b. above for natural gas when the Permittee is burning that fuel. Similarly, when the total heat input to each combustion turbine (ID Nos. ES-13 and ES-14) is greater than 50 percent No. 2 fuel oil, the Permittee shall meet the corresponding emission limit in Section 2.1 F.3.b. above for No. 2 fuel oil for the duration of the time that the Permittee burns No. 2 fuel oil.

[§60.4325]

d. The Permittee shall not allow any fuel to be burned in the combustion turbines (ID Nos. ES-13 and ES-14), which contains total potential sulfur emissions in excess of 0.06 lb SO_2/million Btu heat input each (fuel sulfur content limit).

[§60.4330]

Testing [15A NCAC 2Q .0508(f)]
NOx Testing for Simple-cycle Operation

e. The Permittee shall conduct initial performance test and submit a written report for NOx for one of the combustion turbines (ID Nos. ES-13 and ES-14)[1] within 180 days of initial startup of the first combustion turbine (either ES-13 or ES-14) in simple-cycle mode for both natural gas and No. 2 fuel oil firing or within 60 days after the unit achieves maximum production (either ES-13 or ES-14) in simple-cycle mode for both natural gas and fuel oil firing, whichever occurs first. The Permittee shall conduct the initial performance test in accordance with General Condition JJ.

[1] DAQ is requiring initial performance test on only one of two combustion turbines (ID Nos. ES-13 and ES-14). This requirement is contingent upon the stack test results of the tested turbine showing that the margin of compliance with NOx emission limit is high.

The Permittee is required to perform subsequent annual testing (no more than 14 calendar months following the previous performance test) for NOx in accordance with General Condition JJ, if the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above.

As an alternate to subsequent annual tests requirement when the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above, the Permittee may install, calibrate, maintain and operate either continuous emission monitoring or continuous parameter monitoring for NOx on combustion turbines (ID Nos. ES-13 and ES-14).

If the Permittee elects to install NOx CEM's on combustion turbines (ID Nos. ES-13 and ES-14), the performance evaluation of the CEMS may either be conducted separately or (as described in §60.4405), as part of the initial performance test. Data collected during the CEMS RATA may be used to demonstrate compliance for NOx. The CEMS shall be certified according to Part 60, Section 60.4345. A NOx CEMS that is installed and certified according to Appendix A of Part 75 is also acceptable for use under this Subpart.

If the NOx emission result from any annual performance test is less than or equal to 75 percent of the NOx emission limit in Section 2.1 F.3.b. above, the frequency of testing can be reduced to once every two years for subsequent performance tests. If the results of any subsequent performance test exceed 75 percent of the NOx emission limit, the Permittee shall resume the annual performance tests.

Each performance test (initial and subsequent) for NOx shall be conducted at ± 25 percent of 100 percent peak load or at the highest achievable load point if at least 75 percent peak load cannot be achieved in practice. Three runs shall be required for each performance test (initial and subsequent) and each run shall last for a minimum 20 minutes. Separate performance testing is required for each fuel. The ambient temperature for each test run shall be above 0°F.

If three-run arithmetic average of NOx emissions from any performance test is above the emission limit for NOx in Section 2.1 F.3.b. above or fuel consumption and water to fuel ratio for each test run of initial performance test are not determined (when firing No. 2 fuel oil and fuel ratio monitoring is used for compliance) or initial and subsequent stack tests (when required) are not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

NOx Testing for Combined-cycle Operation

f. The Permittee shall conduct initial performance test and submit a written report for NOx for one of the combustion turbines (ID Nos. ES-13 and ES-14)[2] within 180 days of initial startup of the first combustion turbine (either ES-13 or ES-14) in combined-cycle mode for both natural gas and No. 2 fuel oil firing or within 60 days after the unit achieves maximum production (either ES-13 or ES-14) in combined-cycle mode for both natural gas and fuel oil firing, whichever occurs first. The Permittee shall conduct the initial performance test in accordance with General Condition JJ.

The Permittee is required to perform subsequent annual testing (no more than 14 calendar months following the previous performance test) for NOx in accordance with General Condition JJ, if the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above.

As an alternate to subsequent annual tests requirement when the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above, the Permittee may install, calibrate, maintain and operate either continuous emission monitoring or continuous parameter monitoring for NOx on combustion turbines (ID Nos. ES-13 and ES-14).

If the Permittee elects to install NOx CEM's on combustion turbines (ID Nos. ES-13 and ES-14), the performance evaluation of the CEMS may either be conducted separately or (as described in §60.4405), as part of the initial performance test. Data collected during the CEMS RATA may be used to demonstrate compliance for NOx. The CEMS shall be certified according to Part 60, Section 60.4345. A NOx CEMS that

[2] DAQ is requiring initial performance test on only one of two combustion turbines (ID Nos. ES-13 and ES-14). This requirement is contingent upon the stack test results of the tested turbine showing that the margin of compliance with NOx emission limit is high.

is installed and certified according to Appendix A of Part 75 is also acceptable for use under this Subpart.

If the NOx emission result from any annual performance test is less than or equal to 75 percent of the NOx emission limit in Section 2.1 F.3.b. above, the frequency of testing can be reduced to once every two years for subsequent performance tests. If the results of any subsequent performance test exceed 75 percent of the NOx emission limit, the Permittee shall resume the annual performance tests.

Each performance test (initial and subsequent) for NOx shall be conducted at ± 25 percent of 100 percent peak load or at the highest achievable load point if at least 75 percent peak load cannot be achieved in practice. Three runs shall be required for each performance test (initial and subsequent) and each run shall last for a minimum 20 minutes. Separate performance testing is required for each fuel. The ambient temperature for each test run shall be above 0°F.

Compliance with the applicable NOx emission limit shall be demonstrated by measuring the combined emissions of both units (ID Nos. ES-13 and ES-14) utilizing a common HRSG steam header (as described in §60.4333(b)). Alternatively, the Permittee can develop, demonstrate, and provide information satisfactory to the EPA Administrator on methods for apportioning the combined gross energy output from the heat recovery unit for each of the affected combustion turbines (ID Nos. ES-13 and ES-14). The EPA Administrator may approve such demonstrated substitute methods for apportioning the combined gross energy output measured at the steam turbine whenever the demonstration ensures accurate estimation of emissions related under this part.

For combined cycle turbine systems with supplemental heat (duct burner), the Permittee shall measure the total NO_x emissions after the duct burner rather than directly after the turbine. The duct burner shall be in operation during the performance test.

If three-run arithmetic average of NOx emissions from any performance test is above the emission limit for NO_x in Section 2.1 F.3.b. above or fuel consumption and water to fuel ratio for each test run of initial performance test are not determined (when firing No. 2 fuel oil and fuel ratio monitoring is used for compliance) or initial and subsequent stack tests (when required) are not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

[§60.8, and §§§60.4340, 60.4400 and 60.4405]

g. The fuel sulfur determination as per Section 2.1. F.3.k. below shall be used to comply with the SO_2 emission limit.

[§60.8, and §§60.4360 and 60.4415]

Monitoring/Record keeping [15A NCAC 2Q .0508(f)]

h. The Permittee shall operate and maintain the combustion turbines (ID Nos. ES-13 and ES-14) including dry low NOx burners, selective catalytic reduction systems, water to fuel ratio monitoring equipment, and any other monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions and in accordance with manufacturer's guidelines at all times including during startup, shutdown, and malfunction. [§60.4333]

i. The Permittee shall install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NO_x monitor and a diluent gas (oxygen (O_2) or carbon dioxide (CO_2)) monitor, to determine the hourly NO_x emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu).

If NO_x CEM's do not comply with the requirements of §§60.4335(b) and 60.4345 or the NO_x emissions (except during startup, shutdowns, and malfunction) from the combustion turbines (ID No. ES-13 and ES-14) exceed the emission limit in Section 2.1 F.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

j. As an alternate to the annual performance tests to demonstrate continuous compliance in Section 2.1 F.e. and f. above for NOx (i.e., when water injection is not used to comply with NOx emission limit in Section 2.1 F.3.b. above), the Permittee can install, calibrate, maintain and operate a NOx CEM as per §§60.4335(b) and 60.4345 or the Permittee can install, calibrate, maintain and operate NOx continuous parameter monitoring system measuring appropriate parameters to determine whether the combustion turbines (ID Nos. ES-13 and ES-14) are operating in low-NOx mode and to verify the proper operation of SCRs, or instead upon DAQ approval, the Permittee can perform parametric monitoring described in Section 2.3 of Part 75 appendix E or in §75.19(c)(1)(iv)(H), if the combustion turbine (ID Nos. ES-13 and ES-14) are also regulated under Part 75.

If the NOx CEM's do not comply with the requirements of §§60.4335(b) and 60.4345 or the NO_x emissions (except during startup, shutdowns, and malfunction) from the combustion turbines (ID No. ES-13 and ES-14) exceed the emission limit in Section 2.1 F.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

If the Permittee does not comply with the requirements in Section 2.3 of Part 75 Appendix E or §75.19(c)(1)(iv)(H) or if the NOx emissions (except during startup, shutdowns, and malfunction) from combustion turbines (ID Nos. ES-13 and ES-14) exceed the NOx emission limit in Section 2.1 F.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

[§60.4335 and 60.4340]

k. The Permittee may demonstrate the fuel sulfur content by using the fuel quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw), the total sulfur content for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet and has the potential sulfur emissions of less than 0.06 lb SO_2/million Btu.

Or the Permittee may demonstrate the fuel sulfur content through representative fuel sampling data showing that the potential sulfur emissions of the fuel does not exceed 0.06 lb SO_2/million Btu. In this case, the Permittee shall provide at a minimum the amount of data required as per Section 2.3.1.4 or 2.3.2.4. of Appendix D of Part 75.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the Permittee does not make the above demonstration for natural gas and fuel oil, or the demonstration indicate that the total sulfur content of natural gas and fuel oil exceed the sulfur content limit of 20 grains per 100 standard cubic feet and 0.05 weight percent (500 ppmw), respectively, or the SO_2 emissions excluding the emissions during startup, shutdown, and malfunction, from the combustion turbines (ID Nos. ES-13 and ES-14) exceed the emission limit in Section 2.1 E.3.c. above.

[§§60.4365]

Reporting [15A NCAC 2Q .0508(f)]

l. The Permittee shall submit a notification of the date construction of an affected facility is commenced, postmarked no later than 30 days after such date. [§60.7(a)(1)]

m. The Permittee shall submit a notification of the date of initial startup of an affected facility, postmarked within 15 days after such date. [§60.7(a)(3)]

n. The Permittee shall submit a notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with §60.13(c). Notification shall be postmarked not less than 30 days prior to such date. [§60.7(a)(5)]

o. The Permittee shall submit reports of excess emissions and monitor downtime in accordance with §60.7(c) for the combustion turbines (ID Nos. ES-13 and ES-14). The Permittee shall report excess emissions for all periods of operation, including startup, shutdown, and malfunction. These reports shall be postmarked by the 30th day following the end of each 6-month period. [§§60.4375(a) and 60.4395]

   i. If the combustion turbine is using NOx CEM as described in §§60.4335(B) and 60.4345, excess emissions and monitor downtime shall be determined as below:

(A) Combined Cycle Operation: Excess emissions are any combined cycle operating period in which the 30-day rolling average NO_x emission rate exceeds the applicable emission limit in §60.4320. For the purposes of this Subpart, a "30-day rolling average NO_x emission rate" is the arithmetic average of all hourly NO_x emission data in ppm or ng/J (lb/MWh) measured by the CEM equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day, where the unit is in combined cycle mode. A new 30-day average is calculated each unit operating day as the average of all hourly NO_x emissions rates for the preceding 30 unit operating days if a valid NO_x emission rate is obtained for at least 75 percent of all operating hours.

(B) Simple Cycle Operation: Excess emissions are any simple cycle operating period in which the 4-hour exceeds the applicable emissions limit in 40 CFR 60.4320. A "4-hour rolling average NO_x emissions rate" is the arithmetic average of the average NO_x emissions rate in ppm or ng/J (lb/MWh) measured by the CEM equipment for a given hour and the three unit operating hour average NO_x emissions rate immediately preceding that unit operating hour, where the unit is in simple cycle mode. Calculate the rolling average if a valid NO_x emissions rate is obtained for at least 3 of the 4 hours.

(C) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_x concentration, CO_2 or O_2 concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if you will use this information for compliance purposes.

(D) For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard. [§60.4380(b)]

ii. If the Permittee chooses the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime shall be defined as follows [§60.4385]:

(A) For samples of gaseous fuel, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

(B) If the option to sample each delivery of fuel oil has been selected, the Permittee shall immediately switch to one of the other oil sampling options (i.e., daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur content of a delivery exceeds 0.05 weight percent. The Permittee shall continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and the Permittee shall evaluate excess emissions according to this Section 2.1 F.3.o.ii. When all of the fuel from the delivery has been burned, the Permittee may resume using the as-delivered sampling option.

(C) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

p. The Permittee shall submit a written report of the results of each performance test required in §60.4340(a) before the close of business on the 60th day following the completion of the performance test. [§60.4375(b)]

q. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+ Natural Gas	Emission Limits*+ No. 2 Fuel Oil	Control Technology
Combustion Turbines (ID Nos. ES-13 and ES-14)	NOx (as NO_2)	Combined Cycle With Duct Firing	2 ppmvd at 15% O_2 [30-day rolling average] [First 500 hours of operation of SCR] 2.5 ppmvd at 15% O_2 [30-day rolling average]	-	Dry-low NOx Combustors and Selective Catalytic Reduction
		Combined Cycle Without Duct Firing	[After 500 hours of operation of SCR] 2 ppmvd at 15% O_2 [30-day rolling average] [First 500 hours of operation of SCR] 2.5 ppmvd at 15% O_2 [30-day rolling average]	10 ppmvd at 15% O_2 [24-hour rolling average]	Dry-low NOx Combustors (natural gas only), Water Injection (No. 2 fuel oil only), and Selective Catalytic Reduction
		Simple Cycle	[After 500 hours of operation of SCR] 9 ppmvd at 15% O_2 [24-hour rolling average]	42 ppmvd at 15% O_2 [24-hour rolling average]	Dry-low NOx Combustors (natural gas only) and Water Injection (No. 2 fuel oil only)

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+ Natural Gas	No. 2 Fuel Oil	Control Technology
Combustion Turbines (ID Nos. ES-13 and ES-14)	CO	Combined Cycle With Duct Firing	8 ppmvd at 15% O_2 at 60%-100% load (Stack Test, 3 run average)	-	good combustion control
		Combined Cycle Without Duct Firing	4 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 90%-100% load (Stack Test, 3 run average)	good combustion control
			10 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	20 ppmvd at 15% O_2 at 80%-90% load (Stack Test, 3 run average)	
				30 ppmvd at 15% O_2 at 70%-80% load (Stack Test, 3 run average	
		Simple Cycle	4 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 90%-100% load (Stack Test, 3 run average)	good combustion control
			10 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	20 ppmvd at 15% O_2 at 80%-90% load (Stack Test, 3 run average)	
				30 ppmvd at 15% O_2 at 70%-80% load (Stack Test, 3 run average)	

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+ Natural Gas	No. 2 Fuel Oil	Control Technology
Combustion Turbines (ID Nos. ES-13 and ES-14)	VOC (as CH_4)	Combined Cycle With Duct Firing	3 ppmvd at 15% O_2 at 60%-100% load (Stack Test, 3 run average)	-	good combustion control
		Combined Cycle Without Duct Firing	1 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average) 5 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	good combustion control
		Simple Cycle	1 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average) 5 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	good combustion control
Combustion Turbines (ID Nos. ES-13 and ES-14)	PM/PM10 (filterable and condensible)	Combined Cycle With Duct Firing	0.0059 lb/million Btu (Stack Test, 3 run average)	-	use of natural gas (0.2 grain/100 sft^3 sulfur content)
		Combined Cycle Without Duct Firing	0.0071 lb/million Btu (Stack Test, 3 run average)	0.0435 lb/million Btu (Stack Test, 3 run average)	use of natural gas (0.2 grain/100 sft^3 sulfur content) and No. 2 fuel oil (0.0015%w sulfur content)
		Simple Cycle	0.0069 lb/million Btu (Stack Test, 3 run average)	0.0432 lb/million Btu (Stack Test, 3 run average)	use of natural gas (0.2 grain/100 sft^3 sulfur content) and No. 2 fuel oil (0.0015%w sulfur content)

* BACT emission limits shall apply to each source (ID Nos. ES-13 and ES-14). Emissions resulting from startup, shutdown or malfunction above those given in Section 2.1 F.4.a. above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. Emissions from startup, shutdown, or malfunction shall not be included in the BACT averaging periods.

For each turbine in simple cycle operation, periods of excess emissions due to startup and/or shutdown or operation below 60% load shall not exceed two hours in any 24-hour block period beginning at midnight when firing natural gas. For simple cycle operation using fuel oil, periods of excess emissions due to startup and/or shutdown or operation below 70% load shall not exceed two hours (120 minutes) in any 24-hour block period beginning at midnight. In no case shall the start-up and/or shutdown or operation below 60% load (natural gas)/70% load (fuel oil) exceed two hours (120 minutes) in any 24-hour block period beginning at midnight for simple-cycle operations.

For each turbine in combined cycle operation, periods of excess emissions due to startup and/or shutdown or operation below 60% load shall not exceed six hours in any 24-hour block period beginning at midnight when firing natural gas. For combined cycle operation using fuel oil, periods of excess emissions due to startup and/or shutdown or operation below 70% load shall not exceed six hours in any 24-hour block period beginning at midnight. In no case shall the startup and/or shutdown or operation below 60% load (natural gas)/70% load (fuel oil) exceed six hours (360 minute) in any 24-hour block period beginning at midnight for combined-cycle operations.

Startup for both simple cycle and combined cycle operations is defined as the period from initial firing to 60% load for natural gas and initial firing to 70% load for fuel oil. Shutdown for both simple cycle and combined cycle operations is defined as the period from 60% load to flame out for natural gas and 70% load to flameout for fuel oil.

For operating periods during which multiple emissions standards' apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard. This methodology is in accordance with the provisions outlined at 40 CFR 60.4380(b)(3).

Compliance with the BACT limits (except for NOx BACT for combined cycle operation) shall be based on 3-run average of a stack test. Any use of continuous emission monitoring systems data for demonstrating compliance with BACT for any pollutants (except NOx for combined cycle operation) will require reevaluation of applicable BACT limits.

b. The following emission limits shall apply and shall not be exceeded in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530 and 40 CFR 51.166(k):

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS			
		Annual tons/yr[a]	per 24-hour lbs	per 8-hour lbs[b]	per 1-hour lbs[b]
Combustion Turbines (ID Nos. ES-13 and ES-14)	Nitrogen Oxides (As Nitrogen Dioxide)	538.4	-	-	-
	Particulates/PM-10 (Filterable And Condensable)	-	1,337.3	-	-
	Carbon Monoxide	-	-	799.4	99.9

[a] Tons per consecutive 12-month period based on a maximum 2,000 operating hours for simple cycle operations in each combustion turbine (ID Nos. ES-13 and ES-14), a maximum of 1,000 operating hours for fuel oil firing in each combustion turbine (ID Nos. ES-13 and ES-14) in either simple or combined cycle operations, a maximum of 8,760 hours for combined cycle operations for natural gas firing in each combustion turbine (ID Nos. ES-13 and ES-14), and 100% load.

[b] Short term emissions represent the maximum emissions from one combustion turbine either in simple cycle or combined cycle mode, firing either natural gas or fuel oil.

Testing [15A NCAC 2Q .0508(f)]

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits for NOx, CO, and VOC in Section 2.1 F.4.a. above by testing one of these combustion turbines (ID Nos. ES-13 and ES-14) within 180 days of initial startup of the first combustion turbine (either ES-13 or ES-14) in simple cycle mode for both natural gas and No. 2 fuel oil firing.

Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits for NOx, CO, and VOC in Section 2.1 F.4.a. above by testing one of these combustion turbines (ID Nos. ES-13 and ES-14) within 180 days of initial startup of the first combustion turbine (either ES-13 or ES-14) in combined-cycle mode for both natural gas and No. 2 fuel oil firing. The Permittee shall measure NOx, CO, and VOC emissions for each scenario: combined cycle with duct firing and combined cycle without duct firing.

Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ.

Performance tests for NOx, CO, and VOC shall be conducted at ± 25 percent of 100 percent peak load or at the highest achievable load point if at least 75 percent peak load cannot be achieved in practice. Number of runs and time required for each run for the performance tests shall be in accordance with the approved testing protocol and Section 2.1 F.4.a. above. The ambient temperature for each test run shall be above 0^0F. The averaging time for demonstrating compliance for NOx, CO, and VOC shall be those in the Section 2.1 F.4.a. above.

If the average of all runs of any performance test for NOx or CO or VOC emissions exceed the respective emission limits in Section 2.1 F.4.a. above or the stack tests are not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

No emission testing is required for compliance with PM/PM10 emission limits in Section 2.1 F.4.a. and b. above.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The maximum annual hours of operation for each combustion turbine (ID Nos. ES-13 and ES-14) shall not exceed 1,000 full load equivalent hours per rolling 12-month period when firing No. 2 fuel oil.
e. The maximum annual hours of operation for simple cycle operation for each combustion turbine (ID Nos. ES-13 and ES-14) shall not exceed 2,000 full load equivalent hours per rolling 12-month period.
f. The Permittee shall record and maintain records of the actual number of hours of operation for simple cycle operation and fuel oil firing for each combustion turbine (ID Nos. ES-13 and ES-14). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained or if the hours of operation for simple cycle operation for any combustion turbine (ID Nos. ES-13 and ES-14) exceeds 2,000 full load equivalent hours per rolling 12-month period or the hours of operation for fuel oil firing in any combustion turbine (ID Nos. ES-13 and ES-14) exceeds 1,000 full load equivalent hours per rolling 12-month period.
g. Only natural gas shall be burned during summer months (May 1st through September 30th) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed four (4) hours per month per turbine), and during compliance testing.
h. No monitoring/recordkeeping is required for emissions of CO, VOC, and PM/PM10 from the combustion turbines (ID Nos. ES-13 and ES-14).
i. The Permittee shall monitor NOx emissions from the combustion turbines (ID Nos. ES-13 and ES-14) using CEMS for both simple and combined cycle operations, in order to demonstrate compliance with the NOx BACT emission limits. If the NOx CEMS does not comply with the requirements of §60.4335(b) and §60.4345 or if the NOx emissions (except during startup, shutdowns, and malfunction) exceed the NOx BACT emission limits in Section 2.1 F.4.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
j. In addition to the NOx emissions monitoring requirement in Section 2.1 F.4.i. above, the Permittee shall comply with the following requirements for NOx emissions from the combustion turbines (ID Nos. ES-13 and ES-14) 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 maximum ammonia slip of 10 ppmvd and necessary to comply with the NO_x 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 startup and shutdown periods to the extent recommended by the manufacturer and operated in a manner so as to minimize ammonia slip.
   iii. During NO_x 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.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the ammonia injection rate to the SCR system is not continuously measured and recorded when the turbine is operating in a combined cycle mode of operation or the ammonia injection rate is less than the injection rate established during the performance test in Section 2.1 F.4.c. above.

Reporting [15A NCAC 2Q .0508(f)]

k. The Permittee shall submit a written report of the results of each performance test required in Section 2.1 F.4.c. above, before the close of business on the 60th day following the completion of the performance test.
l. For combustion turbines (ID Nos. ES-13 and ES-14) when operating in either simple cycle or combined cycle mode of operation, the Permittee shall submit reports of excess emissions and monitor downtime in accordance with §60.7(c). The Permittee shall report excess emissions for all periods of operation, including start-up, shutdown, and malfunction. These reports shall be postmarked by the 30th day following the end of each 6-month period.
   i. For the NOx CEM, excess emissions and monitor downtime due to the combined cycle operations firing natural gas shall be as defined below:

(A) An excess emission is any unit operating period in which the 30-day rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. A "30-day rolling average NO_X emission rate" is the arithmetic average of all hourly NO_X emission data in ppm measured by the continuous emission monitoring equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NO_X emissions rates for the preceding 30 unit operating days if a valid NO_X emission rate is obtained for at least 75 percent of all operating hours.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration.

ii. For the NOx CEM, excess emissions and monitor downtime due to the combined cycle operations firing fuel oil shall be as defined below:

(A) An excess emission is any unit operating period in which the 24-hour rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at loads above 70 percent at least 15 minutes apart.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration.

iii. For the NOx CEM, excess emissions and monitor downtime due to the simple cycle operations firing natural gas shall be as defined below:

(A) An excess emission is any unit operating period in which the 24-hour rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at loads above 60 percent at least 15 minutes apart.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration

iv. For the NOx CEM, excess emissions and monitor downtime due to the simple cycle operations firing fuel oil shall be as defined below:

(A) An excess emission is any unit operating period in which the 24-hour rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at loads above 70 percent at least 15 minutes apart.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration

m. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY [40 CFR 63 Subpart YYYY]

a. For combustion turbines (ID Nos. ES-13 and ES-14), the Permittee shall demonstrate compliance upon startup with all applicable provisions, including emission limitations, operating limitations, monitoring, record keeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart YYYY "National Emission Standards of Hazardous Air Pollutants for Stationary Combustion Turbines".

b. These combustion turbines are affected sources subject to the stay of standards for gas-fired subcategories under 40 CFR 63.6095(d). Based on historic fuel oil usage at this major source these combustion turbines are classified as "lean premix gas-fired stationary combustion turbines" as defined in 40 CFR 63.6175 because they are equipped to fire both natural gas using lean premix technology and oil, and are located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year. Beginning on the date on which all new, reconstructed, and existing stationary combustion turbines fire oil more than 1000 hours in any calendar year, the Permittee shall demonstrate compliance with all applicable requirements under 40 CFR 63 Subpart YYYY for sources classified as "diffusion flame oil-fired stationary combustion turbines" as defined in 40 CFR 63.6175. If all new, reconstructed, and existing stationary combustion turbines fire oil more than 1000 hours per calendar year but fail to meet all applicable requirements under 40 CFR 63 Subpart YYYY for " diffusion flame oil-fired stationary combustion turbines" the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

c. The Permittee shall submit the initial notification in accordance with 40 CFR 63.6145(d) and 40 CFR 63.9(a)(4)(ii) and submit notification just prior to the date on which all new, reconstructed, and existing stationary combustion turbines fire oil more than 1000 hours in any calendar year to the following: [15A NCAC 2Q .0508(f)]
   i. Division of Air Quality, Permitting Section
   ii. Division of Air Quality, Regional Office Permitting Section, and
   iii. EPA-Region IV
   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the initial notification is not submitted.

Recordkeeping [15A NCAC 2Q .0508(f)]

d. The Permittee shall maintain record of the number of hours all on-site new, reconstructed, and existing stationary combustion turbines fire oil during each calendar year. These records shall be maintained on file in a logbook (written or electronic format) for a minimum of five (5) years and be available for inspection by DAQ personnel upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the above records are not maintained.

G. One natural gas-fired auxiliary boiler (16.74 million Btu per hour heat input rate, ID No. ES-15)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
None	Recordkeeping	15A NCAC 2D .0524 (40 CFR 60 Subpart Dc)
Nitrogen Oxides (As NO_2) Carbon Monoxide Volatile Organic Compounds PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from this source (ID No. ES-15) into the atmosphere shall not exceed 0.19 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in this source (ID No. ES-15).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source (ID No. ES-15) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas for this source (ID No. ES-15).

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source (ID No. ES-15) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from this source (ID No ES-15).

4. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART Dc)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Dc, including Subpart A "General Provisions."
[15A NCAC 2D .0524]

Recordkeeping [15A NCAC 2Q .0508(f)]

b. The Permittee Shall Record and maintain records of the amount of fuel burned during each calendar month. Such records shall be maintained on site at the source for a period of two (2) years following the date of such record. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

c. The Permittee shall submit a notification of the date construction of an affected facility is commenced, postmarked no later than 30 days after such date. [§60.7(a)(1) and §60.48c(a)]

d. The Permittee shall submit a notification of the date of initial startup of an affected facility, postmarked within 15 days after such date. [§60.7(a)(3) and §60.48c(a)]

e. The Permittee shall submit a summary report of recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS	CONTROL TECHNOLOGY
Auxiliary Boiler (ID No. ES-15)	Nitrogen Oxides (as NO_2)	0.018 lb/million Btu	Low-NOx burner
	Carbon Monoxide	0.037 lb/million Btu	Good combustion control
	VOC (as CH_4)	0.016 lb/million Btu	Good combustion control
	PM/PM10 (filterable and condensable)	0.01lb/million Btu	Good combustion control

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for emissions of NOx, CO, VOC, and PM/PM10 from the firing of natural gas in this source.

6. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID No. ES-15). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burner, and clean or replace any components of the burner as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

   The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

c. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

d. No reporting is required.

H. One multi-cell cooling tower (150,000 gallons per minute recirculation water flow rate, ID No. Tower5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tons/hr Or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons/hr Where: E = allowable emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 2D .0515
PM/PM10	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source (ID No. Tower5) shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tons per hour
or
$E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons per hour

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 2D .2601]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in 2.1 H.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate matter emissions from this source.

2. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS*	CONTROL TECHNOLOGY
Cooling Tower (ID No. Tower5)	PM/PM10	0.0005% drift loss [3-hour rolling average]	Drift Eliminators

* BACT emission limits shall apply at all times except during the following: Emissions resulting from startup, shutdown or malfunction above those given in Section 2.1 H.2.a. above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized.

Testing [15A NCAC 2Q .0508(f)]

b. No emission testing is required for compliance with PM/PM10 emission limit for this source (ID No. Tower5) in Section 2.1 H.2.a. above.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for PM/PM10 emissions from this source (ID No. Tower5).

I. One No. 2 fuel oil fixed-roof storage tank with atmospheric vents (not to exceed 3.5 million gallons capacity, ID No. TK-5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
None	Recordkeeping	15A NCAC 2D .0524 (40 CFR 60 Subpart Kb)
VOC's	As defined in specific conditions	15A NCAC 2D .0530

a. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR 60 SUBPART Kb)

Recordkeeping [15A NCAC 2Q .0508(f)]

a. The Permittee shall comply with the recordkeeping requirements of this standard by maintaining records, available for review at any time upon request, showing the dimensions of the storage vessels and an analysis showing the capacity of the storage vessels. All records shall be kept for the life of the source. These sources are exempt from the General Provisions (40 CFR Part 60 Subpart A) and from any other provisions of Subpart Kb.

b. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Emission Source	Pollutant	Emission Limit Annual (Tons/Yr)*	Control Technology
Fuel Oil Storage Tank (ID No. TK-5)	VOC's	0.35	Storage of low vapor pressure material (< 3.5 psia)

* Tons per consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. The maximum throughput for No. 2 fuel oil for the storage tank (ID No. TK5) shall not exceed 28,284,500 gallons per year.

c. The Permittee shall keep records for the storage tank (ID No. TK-5) on a monthly basis for No. 2 fuel oil in a written or electronic format. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of No. 2 fuel oil used is not monitored or the annual throughput for the storage tank (ID No. TK5) exceeds the limit included in Section 2.1 I.2.a. above.

J. Two natural gas-fired fuel gas heaters (2.6 million Btu per hour heat input rate each, ID Nos. ES-19 and ES-20)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from these sources (ID Nos. ES-19 and ES-20) the atmosphere shall not exceed 0.19 pounds per million Btu heat input each. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 J.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in these sources (ID Nos. ES-19 and ES-20)).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources (ID Nos. ES-19 and ES-20) shall not exceed 2.3 pounds per million Btu heat input each. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 J.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas for these sources (ID Nos. ES-19 and ES-20).

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources (ID Nos. ES-19 and ES-20) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 J.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

a. No monitoring/recordkeeping/reporting is required for visible emissions from these sources (ID Nos. ES-19 and ES-20).

4. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID Nos. ES-19 and ES-20). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burner, and clean or replace any components of the burner as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

   The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

c. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

d. No reporting is required.

2.2 - Multiple Emission Source(s) Specific Limitations and Conditions

A. Five natural gas/No. 2 fuel oil-fired simple-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with dual fuel dry Low-NOx combustors and having water injection capability for NOx control (ID Nos. Unit 1, Unit 2, Unit 3, Unit 4, and Unit 6)

Two natural gas/No. 2 fuel oil-fired combined-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with a heat recovery steam generator and a steam turbine, and dual fuel dry Low-NOx combustors and having water injection capability for NOx control (ID Nos. Unit 7 and Unit 8), and associated SCR's (ID No. Unit 7 SCR and Unit 8 SCR)

1. 15A NCAC 2D .1112: 112(g) CASE BY CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

a. As a major source with the potential to emit 10 tons per year of any hazardous air pollutant (HAP), as listed in Section 112(b) of the federal Clean Air Act, or 25 tons per year of any combination of HAP, the Permittee shall apply proper combustion control to comply with the MACT requirements as promulgated in 40 CFR 63.43 "Maximum Achievable Control Technology (MACT) Determinations for Constructed and Reconstructed Major Sources."

2.3 - Phase II Acid Rain Permit Requirements

ORIS code: 7805
Effective: January 1, 2010 through December 31, 2014

1. Statement of Basis

Statutory and Regulatory Authorities: In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended and Titles IV and V of the Clean Air Act, the Department of Environment and Natural Resources, Division of Air Quality issues this permit pursuant to Title 15A North Carolina Administrative Codes, Subchapter 2Q .0400 and 2Q .0500, and other applicable Laws.

2. SO_2 Allowance Allocations and NO_x Requirements for each affected unit

		2010	2011	2012	2013	2014
Unit 1 (IC Turbine) **Unit 2 (IC Turbine)** **Unit 3 (IC Turbine)** **Unit 4 (IC Turbine)** **Unit 6 (IC Turbine)** **Unit 7 (IC Turbine)** **Unit 8 (IC Turbine)**	SO_2 allowances, under Tables 2, 3, or 4 of 40 CFR part 73.	NA*	NA*	NA*	NA*	NA*
	NO_x limit	NA**				

* SO_2 allowances are not allocated by U.S. EPA for new units under 40 CFR part 72.
** Does not apply for gas or oil-fired units.

3. Comments, Notes and Justifications

None.

4. Phase II Permit Application (attached)

The Phase II Permit Application submitted for this facility, as approved by the Department of Environment and Natural Resources, Division of Air Quality, is part of this permit. The owners and operators of these Phase II acid rain sources must comply with the standard requirements and special provisions set forth in the following attached application:

Acid Rain Permit Application dated December 14, 2009

2.4 - Clean Air Interstate Rules (CAIR) Permit Requirements

ORIS code: 7805

The following sources are affected CAIR units:

PERMITTED SOURCE ID No.	CAIR ID No.
Unit 1	1
Unit 2	2
Unit 3	3
Unit 4	4
Unit 6	6
Unit 7	7
Unit 8	8

A. 15A NCAC 2D .2403: NITROGEN OXIDE EMISSIONS

1. The total nitrogen oxide (NOx) emissions from the affected CAIR units listed above at the Richmond County Combustion Turbine Facility shall not exceed, except as provided in 15A NCAC 2D .2408: [15A NCAC 2D .2403]
   a. 374 tons annually for 2009-2014
   b. 318 tons annually for 2015 and later
   If any of the CAIR sources listed above is a new source for which allocations have not been included in the table in 15A NCAC 2D .2403, the CAIR designated representative may submit a request to be allocated CAIR NOx allowances for those sources using the procedures in 40 CFR 96.142(c)(2) and (3).
2. The affected CAIR NOx sources shall comply with the requirements of 15A NCAC 2D .2400 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2403 shall be subject to the provisions of 40 CFR 96.106(f). [15A NCAC 2D .2403]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2403 and 15A NCAC 2D .2407(a)(1)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.106(b) and (e), and 40 CFR 96 Subpart HH for each CAIR NOx unit.
5. The emissions of nitrogen oxides of a CAIR NOx source shall not exceed the number of allowances that it has in its compliance account established and administered under Rule .2408 of this Section.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HH shall be used to determine compliance by each CAIR NOx source with its emissions limitation according to 40 CFR 96.106(c) including 96.106(c)(5) and (6).
7. The provisions of 40 CFR 96.106(d) shall be used for excess emissions.

B. 15A NCAC 2D .2405: NITROGEN OXIDE EMISSIONS DURING OZONE SEASON

1. Ozone season NOx emissions from the affected CAIR units listed above at the Marshall Steam Station shall not exceed, except as provided in 15A NCAC 2D .2408: [15A NCAC 2D .2405(a)(1) and (b)]
   a. 335 tons during the ozone season for 2009-2014; and
   b. 285 tons during the ozone season for 2015 and later
   The ozone season shall be defined as the period of time extending from May 1st to September 30th of each calendar year. If any of the CAIR sources listed above is a new source for which allocations have not been included in the table in 15A NCAC 2D .2405, the CAIR designated representative may submit a request to be allocated CAIR NOx ozone season allowances for those sources using the procedures in 40 CFR 96.342(c)(2) and (3).
2. The affected CAIR NOx Ozone Season sources shall comply with the requirements of 15A NCAC 2D .2400 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2405 shall be subject to the provisions of 40 CFR 96.306(f). [15A NCAC 2D .2405]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2405 and 15A NCAC 2D .2407(a)(3)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.306(b) and (e), and 40 CFR 96 Subpart HHHH for each CAIR Ozone Season NOx unit.

5. The nitrogen oxide ozone season emissions of a CAIR NOx Ozone Season source shall not exceed the number of allowances that it has in its compliance account established and administered under 15A NCAC 2D .2408. For purposes of making deductions for excess emissions for the ozone season in 2008 under the NOx SIP Call (15A NCAC 2D .1400), the Administrator shall deduct allowances allocated under this Rule (15A NCAC 2D .2405) for the ozone season in 2009.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NOx Ozone Season source with its emissions limitation according to 40 CFR 96.306(c) including 96.306(c)(5) and (6).
7. The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

C. 15A NCAC 02D .2404: SULFUR DIOXIDE EMISSIONS

1. The annual allocation of sulfur dioxide allowances shall be determined by EPA. The allocations for CAIR SO_2 units are listed in the table below and reflect the absence of allocations listed in 40 CFR 73.10:

SOURCE	ALLOCATION FOR 2000-2009	ALLOCATION FOR 2010 AND LATER
Unit 1	0	0
Unit 2	0	0
Unit 3	0	0
Unit 4	0	0
Unit 6	0	0
Unit 7	0	0
Unit 8	0	0

2. The affected CAIR SO2 sources shall comply with the requirements of 15A NCAC 2D .2400 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2404 shall be subject to the provisions of 40 CFR 96.206(f). [15A NCAC 2D .2404]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2404 and 15A NCAC 2D .2407(a)(2)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.206(b) and (e), and 40 CFR 96 Subpart HHH for each CAIR SO2 unit.
5. The emissions of sulfur dioxides of a source described in Section 2.4.C.1 above shall not exceed the number of allowances that it has in its compliance account established and administered under Rule 15A NCAC 2D .2408.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHH shall be used to determine compliance by each CAIR SO2 source with its emissions limitation according to 40 CFR 96.206(c) including 96.206(c)(5) and (6).
7. The provisions of 40 CFR 96.206(d) shall be used for excess emissions.

D. CAIR Permit Application

The permit application submitted for this facility, as approved by the Department of Environment and Natural Resources, Division of Air Quality, is part of this permit. The owner and operator of these CAIR NOx and SO2 sources must comply with the standard requirements and special provisions set forth in the following attached application:

CAIR Permit Application dated June 26, 2007

SECTION 3 - GENERAL CONDITIONS (version 3.6)

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3.3
Ver 3.4 04/12/11 Inserted version number 3.4
Ver. 3.5 08/15/11 Inserted version number 3.5
Ver. 3.6 01/31/12 Inserted version number 3.6

This section describes terms and conditions applicable to this Title V facility.

A. **General Provisions** [NCGS 143-215 and 15A NCAC 2Q .0508(i)(16)]
   1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 2D and 2Q.
   2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
   3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
   4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
   5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
   6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 2Q .0507(k) and .0508(i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environment and Natural Resources upon request.

C. **Severability Clause** [15A NCAC 2Q .0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 2Q .0507(e) and 2Q .0508(i)(16)]
Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

Supervisor, Stationary Source Compliance
North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

All submittals shall include the facility name and Facility ID number (refer to the cover page of this permit).

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E. **Duty to Comply** [15A NCAC 2Q .0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit

termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

F. **Circumvention** - STATE ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

G. **Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 2Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 2Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 2Q .0524 and 2Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 2Q.0524 and 2Q .0505.
3. Minor Permit Modifications [15A NCAC 2Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 2Q .0515.
4. Significant Permit Modifications [15A NCAC 2Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 2Q .0516.
5. Reopening for Cause [15A NCAC 2Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 2Q .0517.

H. **Changes Not Requiring Permit Modifications**
1. Reporting Requirements
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

2. Section 502(b)(10) Changes [15A NCAC 2Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.
   d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 2Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or

b. the change is not covered under any applicable requirement.

4. Emissions Trading [15A NCAC 2Q .0523(c)]
   To the extent that emissions trading is allowed under 15A NCAC 2D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 2Q .0523(c).

I.A. **Reporting Requirements for Excess Emissions and Permit Deviations**
[15A NCAC 2D .0535(f) and 2Q .0508(f)(2)]
"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 2D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 2Q .0700. *(Note: Definitions of excess emissions under 2D .1110 and 2D .1111 shall apply where defined by rule.)*
"Deviations" - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 2D .0535 as follows:
   a. Pursuant to 15A NCAC 2D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 2D .0535(f)(3).

Permit Deviations

3. Pursuant to 15A NCAC 2Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
   a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 2D .0535 quarterly. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.B. **Other Requirements under 15A NCAC 2D .0535**
The Permittee shall comply with all other applicable requirements contained in 15A NCAC 2D .0535, including 15A NCAC 2D .0535(c) as follows:

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 2D .0535(c)(1) through (7).
2. 15A NCAC 2D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

J. **Emergency Provisions** [40 CFR 70.6(g)]
The Permittee shall be subject to the following provisions with respect to emergencies:
1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
   a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
   b. the permitted facility was at the time being properly operated;
   c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
   d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 2Q .0508(e) and 2Q .0513(b)]
This 15A NCAC 2Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 2Q .0500 renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 2Q .0512(b)(1), this 15A NCAC 2Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 2Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 2Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 2Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

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L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 2Q .0508(i)(4)]
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 2Q .0508(i)(9)]
1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 2Q .0507(f)]
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 2Q .0508(f) and 2Q .0508 (l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring

information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 2Q .0508(n)]
The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:
1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. **Certification by Responsible Official** [15A NCAC 2Q .0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 2Q .0512]
1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
   a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
   b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
   c. the applicable requirements under Title IV; or
   d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 2Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 2Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 2Q .0519]
The Director may terminate, modify, or revoke and reissue this permit if:
1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. **Insignificant Activities** [15A NCAC 2Q .0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 2Q .0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. **Inspection and Entry** [15A NCAC 2Q .0508(l) and NCGS 143-215.3(a)(2)]

1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
   a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
   b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
   c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
   d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 2Q .0508(i)(10)]

1. The Permittee shall pay all fees in accordance with 15A NCAC 2Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environment and Natural Resources. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 2Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 2Q .0207]

The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 2Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

Y. **Confidential Information** [15A NCAC 2Q .0107 and 2Q. 0508(i)(9)]

Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 2Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 2Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 2Q .0100 and .0300]

A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 2Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 2Q .0505 and .0507]

The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 2Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History** [15A NCAC 2Q .0507(d)(4)]

The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

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CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 2Q .0501(e)]

1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.

2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR □ 82.166. Reports shall be submitted to the EPA or its designee as required.

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 2Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** - FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. **Title IV Allowances** [15A NCAC 2Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 2D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 2D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 2D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 2D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 2D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 2D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 2Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 2D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.

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Condition JJ entirely.

4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
   a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
      (1) Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
      (2) Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
      (3) Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
   b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 2D .2600 has precedence over all other tests.

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Commented [cfy7]: Ver 3.4 04/12/11 Inserted new General Condition JJ.

KK. **Reopening for Cause** [15A NCAC 2Q .0517]
1. A permit shall be reopened and revised under the following circumstances:
   a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
   b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
   c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
   d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 2Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 2Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 2Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 2Q .0508(i)(16)]
The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. During operation the monitoring recordkeeping and reporting requirements as prescribed by the permit shall be implemented within the monitoring period.

MM. **Fugitive Dust Control Requirement** [15A NCAC 2D .0540] - STATE ENFORCEABLE ONLY
As required by 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 2D .0540(f).
"Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

NN. **Specific Permit Modifications** [15A NCAC 2Q.0501 and .0523]

1. For modifications made pursuant to 15A NCAC 2Q .0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 2Q .0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 2Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
   a. a description of the change at the facility;
   b. the date on which the change will occur;
   c. any change in emissions; and
   d. any permit term or condition that is no longer applicable as a result of the change.

   In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

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OO. **Third Party Participation and EPA Review** [15A NCAC 2Q .0521, .0522 and .0525(7)]

For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 2Q .0518 begins at the end of the 45-day EPA review period.

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Remove the following General Condition 00 as permits are r

"OO. **Mandatory Greenhouse Gas Reporting Requireme**
[15A NCAC 2Q .0508]
FEDERAL-ENFORCEABLE ONLY
If the Permittee is subject to requirements of 40 CFR 98.2(a)
Permittee shall submit all required reports to the EPA Admin
in accordance with 40 CFR 98".

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Condition OO.

ATTACHMENT
List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
BTU	British thermal unit
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
DAQ	Division of Air Quality
DENR	Department of Environment and Natural Resources
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
OAH	Office of Administrative Hearings
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TPY	Tons Per Year
VOC	Volatile Organic Compound

NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review

Permit Issue Date:

Region: Fayetteville Regional Office
County: Richmond
NC Facility ID: 7700070
Inspector's Name: James Moser
Date of Last Inspection: 06/19/2013
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Duke Energy Progress - Richmond County Turbines

Facility Address:
Duke Energy Progress - Richmond County Turbines
Richmond County Energy Complex
Hamlet, NC 28345

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:
NSPS:
NESHAP:
PSD:
PSD Avoidance:
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Kim Kashmer Senior Environmental Specialist (910) 205-2111 198 Energy Way Hamlet, NC 28345	Teresa Wilson Station Manager (910) 205-2101 198 Energy Way Hamlet., NC 28345	Ann Quillian Sr. Environmental Specialist (919) 546-6610 PO Box 1551 Raleigh, NC 27602

Application Data

Application Number: 7700070.11A
Date Received: 06/13/2011
Application Type: Modification
Application Schedule: TV-Significant

Existing Permit Data

Existing Permit Number: 08759/T14
Existing Permit Issue Date: 05/20/2013
Existing Permit Expiration Date: 03/31/2016

Review Engineer: Mike Gordon

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

Comments / Recommendations:

Issue 08759/T15
Permit Issue Date:
Permit Expiration Date:

1. Purpose of Application:

Duke Energy Progress, Inc. "Duke" submitted an application for significant modification of their Title V permit on August 30, 2012. The application is for the incorporation of changes authorized previously, under 15A NCAC 2Q .0501(c)(2) rules, into the facility Title V permit within twelve (12) months of commencing operation. Duke is also requesting in the application the removal of several emissions sources that are owned by a third party, the removal of alternative compliance procedures under several MACT sources, clarification of several rule requirements that Duke felt were confusing as written, and other minor permit corrections.

2. Facility Description:

Duke Energy Progress, Inc – Richmond County Combustion Turbine Facility (RCCTF) is located in Hamlet, Richmond County, North Carolina. The facility operates a 1,600 MW combustion turbine electric generation facility. The facility consists of five dual fuel General Electric PG 7241 FA, simple cycle combustion turbines using dry low NOx (DLN) combustors and having water injection capability for NOx control, two dual fuel General Electric PG 7241 FA, combined cycle combustion turbines using DLN combustors, and having selective catalytic reduction (SCR) control and water injection capability for NOx control, four No. 2 fuel oil storage tanks, one cooling tower with drift eliminator, and three natural gas fired auxiliary boilers. Two of the four No. 2 fuel oil storage tanks (TK-3 and TK-4) and two of the three natural gas fired auxiliary boilers (ES-2 and ES-3) have not been constructed as of this permit issuance. Duke Energy Progress, Inc. may opt to remove these units with the permit renewal. This facility operates under SIC code 4911.

3. Application Chronology:

Refer to "Comprehensive Application Report" for complete details.

4. Statement of Compliance:

The Department has reviewed the compliance status of this facility. During the last compliance inspection of June 19, 2013 by Mr. Jim Moser of the Fayetteville Regional Office, the facility was found to be in compliance with all applicable requirements at that time.

5. Permit Modifications/Changes:

5.1 Submission of application covered under 15A NCAC 2Q .0501(c)(2) rules

Duke submitted an application to incorporate modifications at the facility into their Title V permit in a timely manner within 12 months of commencing operation. The units associated with this submission include the following:

a) Two nominal 190 MW Siemens SGT6-5000F combustion turbine generators (ID No. ES-13 and ES-14)
b) One cooling tower (ID No. TOWER5)
c) One No. 2 fuel oil storage tank (ID No. TK-5)
d) One natural gas fired auxiliary boiler (ID No. ES-15)
e) Two dew point heaters (ID No. ES-19 and ES-20)
f) Existing natural gas fired auxiliary boiler (ID No. ES-10)

This project will have a nominal generating capacity of 575 MW. RCCTF will have a nominal generating capacity of approximately 2,000 MW after the expansion. Each combustion turbine will be capable of firing pipeline-quality natural gas and ultra low sulfur (0.0015% S) fuel oil. The current permit (08759T12) allows for the year-round

operation of the CTGs in combined-cycle mode firing natural gas. However, total annual operation of these units in simple-cycle mode will be limited to 4,000 full load equivalent turbine hours (8,336,000 MMBtu/yr) per calendar year, which is an average of 2,000 full load equivalent hours per calendar year per turbine. Distillate fuel oil combustion in these new units will be utilized on an as needed basis but no more than 2,000 turbine hours (3,966,817 MMBtu/yr) per year which is an average of 1,000 full load equivalent turbine hours per calendar year per turbine. The existing auxiliary boiler's annual operation will be increased by 7368 hours based on a current averaged baseline of 1392 hours per year. This modification will result in no annual restriction.

5.2 Ozone Season and Exceptions to firing oil during the Ozone Season

Duke requested that DAQ update the ozone season to reflect the existing EPA definition of May 1st to September 30th. Duke also requested that the DAQ consider changing the permit requirement that "Only natural gas shall be burned during summer months (April through October) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed one hour per week per turbine), and during compliance testing." located in Section 2.1.A.3.g, Section 2.1.B.3.f, and 2.1.F.4.i be modified according to the following: "Only natural gas shall be burned during summer months (May 1through September 30) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed four hours per month per turbine), and during compliance testing."

Duke also requested that DAQ allow "oil-fired combustion turbine tuning" during the summer months as part of the list of exceptions. DAQ determined that such an addition was unnecessary because it is reasonable to state that turbine tuning is part of the four (4) hours allowed each month for "functional equipment testing" already authorized in the permit.

5.3 Removal of State-only BACT requirements

Duke previously was subject to State-only BACT requirements under 15A NCAC 2D .0530(h). As demonstrated in the original 2008 air permit application requesting state authorization to begin construction, this project did not trigger Prevention of Significant Deterioration (PSD) for SO_2. Therefore, it was not subject to a federal Best Available Control technology (BACT) analysis for SO_2. However, the proposed project was subject to state-only BACT requirements for SO_2 under the provisions of 15A NCAC 2D .0530(h). On September 1, 2010, 15A NCAC 2D .0530(h) was revised to read as follows:

(h) New natural gas-fired electrical utility generating units for which cost recovery is sought pursuant to G.S. 62-133.6 shall install best available control technology for NOx and SO2, regardless of applicability of the rest of this Rule.

Duke will not be requesting cost recovery under G.S. 62-133.6 (Clean Smoke-stacks Act) for this project at RCCTF. Therefore, Duke is requesting that all references to SO_2 BACT emission limits and operating constraints for the new combustion turbines (ID Nos. ES-13 and ES-14) be removed from the permit as a result of this revised regulation. DAQ agrees that BACT requirements listed in the rules have changed and the facility is not subject to State-only BACT, therefore Section 2.1.F.5 has been removed from the permit.

5.4 Removal of Natural Gas Fired Heaters (ID No's: ES-16, ES-17, ES-18, ES-21, ES-22, ES-23)

Duke has requested that the DAQ remove the natural gas fired heaters associated with the permit in Section 2.1.H and Section 2.1.K. According to Duke natural gas is delivered to RCCTF via a natural gas pipeline. Natural gas transmission pressures are different from those required at the facility. Therefore, the fuel will pass through a metering and regulating station where the pressure of the incoming gas will be reduced. As the pressure of the gas decreases, the temperature will also decrease, which could lead to "freezing" of the piping, connections and valves.

RCCTF has existing three natural gas fired heaters (ID Nos. ES-21, ES-22 and ES-23); the nominal rating listed in the permit for these heaters is 8.75 MMBtu/hr each. As part of the February 2008 permit application, three additional natural gas fired heaters (ID Nos. ES-16, ES-17 and ES-18) with a nominal rating of 5.0 MMBtu/hr were proposed to support the new power block.

Although these heaters are located within the RCCTF fence line, the equipment is owned, operated and maintained by Piedmont Natural Gas. Even though this equipment was originally included in the applicable permit application, the definition of "stationary source" according to the DAQ indicates that inclusion of equipment owned, operated and maintained by Piedmont Natural Gas is not considered part of the stationary source that is owned, operated and maintained by Duke.

40 CFR 51.166(b)(5) defines "stationary source" as any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.
Additionally, 40 CFR 51.166(b)(6) defines "building, structure, facility, or installation" as all of the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e. which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 410).

These two definitions outline three distinct and independent criteria that must all be satisfied in order to be considered part of a single stationary source:

(1) Common legal control
(2) Contiguous or adjacent properties
(3) Part of the same 2-digit SIC code

At RCCTF, the M&R Station will be located on contiguous property and share the same 2-digit SIC code, however, is not under common legal control. Therefore, the natural gas fired heaters are not required to be included in the RCCTF Title V permit and the heaters have been removed from the permit.

5.5 Removal of alternative compliance procedures from Section 2.1.F

Section 2.1.F - Two natural gas/No. 2 fuel oil-fired simple/combined cycle internal combustion turbines, each equipped with a heat recovery steam generator, dry Low-NOx combustors and water injection control, both equipped with a common steam turbine (ID Nos. ES-13 and ES-14), and associated SCR's (ID Nos. CD13-SCR and CD14-SCR).

Duke requested that the permit requirements addressing the New Source Performance Standards (NSPS) Subpart KKKK (Section 2.1.F.3) be updated to reflect the selected procedures of testing, monitoring, recordkeeping and reporting requirements that Duke will follow to demonstrate compliance with NO_x and SO_2 for the new combustion turbines (ID Nos. ES-13 and ES-14). Although the permit currently outlines all available compliance demonstration options available according to the Subpart, Duke felt that the additional compliance options were confusing and has requested that all alternative procedures not selected for compliance by Duke, be removed from the permit.

DAQ agreed to remove the alternative options from the permit. Duke will now be required to follow the compliance demonstration options it has specifically accepted and will no longer be able to utilize alternative demonstration options unless the facility first undergoes the application process to have those options added back to the Title V permit.

Duke also requested that the requirements of Section 2.1.F.3 be modified for clarity. The following Table has been added to the permit:

Fuel Type	Operating Conditions*	NO_x Limit at 15 Percent O_2	Duct Firing Allowed?	Averaging Period	
Natural Gas	≥ 75 Percent of Peak Load	15 ppm	Yes	4 hour** rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	Yes	4 hour** rolling average	30 day rolling average
Fuel Oil	≥ 75 Percent of Peak Load	42 ppm	No	4 hour** rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	No	4 hour** rolling average	30 day rolling average

The information contained in this table is exactly the same as the previous requirements that were listed in paragraph form and has been substituted to reduce confusion.

5.6 Request for modification defining malfunctions under 15A NCAC 2D .0530

Duke requested language defining the malfunctions and the procedures to exclude the emissions due to the start-up, shutdown and malfunction (SSM) from the BACT averaging period be included for easy understanding and operation of the new and existing combustion turbines. Language has been added to the table footnotes to indicate that "Emissions resulting from startup, shutdown, or malfunction shall not be included in the BACT averaging period."

Duke requested the following language be added to the permit: "Should a malfunction occur during the startup sequence, the period of excess emissions between the initiation of startup and the malfunction will not count against the allowable daily block of excess emissions for startups and shutdowns; however, the period of excess emissions during the abnormal startup and malfunction shall be reported in the next semi-annual report as a malfunction. Periods of excess emissions that occur during subsequent normal startups on the same day (after resolution of the malfunction) shall count against the allowable daily limit of two hours (120 minutes)."

DAQ has denied this request. It determined that the definition of startup, shutdown, and malfunction is sufficient to address BACT excess emission requirements. The facility is not required to count the time a source is operated during malfunction against the allowable daily block of excess emissions. However, if a normal startup occurs and then a malfunction occurs during that start up, the facility will need to apply the time of normal startup against the allowable daily block of excess emissions. If the facility is in violation of the two (2) hour limit for excess emissions due to startup and shutdown because of a malfunction, Duke may submit evidence demonstrating this as part of 15A NCAC 2D .0535 requirements.

These requests are associated with Section 2.1.A.3, Section 2.1.B.3, and Section 2.1.F.4.

5.7 Updated applicability of 15A NCAC 2D .1111 (MACT Subpart YYYY)

EPA has promulgated 40 CFR 63, Subpart YYYY, Maximum Achievable Control Technology (MACT) requirements for emissions of hazardous air pollutants (HAP) from stationary combustion turbines that are located at major sources of HAP. Stationary combustion turbines, which commenced construction after January 14, 2003, have been deemed "new" for purposes of this MACT.

EPA has issued a stay on the effectiveness of the emissions and operating limitations for new sources in the "lean premix gas-fired turbine" and "diffusion flame gas-fired turbine" subcategories on August 18, 2004 (§63.6095(d)). The combustion turbines (ID No's ES-13 and ES-14) are classified as new stationary combustion turbines for Subpart YYYY applicability, as the commencement of construction occurred in 2009 after permit 08759T10 was issued on April 2, 2009 and the facility is a major source of HAPs. These combustion turbines are permitted to fire both natural gas and No. 2 fuel oil, but are considered "lean premix gas-fired turbine" under this MACT standard because the

combined total oil usage in all turbines at the site has not exceeded 1,000 hours per calendar year.

Duke is requesting that Specific Condition and Limitation No. 2.1.F.6 be updated to reflect the applicability threshold of Subpart YYYY. More specifically, Duke requested that this modified permit condition state that the facility is not subject to the emission and operating limitations until the combined total number of operating hours of operation on fuel oil by all the turbines at the facility exceeds 1,000 hours per calendar year.

Upon exceeding the 1,000 hour threshold, the facility must demonstrate compliance with all the applicable provisions of Subpart YYYY. Per §63.6110(a), the facility would then have 180 days to complete the initial compliance testing required under this MACT standard.

5.8 Permit Changes Table:

Old Page No.	New Page No.	Part, Section, or Condition No.	Change
-	-	Cover	Amended to reflect current permit number, issue date, effective date, and associated application information
4	4	Emissions Source Table	Removed ES-16 to ES-18, and ES-21 to ES-23 natural gas-fired heaters that are owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
4	4	Emissions Source Table	Added footnote clarifying that emissions sources listed by Duke Energy Progress, Inc. are covered under 15A NCAC 2Q .0501(c)(2) rules.
7	7	Section 2.1.A.2	Corrected several references to the CFR that were inaccurate
9	9	Section 2.1.A.3.a	Added statement to footnotes that emissions from startup, shutdown, or malfunction are not included in the BACT averaging period.
10	10	Section 2.1.A.3.g	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4hrs/month.
13	13	Section 2.1.B.2	Corrected several references to the CFR that were inaccurate
15	15	Section 2.1.B.3.a	Added statement to footnotes that emissions from startup, shutdown, or malfunction are not included in the BACT averaging period.
17	17	Section 2.1.B.3.f	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4hrs/month.
22-23	22-23	Section 2.1.F Table	Removed references to compliance demonstration alternatives that Duke Energy Progress, Inc. has requested be removed from the permit
24-30	24-28	Section 2.1.F.3	Inserted table describing emissions limitations according to 40 CFR 60 Subpart KKKK requirements. Deleted verbal description of those requirements stated in table. Duke felt this format more clearly outlined the requirements according to the Subpart.

Old Page No.	New Page No.	Part, Section, or Condition No.	Change
24-30	24-28	Section 2.1.F.3	Removed compliance demonstration alternatives that will not be used by Duke. This was done at their request to reduce confusion in the permit.
28-30	27-28	Section 2.1.F.3.o	Updated emissions reporting requirements according to the type of operation (simple vs. combined cycle operation)
33-34	31-32	Section 2.1.F.4	Updated BACT requirements listed in the footnotes of the table for clarity at the request of Duke
34	32	Section 2.1.F.4.b	Updated emissions limitations (limits were reduced to reflect standard) that demonstrate compliance with the National Ambient Air Quality Standards (NAAQS).
35	33	Section 2.1.F.4.g	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4hrs/month.
36-37	-	Section 2.1.F.5	Removed State only Sulfur Dioxide requirements
53-54	34-35	Section 2.1.F.5 (previously Section 2.1.F.6)	Removed Formaldehyde requirements under 40 CFR 63 Subpart YYYY due to a stay on the effectiveness of the emissions and operating limits under 40 CFR 63.6095(d) that is in place until final action is taken by the EPA in the Federal Register.
41-42	36	Section 2.1.G.4.b	Updated recordkeeping requirements for clarity as requested by Duke.
43-45	-	2.1.H	Removed permit conditions associated with three natural gas heaters (ES-16 to ES-18) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
47	39	2.1.I.1	Added 2D .0524 recordkeeping requirements for the fixed roof oil storage tank (TK-5)
47-49	-	2.1.K	Removed permit conditions associated with three natural gas heaters (ES-21 to ES-23) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
Page 56	Page 56	General Conditions	Updated General Conditions to latest revision

6. Public Notice/EPA/Affected States review

This permit will require a 30 day public notice period and EPA review.

7. Conclusions, Comments, Recommendations

This is a significant Title V permit modification for the Duke Energy Progress, Inc – Richmond County Combustion Turbine Facility. FRO has received a draft copy of this permit and review.

NCDENR

North Carolina Department of Environment and Natural Resources
Division of Air Quality

Pat McCrory
Governor

Sheila C. Holman
Director

John E. Skvarla, III
Secretary

August 8, 2013

Ms. Ann Quillian
Sr. Environmental Specialist
Duke Energy Progress - Richmond County Turbines
PO Box 1551
Raleigh, NC 27602

SUBJECT: Public Notice of Intent to Issue an Air Quality Permit
Application No. 7700070.11A
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, Richmond County
Draft Air Quality Permit No. 08759T14

Dear Ms. Quillian:

Enclosed is a copy of the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" for the subject Title V facility. The public notice is scheduled for publication on August 9, 2013 on the NCDENR Website and shall be mailed to persons on the Division's mailing list for air quality permit notices.

Should you have any questions concerning this matter, please contact Mike Gordon at (919) 707-8731.

Sincerely,

Donald van der Vaart, Ph.D., P.E., J.D.
Chief, Permits Section

Attachments

cc: Title V File
Fayetteville Regional Office Files

Permitting Section
1641 Mail Service Center, Raleigh, North Carolina 27699-1641
217 West Jones Street, NC 27603
Phone: 919-707-8405 / FAX: 919-715-0717
Internet: www.ncair.org

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NCDENR
North Carolina Department of Environment and Natural Resources
Division of Air Quality

Pat McCrory
Governor

Sheila C. Holman
Director

John E. Skvarla, III
Secretary

August 8, 2013

James Moser
Fayetteville Regional Office
Systel Building
225 Green Street, Suite 714
Fayetteville, NC 28301-5094

SUBJECT: Public Notice of Intent to Issue an Air Quality Permit
Application No. 7700070.11A
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, Richmond County
Draft Air Quality Permit No. 08759 T14

Dear James Moser:

Enclosed is a complete Title V docket, except the application, which includes the subject facility's Draft Air Quality Permit. This permit will authorize the Permittee to construct and operate in accordance with applicable requirements. The "technical review" which explains how the draft permit was developed and the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" are also included.

The public notice will be published on the NCDENR Website on August 9, 2013 and the public comment period will run from August 9, 2013 to September 8, 2013. Please keep these materials and the permit application accessible for public review during the public comment period.

Should you have any questions concerning this matter, please contact me at (919) 707-8731.

Sincerely,

Mike Gordon

Enclosures

cc: Title V File

Permitting Section
1641 Mail Service Center, Raleigh, North Carolina 27699-1641
217 West Jones Street, NC 27603
Phone: 919-707-8405 / FAX: 919-715-0717
Internet: www.ncair.org

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NCDENR
North Carolina Department of Environment and Natural Resources
Division of Air Quality
Sheila C. Holman
Director

Pat McCrory
Governor

John E. Skvarla, III
Secretary

August 8, 2013

TO: Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303

SUBJECT: Proposed Air Quality Permit No. 08759T14
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached is a copy of the subject facility's proposed Air Quality Permit, the technical review, the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT" and "North Carolina's Title V Permit Application Summary Form" for the subject Title V facility. The Air Quality Permit authorizes the Permittee to construct and operate in accordance with 15A NCAC 2Q.0501 and 2Q.0300.

The public notice was published on August 9, 2013 on the NCDENR/DAQ website and was emailed to persons on the Division's mailing list for air quality permit notices. Any comments received during the public participation process have been included in either the permit and or review. All affected States have been emailed a copy of the public notice or otherwise been notified.

EPA's forty-five (45) day review period begins upon the receipt of this letter. If no comments are made by the end of the review period, or the EPA notifies the Division that they have no comments, we will proceed with final permit issuance.

Should you have any questions or need further information, please contact Mike Gordon at (919) 707-8731 or e-mail Mike.Gordon@ncdenr.gov.

Sincerely,

Donald van der Vaart, Ph.D., P.E., J.D.
Chief, Permits Section

Permitting Section
1641 Mail Service Center, Raleigh, North Carolina 27699-1641
217 West Jones Street, NC 27603
Phone: 919-707-8405 / FAX: 919-715-0717
Internet: www.ncair.org

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PUBLIC NOTICE OF INTENT TO ISSUE AN AIR QUALITY PERMIT
STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF AIR QUALITY
RALEIGH, NORTH CAROLINA

The North Carolina Division of Air Quality (DAQ) hereby gives notice of its intent to issue an Air Quality Permit to:

Duke Energy Progress - Richmond County Turbines
Richmond County Energy Complex
198 Energy Way
Hamlet, NC 28345
Richmond County
Application ID: 7700070.11A, Permit No.: 08759T14

This facility applied for an Air Quality Title V Operation Permit which meets the requirements specified in 15A North Carolina Administrative Code 2Q.0500.

Persons wishing to submit written comments or request a public hearing regarding the Air Quality Title V Operation Permit are invited to do so. Requests for a public hearing must be in writing and include a statement supporting the need for such a hearing, an indication of your interest in the facility, and a brief summary of the information intended to be offered at such hearing.

Written comments or requests for a public hearing should be postmarked no later than September 8, 2013 and addressed to Mike Gordon, Division of Air Quality, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641.

All comments received prior to this date will be considered in the final determinations regarding the Air Quality Permit. A public hearing may be held if the Director of the DAQ determines that significant public interest exists or that the public interest will be served.

Interested persons may obtain additional information, including copies of the permit, application, all other relevant supporting materials, and all other materials available to DAQ that are relevant to the permit decision by writing to the above address or calling Mike Gordon at (919) 707-8731.

Interested persons are encouraged to review these materials during normal business hours at either of the following locations.

NC DENR
Division of Air Quality
217 West Jones Street
Raleigh, NC 27603

or

Fayetteville Regional Office
Systel Building
225 Green Street, Suite 714
Fayetteville, NC 28301-5094

Donald van der Vaart, Ph.D., P.E., J.D.
Chief, Permits Section

DUKE ENERGY.

Garry S. Rice
Deputy General Counsel

Duke Energy Corporation
550 South Tryon Street
Charlotte, NC 28202

Mailing Address
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Charlotte, NC 28201

o: 704.382.8111
f: 980.373.8534
Garry.Rice@duke-energy.com

December 11, 2014

2014 DEC 15 PM 12:16

Ms. Regina A. McCarthy
Administrator
United States Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.
Mail Code 1101A
Washington, DC 20460

Re: In the Matter of a Part 70 Air Quality Operating Permit Issued by the North Carolina Department of Environment and Natural Resources; Duke Energy Progress – Richmond County Turbines; Facility ID: 7700070; Hamlet, NC, Richmond County; Permit No. 08759T17

Duke Energy Progress Inc.'s Response to the Petition Filed by the Blue Ridge Environmental Defense League and Concerned Citizens of Richmond County Regarding the Title V Air Quality Permit for the Duke Energy Progress Richmond County Turbines

Dear Ms. McCarthy:

Duke Energy Progress, Inc. ("Duke Energy"), licensee of Permit No. 08759T17, respectfully seeks leave to respond to the September 17, 2014 petition ("Petition"), as cited above, filed by the Blue Ridge Environmental Defense League ("BREDL") on behalf of the Concerned Citizens of Richmond County ("CCRC") and BREDL (collectively, "Petitioners"). Duke Energy believes that the Petitioners have made several errors based on inaccurate understandings by BREDL in its efforts to interpret Title V state statutes and to characterize plant operations as they relate to Duke Energy's Title V Air Quality Permit.

Thank you for your consideration of Duke Energy's request. Please contact me (704-382-8111) if you have any questions regarding the enclosed response.

Sincerely,

Garry S. Rice
Deputy General Counsel

Enclosure

cc/enc: Heather Ceron, Air Permits Section Chief, United States Environmental Protection Agency, Region IV
Heather McTeer Toney, Regional Administrator, United States Environmental Protection Agency, Region IV
William D. Willets, Permitting Section Chief, North Carolina Department of Environment and Natural Resources
Louis A. Zeller, Executive Director, Blue Ridge Environmental Defense League
Jason V. Haynes, General Manager II - Regulated Stations, Duke Energy Progress, Inc.
Kimberly A. Kashmer, Lead EHS Professional, Duke Energy Progress, Inc.
Ann M. Quillian, Senior Environmental Specialist, Duke Energy Business Services LLC
Teresa L. Wilson, General Manager, Business Services, Duke Energy Progress, Inc.

BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of a Part 70 Air Quality Permit Issued by North Carolina Department of Environment and Natural Resources Duke Energy Progress – Richmond County Turbines Facility ID: 7700070 Hamlet, NC, Richmond County Permit No. 08759T17

December 11, 2014

DUKE ENERGY PROGRESS, INC'S RESPONSE TO THE PETITION FILED BY THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE AND CONCERNED CITIZENS OF RICHMOND COUNTY REGARDING THE TITLE V AIR QUALITY PERMIT FOR THE DUKE ENERGY PROGRESS RICHMOND COUNTY TURBINES

Duke Energy Progress, Inc. ("Duke Energy") seeks leave to file this response to the September 17, 2014, petition ("Petition") filed by the Blue Ridge Environmental Defense League ("BREDL") on behalf of the Concerned Citizens of Richmond County ("CCRC") and the BREDL (collectively, "Petitioners"). The Petitioners' Petition contains several errors and inaccuracies, and Duke Energy believes that this response will assist the United States Environmental Protection Agency ("EPA") in resolving the Petition.

The Petitioners' Petition addresses the following matters to which Duke Energy responds with corrections and clarifications.

1. Public Notice and Participation
2. Removal of State-Only BACT Provisions
3. Compliance with North Carolina Air Toxics Regulations
4. Removal of Piedmont Natural Gas Company, Inc. Sources from the Permit
5. Nuisance – Allegations Relating to Opacity, Smoke, Noise, and Odor
6. Environmental Justice

Public Notice and Participation

Despite the Petitioners' complaints regarding public notice and participation, the Petitioners have been much involved in the application for the Duke Energy Title V permit No. 08759T17 ("Permit"). BREDL sent a letter to the North Carolina Division of Air Quality ("DAQ") on

September 9, 2013. That letter provided comments on the draft Permit and raised many of the same issues raised in the Petition. On September 23, 2013, BREDL sent a similar letter to Heather Ceron at EPA, Region IV. The letter to EPA provided similar comments regarding the draft Permit for the Richmond County Turbine Facility ("Turbines").

On January 17, 2014, the Petitioners filed a premature petition raising essentially the same issues raised in the Petition. On March 12, 2014, Art Hofmeister with EPA informed BREDL that the January 17 petition was premature because:

> NCDENR plans to repropose the permitting action (to EPA) after it addresses your comments and to notify you of the restarting of EPA's 45-day review period. This will, of course, establish another 60-day petition period during which you may resubmit the petition should you feel NCDENR still has not resolved your issues/concerns to your satisfaction.

On July 21, 2014, during EPA's review, the Petitioners sent another letter to Heather Ceron alleging that the Turbines were not in compliance with air quality standards and alleging ongoing violations related to opacity and mentioning for the first time concerns about environmental justice.

Finally, on September 17, 2014, the Petitioners filed the instant Petition which reasserts all the prior complaints and allegations regarding the Turbines, the permitting process and environmental justice.

While the Petitioners remain unsatisfied with the DAQ permitting decision and EPA's decision to not object, the one thing the Petitioners should not be dissatisfied with is its opportunity to participate in the process. BREDL has participated actively, redressing its grievances both to DAQ and EPA. Both DAQ and EPA have responded to BREDL's comments, DAQ by reproposing the permitting action, and EPA by responding directly to BREDL. Hence, the Petitioners' allegations of improprieties regarding public notice and participation are baseless and unsubstantiated.

Removal of State-Only BACT Provisions

On page 4 of the Petition, the Petitioners argue that DAQ's removal of state-only BACT provisions is not in accord with the State Implementation Plan. The Petitioners' argument fails for two obvious reasons. First, a state-only provision is not subject to federal enforcement or requirements. That is what it means to be state-only. Second, by the Petitioners' own admission, the state-only BACT provision applied so long as Duke Energy sought cost recovery pursuant to the State's Clean Smokestacks Act. State law imposed an additional pollution control

requirement if a source sought favorable treatment under the accelerated depreciation provisions of the Clean Smokestacks Act. But by foregoing favorable treatment under the Clean Smokestacks Act, Duke Energy also avoided application of the state-only BACT provisions to the Turbines. This is an issue of state law, and thus is a state-only provision. The Petitioners' Petition fails to raise any valid issue or controversy regarding this state-only BACT provision.

Compliance with North Carolina Air Toxics Regulations

Likewise, the Petitioners' complaint regarding compliance with state air toxics regulations fails, because state law exempts the Turbines from compliance with state air toxics regulations. The Petitioners go into some detail discussing acceptable ambient levels for formaldehyde and benzene, but fail to recognize the explicit exception in the regulations it relies on. 15A NCAC 2Q .0702 (27) provides the following exemption from a permit to emit toxic air pollutants.

> (27) an air emission source that is any of the following:
> - (A) subject to an applicable requirement under 40 CFR Part 61, as amended;
> - (B) an affected source under 40 CFR Part 63, as amended; or
> - (C) subject to a case-by-case MACT permit requirement issued by the Division pursuant to Paragraph (j) of 42 U.S.C. Section 7412, as amended;

Because the Turbines are regulated under 40 CFR Part 63, they are not subject to the North Carolina Air Toxics permitting regulation. Thus, the Petitioners' argument on this issue is without merit.

Removal of Piedmont Natural Gas Emission Sources from the Permit

The Petitioners object to the removal of combustion units from the Permit. The Petitioners argue that "legal control" ought to encompass "common control" and then cites to a Department of Labor definition of common control under the Fair Labor Standards Act that has absolutely no application to this situation.

Admittedly, the history of the ownership of the removed units is unusual and warrants some discussion.

Duke Energy Progress, Inc. was formerly Carolina Power & Light ("CP&L"), and on July 15, 1999, CP&L acquired North Carolina Natural Gas Corporation ("NCNG"). NCNG operated as a wholly owned subsidiary of CP&L, which later became Carolina Power & Light, doing business as Progress Energy Carolinas, Inc. ("Progress Energy Carolinas"). Progress Energy Carolinas was then owned by Progress Energy, Inc., a holding company ("PEI"). PEI also owned NCNG and its subsidiaries, NCNG Cardinal Pipeline Investment Corp. and NCNG

Pine Needle Investment Corp., all of which were sold to Piedmont Natural Gas ("PNG") on September 30, 2003. During the same time frame, PNG acquired PEI's 50 percent share of common stock, preferred stock, and other rights and interests in Eastern North Carolina Natural Gas.

Thus, since late 2003, Duke Energy has held no ownership interest in the six PNG heaters previously listed as ES-16, ES-17, ES-18, ES-21, ES-22, and ES-23. It is understandable that the Petitioners could be confused about these sources, since they were at one time owned by a parent of Duke Energy. However, they have been under entirely separate ownership for over a decade, and Duke Energy has no control, legal or otherwise over the operation of these six PNG heaters. Thus, their removal from the Permit at issue is both appropriate and required.

Nuisance – Allegations Relating to Opacity, Smoke, Noise, and Odor

The Petitioners claim submission of credible evidence of violations of the National Ambient Air Quality Standards ("NAAQS") by the Turbines on page 10 of the Petition. Unfortunately, the Petitioners fail to identify any NAAQS that have been violated. The only alleged pollution referred to are unsubstantiated opacity exceedances, supposedly occurring on June 16, 2014, as reflected in copies of photos the Petitioners included in their July 21, 2014, letter to Heather Ceron at EPA, Region IV.

These photos generally depict unexplained cloudy or smoky conditions in the direction of the Turbines. The Petitioners appear to imply that the proximity to the Turbines indicates causation. The excerpt from the July 21, 2014, letter the Petitioners reference in the Petition refers to the nearby "Mingo Mine Pits," a nearby sand mine that appears to have begun operation in 2013. The same letter excerpt states, "Lived here almost 10 years I have never heard the plant until this year, 7th time since May 2014. I have not ever seen so much smoke."

The turbines have been operational at the Turbines since the early 2000s. The most recent addition of turbines occurred in 2011. The fact that the Turbines have been operating for over a decade without any neighbor complaints indicates that the atmospheric observations are not a regular or potentially disruptive neighborhood occurrence.

There is no evidence that the Turbines caused whatever was observed. All units operated that day, but Units 8, 9, and 10 had been operating continuously for several days and had no startups or shutdowns. Units 1, 2, 3, 4, 6, and 7 all ran, starting up respectively at 9:39, 10:05, 11:29, 11:01, 10:39, and 3:14 and shutting down respectively at 19:34, 19:56, 18:34, 20:26, 19:03, and Unit 7 did not stop operating until several days later. All of these units operated on natural gas exclusively, which produces virtually zero visible emissions. Also there were no unusual events or malfunctions noted on June 16, 2014.

The North Carolina Department of Environment and Natural Resources ("NCDENR") inspected the Turbines on August 22, 2014, in response to a citizen complaint regarding opacity, noise, and odor. The summary of NCDENR's inspection stated that "No issues were identified and no further actions were requested at this time."

Meteorological information for June 16, 2014, indicates that it was a day of very high humidity. The National Weather Service Automated Surface Observing Systems ("ASOS") weather station, located at the Rockingham Airport (approximately three miles north-northwest of the Turbines), reported "mist" from 3:15 AM to 7:35 AM on June 16, 2014. During this time relative humidity ranged from 97 percent to 100 percent, with no rain, and visibility as low as 1.5 miles. Winds were calm (less than three miles per hour) until 8:15 AM. Given these conditions, it is very possible that isolated areas near the Turbines experienced patchy fog or fog-like conditions.

The Turbines also operate a cooling tower which produces a "cloud" of water vapor that could be mistaken for smoke. This mix of cooling tower water vapor and meteorological conditions likely explains what neighbors observed on June 16, 2014.

Environmental Justice

The Petitioners use the unusual phenomena observed on June 16, 2014, as the foundation to allege that issuance of the Permit would harm nearby disadvantaged residents. But the Petitioners have failed to show that there was any violation of any standard on June 16, 2014. The Petition contains nothing more than loosely associated allegations lacking substantiation. Regulatory inspections revealed no violations. The Turbines operate on natural gas most of the time and were operating on gas in June 2014. Natural gas is a very clean burning fuel, which results in nearly no visible emissions. Moreover, it is low in sulfur. The Petitioners have not provided any evidence of any NAAQS violation.

The ethnic and demographic statistics cited in the Petitioners' Petition establishes nothing more than Richmond County has a higher percentage of Black or African American citizens than does the State as a whole. Roughly 22 percent of North Carolina's residents are Black or African American. If Richmond County's population is 31 percent Black or African American, then Richmond County has a 9 percent higher incidence of Black or African American residents than the State as a whole – not 41 percent as claimed by the Petitioners. Likewise, the Petitioners overstate the difference in poverty in Richmond County. Statewide 16.8 percent of State residents live below the poverty level; in Richmond County the number is 24.8 percent, a difference of 8 percent, not 47 percent as the Petitioners claim.

People in poverty spend a greater percentage of their disposable income on energy than do people above the poverty level. Thus, low income people are more vulnerable to increases in electricity costs. Duke Energy provides reliable, low-cost electricity to its customers, with residential rates below the national average. Turbines, located at the Sherwood H. Smith, Jr. Energy Complex, is a clean, natural gas burning facility. The Petitioners have failed to demonstrate any Environmental Justice issue raised by the issuance of the Permit.

Because Title V permits do not impose new substantive requirements, but simply collect all applicable requirements into a single document, Title V permitting does not provide an opportunity to address environmental issues. See, "EPA Statutory and Regulatory Authorities Under Which Environmental Justice Issues May Be Addressed in Permitting" memorandum from Gary S. Guzy, General Counsel to Steven A. Herman, Assistant Administrator, OECA, December 1, 2000.

Conclusion

In summary, the Petitioners have raised several honestly held concerns, but have identified nothing that should affect issuance of the Permit. State-only rules are not implicated in a Title V permit, and the North Carolina Air Toxics rules do not apply to the Turbines. The past ownership of the gas-fired heaters owned by PNG is confusing, but it is clear that Duke Energy has no control or interest in those units, and it is proper to remove them from the Permit. The concerns raised regarding opacity and environmental justice are not substantiated. Finally, the Petitioners have been active participants in this permitting process, and complaints regarding public notice are unfounded; the Petitioners have not been denied notice or an opportunity to comment.

For all these reasons, the Petition should be denied.

Sincerely,

Garry S Rice
Deputy General Counsel
NC Bar # 13674
Duke Energy
DEC 45A
550 South Tryon St.
Charlotte, NC 28202

GARRY S. RICE, ESQUIRE
704-382-8111
DUKE ENERGY CORPORATION
550 SOUTH TRYON STREET
CHARLOTTE NC 28202

0.0 LBS LTR

1 OF 1

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BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the matter of a Part 70 Air Quality Operating Permit Issued by North Carolina Department of Environment and Natural Resources Duke Energy Progress - Richmond County Turbines Facility ID: 7700070 Hamlet, NC, Richmond County Permit No. 08759T17	September 17, 2014

THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE'S PETITION TO THE ENVIRONMENTAL PROTECTION AGENCY TO OBJECT TO THE TITLE V AIR QUALITY PERMIT ISSUED TO DUKE ENERGY PROGRESS RICHMOND COUNTY TURBINES

On behalf of the Concerned Citizens of Richmond County ("CCRC") and the Blue Ridge Environmental Defense League ("BREDL") ("Petitioners"), I hereby petition the United States Environmental Protection Agency to object to the issuance of the Title V permit No. 08759T17 ("Permit") issued by the North Carolina Department of Environment and Natural Resources Division of Air Quality ("DAQ") to the Richmond County Combustion Turbine Facility operated by Duke Energy Progress ("Richmond County Turbines" or "RCCTF"). The grounds for this petition are set forth in the following: (1) Comments of the Blue Ridge Environmental Defense League to NC Division of Air Quality Permitting Chief dated September 9, 2013, (2) Letter from BREDL to EPA Air Permits Section Chief, dated September 23, 2013 and (3) Letter from BREDL and CCRC to EPA Air Permits Section Chief, dated July 21, 2014. Pursuant to the Clean Air Act § 505(b)(2), this petition is submitted within 60 days of EPA's 45-day review period for this permit which ended Sunday, July 20, 2014. The petition is based on objections to the permit that were raised during the DAQ's public comment period and the EPA's review.

Petitioners hereby request that the Administrator object to the issuance of the Permit because of DAQ's failure to assure compliance with applicable requirements under the Clean Air Act. Namely, DAQ failed to:

- Provide for meaningful public participation
- Properly assess common control of the Duke Energy Progress and Piedmont Natural Gas electric power turbines
- Require alternative compliance procedures under MACT
- Show compliance with North Carolina's Title V program
- Address environmental justice issues

Blue Ridge Environmental Defense League is a nonpartisan, grassroots, nonprofit membership organization dedicated to environmental education and governmental accountability. The Concerned Citizens of Richmond County is a chapter of the Blue Ridge Environmental Defense

League with members in Hamlet, NC. BREDL works with our members, chapters and other concerned citizens on environmental problems in the southeastern United States.

Background

The Richmond County Turbines, located at the Richmond County Energy Complex, is a Class I_C facility, categorized under standard industrial code SIC 4911. Duke Energy Progress operates seven combustion turbines permitted to burn either fuel oil or natural gas, and three auxiliary boilers burning natural gas. Five of the turbines are simple cycle; two are combined cycle. All seven turbines use dry low NOx combustors and water injection for pollution control. The two combined cycle turbines add selective catalytic reduction. Before permit modification, the electric output of the facility was 1600 MWe.

On April 2, 2009, NC DAQ issued to RCCTF construction and operation permit 08759T10 for two natural gas/fuel oil-fired combined/simple cycle combustion turbines ES-13 and ES-14, auxiliary boiler ES-15 and various emission sources including a cooling tower, fuel gas heaters and fuel oil tank. The following email describes a series of permit applications submitted by Duke Energy Progress for the facility:[1]

> (2) The Permittee submitted an application (**7700070.11A**), received by DAQ on June 13, 2011, precisely to take care of the Title V permitting requirements for the above equipment. There was not any request for approval for any new equipment in this application. The draft permit (**08759T15**) was noticed on the DAQ's website for public comments on August 9, 2013, providing for a 30-day comment period, which has ended on September 8, 2013. The draft permit was also sent to EPA for their 45-day review as required under the Title V permitting program. This draft permit has not yet been finalized or issued by NC DAQ.
>
> (3) Separately, the Permittee submitted a PSD application (**7700070.12B**) on August 30, 2012, to increase the permitted operations of existing simple cycle combustion turbines (ID Nos. Units 1 through 4, and 6), from 2,000 hours to 8,760 hours annually on a full load equivalent basis for each of these turbines, when burning natural gas. DAQ reviewed this application under both the PSD (15A NCAC 2D .0530) and Title V (15A NCAC 2Q .0500) programs and noticed the draft permit (**08759T15**), as required, in the local newspaper (Richmond County Daily Journal) for comments on October 18, 2013. The 30-day comment period for this draft permit will end on November 17, 2013 and the EPA's 45-day review will end on December 2, 2013. DAQ will finalize this permit revision once the public comment and the EPA review periods end.

The following table tracks the various permits during the last few years:

Permit No. 08759	T14	T15	T16	T17
Application No.	13A	12B	13B	11A
Application Date	4/29/13	12/3/12	12/2/13	6/13/13
Permit Issue Date	5/20/13	11/21/13	12/3/13	7/18/14

As outlined above, the DAQ used Permit No. 08759T15 for two separate permit applications, 7700070.11A and 7700070.12B. Subsequently, Application 11A was also used as the basis for Permit No. 08759T17, issued by DAQ on July 18, 2014. Title V permit renewals and

[1] Email from Rahul Thaker, P.E., QEP, Environmental Engineer, Permitting Section, NCDENR Division of Air Quality to Louis Zeller dated October 22, 2013

modifications must be noticed by the permitting agency to allow opportunities for interested persons to comment and request a hearing. However, Petitioners have been unable to locate a public notice for the extant permit in news publications or the DAQ website.

Issue

The Permit modifications requested by Duke Energy Progress and granted by DAQ allowed multiple changes in the facility: 1) added two 190 MWe Siemens SGT6-5000F combustion turbine generators (ES-13 and ES-14), 2) added a new natural gas fired auxiliary boiler (ES-15), 3) modified the existing natural gas fired auxiliary boiler (ES-10) and 4) removed six units from the permit, although they still operate within the facility fence line. Duke Energy Progress has been permitted to increase its power by 36% to approximately 2000 MWe. The permit modifications made by DAQ failed to provide for meaningful public participation, appropriately address environmental justice issues and/or demonstrate compliance with North Carolina's Title V permitting program.

Rule

The federal Clean Air Act Title V operating permit program requires that major industrial sources and certain other sources obtain a permit that consolidates all of the applicable requirements for a facility into one document. The purpose of Title V permits is to reduce violations of air pollution laws and improve enforcement of those laws.

Pursuant to 40 CFR 51.166 (b)(1)(i)(*c*), prevention of significant deterioration of air quality, "Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source if the change would constitute a major stationary source by itself."

Under the federal Clean Air Act, permits for air pollution control are supposed to protect public health and welfare. Under the Act, the interested public may object to the issuance of permits in accordance with the law as stipulated:

> If the Administrator does not object in writing to the issuance of a permit pursuant to paragraph (1), any person may petition the Administrator within 60 days after the expiration of the 45-day review period specified in paragraph (1) to take such action. A copy of such petition shall be provided to the permitting authority and the applicant by the petitioner. The petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period). The petition shall identify all such objections. If the permit has been issued by the permitting agency, such petition shall not postpone the effectiveness of the permit. The Administrator shall grant or deny such petition within 60 days after the petition is filed. The Administrator shall issue an objection within such period if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of this chapter, including the requirements of the applicable implementation plan. Any denial of such petition shall be subject to judicial review under section 7607 of this title. The Administrator shall include in regulations under this subchapter provisions to implement this paragraph. The Administrator may not delegate the requirements of this paragraph.

See Title 42, Chapter 85, Subchapter V § 7661D(b)(2).

Argument

The DAQ has improperly sanctioned both the addition of new air pollution sources and the removal of others from the Permit. The DAQ did not perform a proper MACT analysis. Duke Energy Progress trimmed its application to escape requirements of BACT and MACT.

Combustion Units Added

The Duke Energy Progress - Richmond County Turbines are listed in the NC SIP, 15A NCAC 2D .1417, as "CP&L Marks Creek, Richmond County" with a power rating of 1628.4 MWe and nitrogen oxide limits totaling 189 tons/season on seven units @ 27 per unit. The rule states:

> (A) Except as allowed under Paragraph (d) of this Rule, sources named in the table in this Subparagraph shall not exceed the nitrogen oxide (NOx) emission allocations in the table beginning May 31 through September 30, 2004 and May 1 through September 30, 2005 and each year thereafter until revised according to Rule .1420 of this Section.

Previously, the proposed project was subject to state-only BACT requirements (15A NCAC 2D .0530(h)) when cost recovery was sought pursuant to the NC Clean Smokestacks Act (G.S. 62-133.6). However, Duke Energy Progress (DEP) will not seek cost recovery. The DAQ's review states:[2]

> DEP will not be requesting cost recovery under G.S. 62-133.6 (Clean Smokestacks Act) for this project at RCCTF. Therefore, DEP requested that all references to SO_2 BACT emission limits and operating constraints for the new combustion turbines (ID Nos. ES-13 and ES-14) be removed from the permit as a result of this revised regulation. DAQ agrees that BACT requirements listed in the rule have changed, and thus the facility is not subject to State-only BACT. Therefore Section 2.1 F.5 has been removed from the permit.

For reasons stated *infra*, DAQ's decision to remove the BACT emission limits for units ES-13 and ES-14 is not in accord with the State Implementation Plan and should be reversed by the EPA.

Moreover, pursuant to 40 CFR 51.166 (b)(1)(i)(*c*), Prevention of significant deterioration of air quality, "Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source if the change would constitute a major stationary source by itself."

Combustion turbines ES-13 and ES-14 are classified as new stationary sources for the purpose of MACT (maximum achievable control technology). Any new or reconstructed unit which is a *lean premix oil-fired stationary combustion turbine* commencing operation after March 5, 2004 must comply with the emissions and operating limits in 40 CFR § 63.6095(a)(2). In the issued permit, these units are permitted to burn fuel oil up to 1000 hours per year and natural gas up to 8760 hours per year. Notwithstanding the US EPA stay of standards which applies to *lean premix gas-fired stationary combustion turbines*, as referenced in the DAQ's Air Permit Review,

[2] North Carolina Division of Air Quality Air Permit Review (PROPOSED), Application No. 7700070.11A, Permit No. 08759T17, Section 5.3 Removal of State-only BACT requirements

these two units must meet the standards of 40 CFR § 63 including MACT.[3] In lean-premix combustors the fuel is mixed before entering the power producing combustion chamber. The purpose of Subpart YYYY of this rule is to limit hazardous air pollutants from stationary combustion turbines located at major sources of HAP emissions, and requirements to demonstrate initial and continuous compliance with the emission and operating limitations.

The facility is already a major source of hazardous air pollutants, but the new permit would allow increases in emissions of HAPs. We have run an EPA model to calculate ambient levels of formaldehyde and benzene in the air around the Richmond County Turbines. The calculations are in the documents of record for this facility.[4] The results are as follows.

Including emissions from natural gas-fueled Units 1, 2, 3, 4, 6, 7, 8, 10, 13, 14, 15, 19 and 20, the model indicates the level of formaldehyde is above NC acceptable ambient levels (AALs) as far as 3,500 meters (2.17 miles) from the RCCTF sources burning natural gas only. Including the emissions from fuel oil-burning Units 1, 2, 3, 4, 6, 7, 8, 13 and 14, the model indicates the level of formaldehyde is above NC AALs 2,100 meters (1.3 miles) from the RCCTF sources burning fuel oil #2 only. Finally, the model indicates the level of formaldehyde emitted from Units 13 and 14 alone burning only natural gas would be above NC AALs 1,600 meters (1 mile) from the RCCTF.

Including emissions from natural gas-fueled Units 1, 2, 3, 4, 6, 7, 8, 10, 13, 14, 15, 19 and 20,the model indicates the level of benzene is above NC AALs 10,000 meters (6.2 miles) from the source when burning natural gas only. In fact, at 10 kilometers, the ambient level is still 460% above NC AALs for benzene if it is considered an area source. If considered a volume source, 400% above. Also, counting emissions from fuel oil-burning Units 1, 2, 3, 4, 6, 7, 8, 13 and 14, the model indicated that the level of benzene is far above NC AALs 10,000 meters (6.2 miles) from the source when burning fuel oil #2 only. At 10 kilometers, if considered an area source, benzene levels are 27 times above NC AAL of 0.00012 mg/m^3.

Combustion Units Removed

The Richmond County Turbines plant has three natural gas fired heaters (ES-21, ES-22 and ES-23) with a heat input of 8.75 MMBtu/hr each. In their permit application submitted in 2008, three additional natural gas fired heaters (ES-16, ES-17 and ES-18) with a heat rating of 5.0 MMBtu/hr were to be added to the permit. However, Duke has now requested that the DAQ remove all six of these natural gas fired units from their permit. These heaters are located within the fence line of the Richmond County facility but, according to DAQ, are owned and operated by Piedmont Natural Gas.

The federal Clean Ait Act Title V operating permit program requires that major industrial sources and certain other sources obtain a permit that consolidates all of the applicable requirements for a facility into one document. The Richmond County Energy Complex is a single site with co-located air pollution emission sources. The purpose of title V permits is to

[3] 40 CFR 63, Subpart YYYY - National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

[4] Letter from Louis Zeller to Heather Ceron, EPA Air Permits Section Chief, dated September 23, 2013

reduce violations of air pollution laws and improve enforcement of those laws. The EPA cannot permit these six combustions sources to be separated from the extant permit.

According to 42 USC § 7412 - Hazardous air pollutants, the term "major source" means "any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants." The DAQ has adopted a truncated view of the meaning for common control by labeling it "legal control." The state permit review holds that:

> Although these heaters are located within the RCCTF fence line, the equipment is owned, operated and maintained by Piedmont Natural Gas. Even though this equipment was originally included in the applicable permit application, the definition of "stationary source" according to the DAQ indicates that inclusion of equipment owned, operated and maintained by Piedmont Natural Gas is not considered part of the stationary source that is owned, operated and maintained by Duke.
>
> 40 CFR 51.166(b)(5) defines "stationary source" as any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.
>
> Additionally, 40 CFR 51.166(b)(6) defines "building, structure, facility, or installation" as all of the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e. which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972....
>
> These two definitions outline three distinct and independent criteria that must all be satisfied in order to be considered part of a single stationary source:
>
> (1) Common legal control
> (2) Contiguous or adjacent properties
> (3) Part of the same 2-digit SIC code
>
> At RCCTF, the M&R Station will be located on contiguous property and share the same 2-digit SIC code, however, is not under common legal control. Therefore, the natural gas fired heaters are not required to be included in the RCCTF Title V permit and the heaters have been removed from the permit.[5]

Emphases added. The difference between "legal control" and "common control" here seems to be the nexus of the state's allowing Duke Energy Progress to pare off six combustion units from the Permit. They are within the same fence line. Piedmont Natural Gas units are numbered consecutively with Duke Energy Progress units. If it were so that Duke and Piedmont were not under "common legal control," would it have been necessary for Duke Energy Progress to modify its existing permit to remove certain combustion units, as the company requested in Application No. 7700070.11A? Federal regulations state:

> Under the definition the "enterprise" includes all related activities performed through "common control" for a common business purpose.... "Common" control includes the sharing of control and it is not limited to sole control or complete control by one person or corporation. "Common" control therefore exists where the performance of the described activities are controlled by one person or by a number of persons, corporations, or other organizational units acting together. This is clearly supported by the definition which specifically includes in the "enterprise" all such activities whether performed by "one or more corporate or other organizational units."

See 29 CFR § 779.221 "Common control" defined. The operation of ES-21, ES-22 and ES-23

[5] *Op.Cit.* Section 5.4, Removal of Natural Gas Fired Heaters (ID Nos.: ES-16, ES-17, ES-18, ES-21, ES-22, ES-23)

are vital to the safe operation of the RCCTF because of the thermodynamic phenomenon known as the Joule–Thomson effect.[6] The DAQ permit review states:

> According to DEP natural gas is delivered to RCCTF via a natural gas pipeline. Natural gas transmission pressures are different from those required at the facility. Therefore, the fuel will pass through a metering and regulating (M&R) station where the pressure of the incoming gas will be reduced. As the pressure of the gas decreases, the temperature will also decrease, which could lead to "freezing" of the piping, connections and valves.

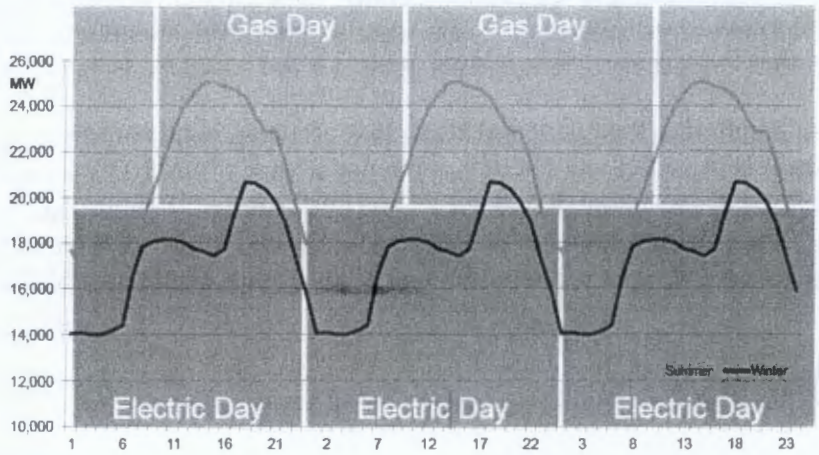
In fact, the plant cannot operate without these three natural gas heaters and therefore must be under common control.

Further, electric plants and pipelines have what is known in the industry as a "planning gap" which is described as:

> [T]he gas day begins the day during the morning "pick-up", and the electric day begins during the midnight "drop-off". The apparent phase shift observed during the two industry's operating/planning days creates some inherent challenges during the coordination, scheduling, and nomination processes.

The planning gap exists because "the two industries operates on different schedules (local midnight-to-midnight for electric and 9 a.m. to 9 a.m. EST for gas), creating a planning gap because generators must estimate their gas needs several hours before they have finalized operational plans for the next day." See Figure A.[7]

Figure A. Typical Electric Load Patterns: Gas Day v. Electric Day



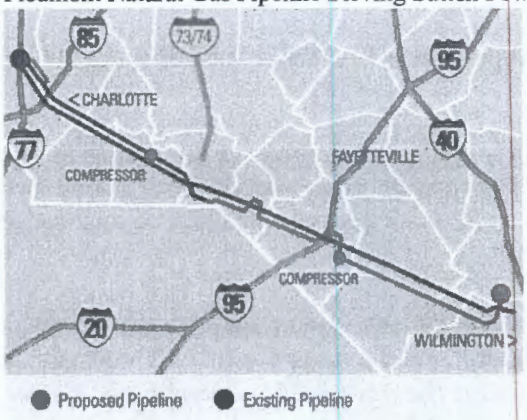
[6] At room temperature, all gases except hydrogen, helium and neon cool upon expansion by the Joule–Thomson process. As a gas expands, the average distance between molecules grows. Because of the attractive part of the intermolecular force, expansion causes an increase in the potential energy of the gas. If no external work is extracted in the process and no heat is transferred, the total energy of the gas remains the same because of the conservation of energy. The increase in potential energy thus implies a decrease in kinetic energy and therefore in temperature.

[7] North American Electric Reliability Corporation, "A Primer of the Natural Gas and Electric Power Interdependency in the United States," Figure 7-8, page 96 (2011)

Electrical grids have excess capacity for reliability, while pipelines serve contract demand. Interruptible gas pipeline service—for electric generating units and other customers—is available only when contract capacity is not being used.

In addition to operating plants at Richmond Combustion Turbines, Piedmont Natural Gas is a natural gas supply company for more than a million residential and business customers in North Carolina, South Carolina and Tennessee. Their pipeline crosses Iredell, Mecklenburg, Cabarrus, Anson, Richmond, Scotland, Robeson, Bladen, Columbus, Brunswick, and New Hanover counties (Figure B).

Figure B. Piedmont Natural Gas Pipeline Serving Sutton Power Plant [8]



Are the six units owned by Piedmont Natural Gas—emission sources 16, 17, 18, 21, 22, and 23—under totally independent operation? Are they shut down without alerting Duke Energy Progress? Are Duke's and Piedmont's turbines operated for a common business purpose? Does Duke work with Piedmont to coordinate daily gas supply needs from a common source? The DAQ's assessment that there is no common legal control is not based on facts on the ground.

The DAQ's judgment call, that Piedmont and Duke lack common legal control at the Richmond Combustion Turbines, is incorrect and out of compliance with § 779.221. Common control need not be sole or complete by one entity, but merely when performance is controlled for common business purposes. The common business purpose—i.e., the enterprise—for Duke and Piedmont at Richmond Combustion Turbines is the production of electricity via the combustion of a common fuel.

Insufficient Pollution Control

Combustion turbines are remarkable for their lack of efficiency in converting chemical energy to mechanical energy. Part of the output is lost the in compressor where intake air is compressed up to 30 atmospheres of pressure, before the fuel is burned. Accordingly, "More than 50 percent of the shaft horsepower is needed to drive the internal compressor and the balance of recovered shaft horsepower is available to drive an external load."[9] The two types of turbines utilized at the Richmond County facility are simple-cycle and combined-cycle. The simple cycle has a

[8] http://www.piedmontng.com/about/pipelineprojects/sutton.aspx
[9] US EPA Air Pollution Emission Factors, AP-42, Stationary Gas Turbines, Section 3.1.2 Process Description

thermal efficiency of only 15 to 42 percent. Combined cycle units add a *heat recovery steam generator* to boost efficiency to between 38 and 60 percent. So, from 40 to 85 percent of the fuel burned produces no electric power. But air pollution and global warming gases are created by combustion whether power is produced or not.

Moreover, how the turbine is operated affects air pollution emissions and efficiency. Duke Energy Progress has trimmed its application to escape requirements of BACT and MACT by reducing hours of operation for some units with negative consequences; e.g., Turbine Units ES-13 and ES-14 could operate for 1000 hours per year burning fuel oil and 2000 hours burning natural gas. This could result in underestimated levels of toxic air pollution.

> Available emissions data indicate that the turbine's operating load has a considerable effect on the resulting emission levels. Gas turbines are typically operated at high loads (greater than or equal to 80 percent of rated capacity) to achieve maximum thermal efficiency and peak combustor zone flame temperatures. With reduced loads (lower than 80 percent), or during periods of frequent load changes, the combustor zone flame temperatures are expected to be lower than the high load temperatures, yielding lower thermal efficiencies and more incomplete combustion.[10]

The products of incomplete production—carbon monoxide and PM-10—increase with reduced operating loads. So in addition to escaping Clean Air Act provisions, the operator's regulatory stratagem of reducing hours of operation could create higher levels of pollution per kilowatt-hour. The EPA should assess the impact of gaming the system. Best available control technology for criteria pollutants and maximum achievable control technology for hazardous air pollutants are the standards which must be required for the Richmond County Combustion Turbines Title V permit.

The permit fails to incorporate best available control technology to limit greenhouse gases. RCCTF Units 1, 2, 3, 4 and 6 are subject to PSD review for global warming impacts. According to the EPA's own review, a numeric emission limit in CO_2 equivalent per megawatt hour should have been included in the permit issued by DAQ. Yet the DAQ has refused to do so and has failed to justify the exclusion.

Environmental Justice

Since 2013 we have been in contact with residents living in the vicinity of the RCCTF who report that the plant is disrupting their lives with noise, odor and smoke. In order to document these problems, we asked residents to compile log books and to take photographs of what they experienced. Some of these photographs were submitted to the EPA in a letter dated July 21, 2014. Members of the Concerned Citizens of Richmond County live on Waymon Chapel Road in Hamlet, which is not far from the RCCTF. An email sent on Monday, June 16, 2014 at 9:29 AM by one of these residents contains the following report:

> Around 7:00 am this morning I took these pictures. The smoke was so thick in our community and this metal taste along with this smell of burning. Mingo Mine Pits is

[10] *Id.* Page 3.1-3

> behind my home and Duke Energy is behind the Pit....This is the 7th time I've heard the plant, the noise is loud and usually starts around 3:30 in the middle of the night until afternoon. I think there is an increase with the turbines. Lived here almost 10 years I have never heard the plant until this year, 7th time since May 2014. I have not ever seen so much smoke.

Reports compiled by residents living near the RCCTF indicate that *inter alia* the facility is in violation of the two-hour limit for excess emissions due to startup and shutdown malfunction. The BACT requirements of "combustion control" to meet opacity limits of 20% in the draft permit are not adequate. The EPA cannot approve an ongoing violation. According to Permit 08759T17 condition 2.1.A.1:

> Visible emissions from this source shall not be more than **20 percent opacity** (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

The negative impacts on health, livelihood and well-being of the RCCTF on these residents require immediate attention. The RCCTF is located in a county with a high percentage of African American residents and a high level of people below poverty level. The latest census data reveal Richmond County's population is 31% black, which is 41% above the state average. And 24.8% of residents live below poverty level, compared to the statewide level of 16.8%. In other words, Richmond County has 47% more of its people living below poverty level than other counties in North Carolina.[11] Environmental justice law indicates that the disproportionate impacts of air pollution should be offset by greater attention to pollution sources and the reduction of air pollution wherever possible. Advocates nationwide argue that because poor people of color bear a disproportionate burden of air pollution, their communities should receive a disproportionate share of money and technology to reduce toxic emissions and that laws including the Clean Air Act should close loopholes that allow facilities to escape pollution controls.[12] We submit that this is a case which requires EPA to require a disproportionate share of money and technology to reduce toxic emissions. At present, credible evidence submitted indicates that the Richmond County turbine plant is not in compliance with air quality standards (NAAQS) and, therefore, the permit cannot be approved.

Conclusion

As granted by DAQ, the permit for the Richmond County Turbines allows significant modification of the facility. The permit must comply with the air quality permitting program under Title V and 40 CFR Part 70, but the removal of several emissions sources operating within the energy complex, the removal of alternative compliance procedures under several MACT sources and alterations in enforcement of rule requirements make the permit as approved by North Carolina unacceptable. Reports compiled by plant residents of Hamlet and submitted to the EPA indicate that the facility is in violation of NAAQS.

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[11] US Census Bureau Quick Facts, Richmond County, http://quickfacts.census.gov/qfd/states/37/37153.html

[12] *Environmental Justice for All: A Fifty State Survey of Legislation, Policies and Cases*, Fourth Edition, , University of California-Hastings College of the Law, February 15, 2010

The EPA should require the NC Division of Air Quality to:

1. Redraft the permit as a site-wide permit
2. Require Duke Energy Progress to abide by the NC SIP
3. Prevent six combustions sources from being separated from the existing permit
4. Require Duke Energy Progress to upgrade its pollution controls to eliminate the negative impacts on the people living near the facility

In sum, the Permit allows excessive emissions of air pollutants which are having a negative impact on public health and allows an ongoing environmental injustice. We call upon the EPA to object to this permit.

Respectfully,

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AIR PLANNING BRANCH
RECEIVED
JAN 23 2014
EPA REGION #4
ATLANTA, GA

BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the matter of a
Part 70 Air Quality Operating Permit
Issued by North Carolina Department
of Environment and Natural Resources
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070
Hamlet, NC, Richmond County
Permit No. 08759T15

January 17, 2014

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Background

The Richmond County Turbines, located at the Richmond County Energy Complex, is a Class I_C facility, categorized under standard industrial code SIC 4911. Duke Energy Progress operates seven combustion turbines permitted to burn either fuel oil or natural gas, and three auxiliary boilers burning natural gas. Five of the turbines are simple cycle; two are combined cycle. All seven turbines use dry low NOx combustors and water injection for pollution control. The two combined cycle turbines add selective catalytic reduction. Before permit modification, the electric output of the facility was 1600 MWe.

According to DAQ's Environmental Engineer, a series of permit applications were submitted by Duke Energy Progress for the Richmond County site as follows:[1]

> (1) On April 2, 2009, NC DAQ issued an air permit (**08759T10**) for a PSD application (**7700070.08B**), consisting of (i) two natural gas/No. 2 fuel oil-fired combined/simple cycle combustion turbines (ID Nos. ES-13 and ES-14), (ii) cooling tower (ID No. Tower5), (iii) auxiliary boiler (ID No. ES-15), (iv) three fuel gas heaters (ID Nos. ES-16, ES-17, and ES-18), and (v) fuel oil tank (ID No. TK-5).
>
> The above permit approval was solely based upon the requirements in 15A NCAC 2D .0530 "Prevention of Significant Deterioration" and 15A NCAC 2Q .0300 "Construction and Operation Permit". It did not satisfy the Title V permitting requirements in 15A NCAC 2Q .0500 "Title V Procedures". Thus, this permit revision required the Permittee (Duke Energy Progress) to submit a Title V application within 12 months of commencement of operation of the above equipment.
>
> (2) The Permittee submitted an application (**7700070.11A**), received by DAQ on June 13, 2011, precisely to take care of the Title V permitting requirements for the above equipment. There was not any request for approval for any new equipment in this application. The draft permit (**08759T15**) was noticed on the DAQ's website for public comments on August 9, 2013, providing for a 30-day comment period, which has ended on September 8, 2013. The draft permit was also sent to EPA for their 45-day review as required under the Title V permitting program. This draft permit has not yet been finalized or issued by NC DAQ.
>
> (3) Separately, the Permittee submitted a PSD application (**7700070.12B**) on August 30, 2012, to increase the permitted operations of existing simple cycle combustion turbines (ID Nos. Units 1 through 4, and 6), from 2,000 hours to 8,760 hours annually on a full load equivalent basis for each of these turbines, when burning natural gas. DAQ reviewed this application under both the PSD (15A NCAC 2D .0530) and Title V (15A NCAC 2Q .0500) programs and noticed the draft permit (**08759T15**), as required, in the local newspaper (Richmond County Daily Journal) for comments on October 18, 2013. The 30-day comment period for this draft permit will end on November 17, 2013 and the EPA's 45-day review will end on December 2, 2013. DAQ will finalize this permit revision once the public comment and the EPA review periods end.

In brief, the DAQ used the same permit number for two separate permit applications: 7700070.11A and 7700070.12B.

Issue

The series of Permit modifications requested by Duke Energy Progress and granted by DAQ allowed multiple changes in the facility: 1) added two 190 MWe Siemens SGT6-5000F

[1] Email from Rahul Thaker, P.E., QEP, Environmental Engineer, Permitting Section, NCDENR Division of Air Quality to Louis Zeller dated October 22, 2013

combustion turbine generators (ES-13 and ES-14), 2) added a new natural gas fired auxiliary boiler (ES-15), 3) modified the existing natural gas fired auxiliary boiler (ES-10) and 4) removed six units from the permit, although they still operate within the facility fence line. With the new permit, Duke Energy Progress was allowed to increase its power by 36% to approximately 2000 MWe. The permit modifications made by DAQ failed to provide for meaningful public participation, appropriately address environmental justice issues and/or demonstrate compliance with North Carolina's Title V permitting program.

Rule

The federal Clean Air Act Title V operating permit program requires that major industrial sources and certain other sources obtain a permit that consolidates all of the applicable requirements for a facility into one document. The purpose of Title V permits is to reduce violations of air pollution laws and improve enforcement of those laws.

Pursuant to 40 CFR 51.166 (b)(1)(i)(*c*), prevention of significant deterioration of air quality, "Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source if the change would constitute a major stationary source by itself."

Under the federal Clean Air Act, permits for air pollution control are supposed to protect public health and welfare. Under the Act, the interested public may object to the issuance of permits in accordance with the law as stipulated:

> If the Administrator does not object in writing to the issuance of a permit pursuant to paragraph (1), any person may petition the Administrator within 60 days after the expiration of the 45-day review period specified in paragraph (1) to take such action. A copy of such petition shall be provided to the permitting authority and the applicant by the petitioner. The petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period). The petition shall identify all such objections. If the permit has been issued by the permitting agency, such petition shall not postpone the effectiveness of the permit. The Administrator shall grant or deny such petition within 60 days after the petition is filed. The Administrator shall issue an objection within such period if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of this chapter, including the requirements of the applicable implementation plan. Any denial of such petition shall be subject to judicial review under section 7607 of this title. The Administrator shall include in regulations under this subchapter provisions to implement this paragraph. The Administrator may not delegate the requirements of this paragraph.

See Title 42, Chapter 85, Subchapter V § 7661D(b)(2).

Argument

The DAQ has improperly sanctioned both the addition of new air pollution sources and the removal of others from the Permit. The DAQ did not perform a proper MACT analysis. Duke Energy Progress trimmed its application to escape requirements of BACT and MACT.

Combustion Units Added

The Duke Energy Progress - Richmond County Turbines are listed in the NC SIP, 15A NCAC 2D .1417, as "CP&L Marks Creek, Richmond County" with a power rating of 1628.4 MWe and nitrogen oxide limits totaling 189 tons/season on seven units @ 27 per unit. The rule states:

> (A) Except as allowed under Paragraph (d) of this Rule, sources named in the table in this Subparagraph shall not exceed the nitrogen oxide (NOx) emission allocations in the table beginning May 31 through September 30, 2004 and May 1 through September 30, 2005 and each year thereafter until revised according to Rule .1420 of this Section.

Previously, the proposed project was subject to state-only BACT requirements (15A NCAC 2D .0530(h)) when cost recovery was sought pursuant to the NC Clean Smokestacks Act (G.S. 62-133.6). However, Duke Energy Progress will not seek cost recovery and has requested that BACT emission limits the new combustion turbines (ID Nos. ES-13 and ES-14) be removed from the permit. This is not in accord with the State Implementation Plan.

Moreover, pursuant to 40 CFR 51.166 (b)(1)(i)(*c*), Prevention of significant deterioration of air quality, "Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source if the change would constitute a major stationary source by itself."

Combustion turbines ES-13 and ES-14 are classified as new stationary sources for the purpose of MACT (maximum achievable control technology). Any new or reconstructed unit which is a *lean premix oil-fired stationary combustion turbine* commencing operation after March 5, 2004 must comply with the emissions and operating limits in 40 CFR § 63.6095(a)(2). In the draft permit, these units are permitted to burn fuel oil up to 1000 hours per year and natural gas up to 8760 hours per year. Notwithstanding the US EPA stay of standards which applies to *lean premix gas-fired stationary combustion turbines*, as referenced in the Divisions Air Permit Review, these two units must meet the standards of 40 CFR § 63 including MACT.[2] In lean-premix combustors the fuel is mixed before entering the power producing combustion chamber. The purpose of Subpart YYYY of this rule is to limit hazardous air pollutants from stationary combustion turbines located at major sources of HAP emissions, and requirements to demonstrate initial and continuous compliance with the emission and operating limitations.

The facility is already a major source of hazardous air pollutants, but the new permit would allow increases in emissions of HAPs. We have run an EPA model to calculate ambient levels of formaldehyde and benzene in the air around the Richmond County Turbines. The calculations are in the documents of record for this facility.[3] The results are as follows.

Including emissions from natural gas-fueled Units 1, 2, 3, 4, 6, 7, 8, 10, 13, 14, 15, 19 and 20, the model indicates the level of formaldehyde is above NC acceptable ambient levels (AALs) as far as 3,500 meters (2.17 miles) from the RCCTF sources burning natural gas only. Including the

[2] 40 CFR 63, Subpart YYYY - National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

[3] Letter from Louis Zeller to Heather Ceron, EPA Air Permits Section Chief, dated September 23, 2013

emissions from fuel oil-burning Units 1, 2, 3, 4, 6, 7, 8, 13 and 14, the model indicates the level of formaldehyde is above NC AALs 2,100 meters (1.3 miles) from the RCCTF sources burning fuel oil #2 only. Finally, the model indicates the level of formaldehyde emitted from Units 13 and 14 alone burning only natural gas would be above NC AALs 1,600 meters (1 mile) from the RCCTF.

Including emissions from natural gas-fueled Units 1, 2, 3, 4, 6, 7, 8, 10, 13, 14, 15, 19 and 20,the model indicates the level of benzene is above NC AALs 10,000 meters (6.2 miles) from the source when burning natural gas only. In fact, at 10 kilometers, the ambient level is still 460% above NC AALs for benzene if it is considered an area source. If considered a volume source, 400% above. Also, counting emissions from fuel oil-burning Units 1, 2, 3, 4, 6, 7, 8, 13 and 14, the model indicated that the level of benzene is far above NC AALs 10,000 meters (6.2 miles) from the source when burning fuel oil #2 only. At 10 kilometers, if considered an area source, benzene levels are 27 times above NC AAL of 0.00012 mg/m^3.

Combustion Units Removed

The Richmond County Turbines plant has three natural gas fired heaters (ES-21, ES-22 and ES-23) with a heat input of 8.75 MMBtu/hr each. In their permit application submitted in 2008, three additional natural gas fired heaters (ES-16, ES-17 and ES-18) with a heat rating of 5.0 MMBtu/hr were to be added to the permit. However, Duke requested that the DAQ remove all six of these natural gas fired units from their permit. These heaters are located within the fence line of the Richmond County facility but owned and operated by Piedmont Natural Gas.

The federal Clean Ait Act Title V operating permit program requires that major industrial sources and certain other sources obtain a permit that consolidates all of the applicable requirements for a facility into one document. The Richmond County Energy Complex is a single site with co-located air pollution emission sources. The purpose of title V permits is to reduce violations of air pollution laws and improve enforcement of those laws. We recommend that EPA not permit the six combustions sources to be separated from the extant permit.

According to 42 USC § 7412 - Hazardous air pollutants, the term "major source" means "any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants." The DAQ has adopted a truncated view of the meaning for common control by labeling it "legal control." The state permit review holds that:

> Although <u>these heaters are located within the RCCTF fence line</u>, the equipment is owned, operated and maintained by Piedmont Natural Gas. Even though this equipment was originally included in the applicable permit application, the definition of "stationary source" according to the DAQ indicates that inclusion of equipment owned, operated and maintained by Piedmont Natural Gas is not considered part of the stationary source that is owned, operated and maintained by Duke.
>
> 40 CFR 51.166(b)(5) defines "stationary source" as any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.
>
> Additionally, 40 CFR 51.166(b)(6) defines "building, structure, facility, or installation" as

all of the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e. which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972....

These two definitions outline three distinct and independent criteria that must all be satisfied in order to be considered part of a single stationary source:

(1) Common legal control
(2) Contiguous or adjacent properties
(3) Part of the same 2-digit SIC code

At RCCTF, the M&R Station will be located on contiguous property and share the same 2-digit SIC code, however, is not under common legal control. Therefore, the natural gas fired heaters are not required to be included in the RCCTF Title V permit and the heaters have been removed from the permit.

(emphases added)

The difference between "legal control" and "common control" here seems to be the nexus of the state's allowing Duke Energy Progress to pare off six combustion units from the Permit. They are within the same fence line. Piedmont Natural Gas units are numbered consecutively with Duke Energy Progress units. If it were so that Duke and Piedmont were not under "common legal control," would it have been necessary for Duke Energy Progress to modify its existing permit to remove certain combustion units, as the company requested in Application No. 7700070.11A?

Under the definition the "enterprise" includes all related activities performed through "common control" for a common business purpose.... "Common" control includes the sharing of control and it is not limited to sole control or complete control by one person or corporation. "Common" control therefore exists where the performance of the described activities are controlled by one person or by a number of persons, corporations, or other organizational units acting together. This is clearly supported by the definition which specifically includes in the "enterprise" all such activities whether performed by "one or more corporate or other organizational units."

See 29 CFR § 779.221 "Common control" defined. The DAQ's judgment call, that Piedmont and Duke lack common legal control at the Richmond Combustion Turbines, is not in compliance with § 779.221. Common control need not be sole or complete by one entity, but merely when performance is controlled for common business purposes. The common business purpose for Duke and Piedmont at Richmond Combustion Turbines is the production of electricity via the combustion of a common fuel.

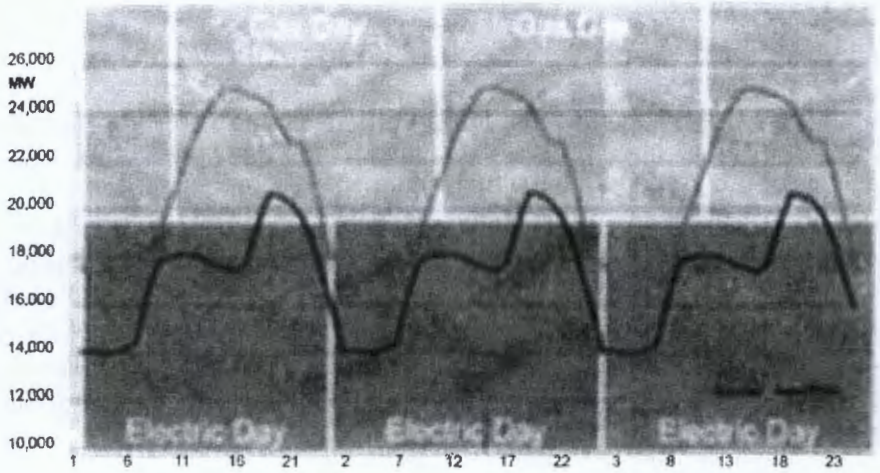
Electric plants and pipelines have what is known in the industry as a "planning gap."

[T]he gas day begins the day during the morning "pick-up", and the electric day begins during the midnight "drop-off". The apparent phase shift observed during the two industry's operating/planning days creates some inherent challenges during the coordination, scheduling, and nomination processes.

The planning gap exists because "the two industries operates on different schedules (local

midnight-to-midnight for electric and 9 a.m. to 9 a.m. EST for gas), creating a planning gap because generators must estimate their gas needs several hours before they have finalized operational plans for the next day." See Figure A.[4]

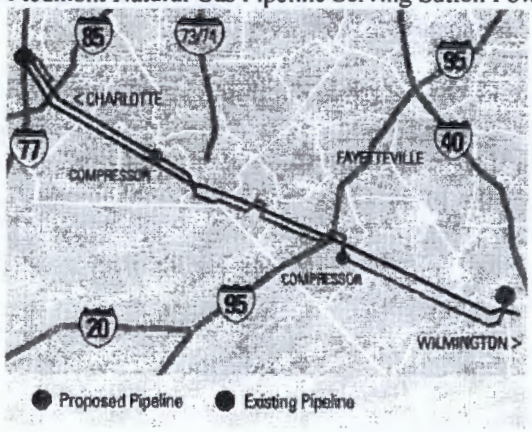
Figure A. Typical Electric Load Patterns: Gas Day v. Electric Day



Electrical grids have excess capacity for reliability, while pipelines serve contract demand. Interruptible gas pipeline service—for electric generating units and other customers—is available only when contract capacity is not being used.

In addition to operating plants at Richmond Combustion Turbines, Piedmont Natural Gas is a natural gas supply company for more than a million residential and business customers in North Carolina, South Carolina and Tennessee. Their pipeline crosses Iredell, Mecklenburg, Cabarrus, Anson, Richmond, Scotland, Robeson, Bladen, Columbus, Brunswick, and New Hanover counties (Figure B).

Figure B. Piedmont Natural Gas Pipeline Serving Sutton Power Plant [5]



[4] North American Electric Reliability Corporation, "A Primer of the Natural Gas and Electric Power Interdependency in the United States," Figure 7-8, page 96 (2011)
[5] http://www.piedmontng.com/about/pipelineprojects/sutton.aspx

Are the six units owned by Piedmont Natural Gas—emission sources 16, 17, 18, 21, 22, and 23—under totally independent operation? Are they shut down without alerting Duke Energy Progress? Are Duke's and Piedmont's turbines operated for a common business purpose? Does Duke work with Piedmont to coordinate daily gas supply needs from a common source? The DAQ's assessment that there is no common legal control is not based on facts on the ground.

Insufficient Pollution Control

Combustion turbines are remarkable for their lack of efficiency in converting chemical energy to mechanical energy. Part of the output is lost the in compressor where intake air is compressed up to 30 atmospheres of pressure, before the fuel is burned. Accordingly, "More than 50 percent of the shaft horsepower is needed to drive the internal compressor and the balance of recovered shaft horsepower is available to drive an external load."[6] The two types of turbines utilized at the Richmond County facility are simple-cycle and combined-cycle. The simple cycle has a thermal efficiency of only 15 to 42 percent. Combined cycle units add a *heat recovery steam generator* to boost efficiency to between 38 and 60 percent. So, from 40 to 85 percent of the fuel burned produces no electric power. But air pollution and global warming gases are created by combustion whether power is produced or not.

Moreover, how the turbine is operated affects air pollution emissions and efficiency. Duke Energy Progress has trimmed its application to escape requirements of BACT and MACT by reducing hours of operation for some units with negative consequences; e.g., Turbine Units ES-13 and ES-14 could operate for 1000 hours per year burning fuel oil and 2000 hours burning natural gas. This could result in underestimated levels of toxic air pollution.

> Available emissions data indicate that the turbine's operating load has a considerable effect on the resulting emission levels. Gas turbines are typically operated at high loads (greater than or equal to 80 percent of rated capacity) to achieve maximum thermal efficiency and peak combustor zone flame temperatures. With reduced loads (lower than 80 percent), or during periods of frequent load changes, the combustor zone flame temperatures are expected to be lower than the high load temperatures, yielding lower thermal efficiencies and more incomplete combustion.[7]

The products of incomplete production—carbon monoxide and PM-10—increase with reduced operating loads. So in addition to escaping Clean Air Act provisions, the operator's regulatory stratagem of reducing hours of operation could create higher levels of pollution per kilowatt-hour. The EPA should assess the impact of gaming the system. Best available control technology for criteria pollutants and maximum achievable control technology for hazardous air pollutants are the standards which must be required for the Richmond County Combustion Turbines Title V permit.

Conclusion

As granted by DAQ, the permit for the Richmond County Turbines allow significant

[6] US EPA Air Pollution Emission Factors, AP-42, Stationary Gas Turbines, Section 3.1.2 Process Description
[7] *Id.* Page 3.1-3

modification of the facility. The permit must comply with the air quality permitting program under Title V and 40 CFR Part 70, but the removal of several emissions sources operating within the energy complex, the removal of alternative compliance procedures under several MACT sources and alterations in enforcement of rule requirements make the draft permit unacceptable.

The EPA should require the NC Division of Air Quality to:

1. Redraft the permit as a site-wide permit
2. Require Duke Energy Progress to abide by the NC SIP
3. Prevent six combustions sources from being separated from the existing permit

In sum, the Permit allows excessive emissions of toxic air pollutants which would have a negative impact on public health. We recommend that the EPA object to this permit.

Thank you for your attention to this matter.

Respectfully,

Louis A. Zeller
Executive Director
Blue Ridge Environmental Defense League
PO Box 88 Glendale Springs, NC 28629
(336) 982-2691
BREDL@skybest.com

CC:
Heather Ceron, Air Permits Section Chief,
United States Environmental Protection Agency, Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303

Donald R. van der Vaart, Chief
Division of Air Quality, Permitting
1641 Mail Service Center
Raleigh, North Carolina 27699-1641

Ms. Teresa Wilson Station Manager
Richmond County Combustion Turbine Facility
Duke Energy Progress, Inc.
198 Energy Way
Hamlet, NC 28345

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

January 12, 2015

Mr. Gary S. Rice
Deputy General Counsel
Duke Energy Corporation
DEC45A/P.O. Box 1321
Charlotte, North Carolina 28201

Dear Mr. Rice:

Thank you for your response on December 11, 2014, to Gina McCarthy, Administrator of the U.S. Environmental Protection Agency concerning the petition, submitted on behalf of the Concerned Citizens of Richmond County and the Blue Ridge Environmental Defense League, regarding the issuance of a title V permit to Duke Energy Progress for its Richmond County Turbine Facility Permit Number 08759T15.

If you have additional questions or comments regarding this matter, please contact Ms. Lori Shepherd of the EPA Region 4 staff at (404) 562-8435.

Sincerely,

Carol L. Kemker for

Beverly H. Banister
Director
Air, Pesticides and Toxics Management Division

cc: Sheila Holman, Director
North Carolina Division of Air Quality

Ceron, Heather

From: Shepherd, Lorinda
Sent: Thursday, October 17, 2013 12:20 PM
To: Ceron, Heather; Land, Eva
Subject: Duke Richmond County Turbine Facility Draft PSD permit
Attachments: Draft Air Permit Duke 08759T15.pdf; Draft Air Permit Review Duke 08759T15.pdf; Letter to Applicant Duke.pdf; Letter to EPA Duke.pdf; Letter to Region Duke.pdf; Public Notice for Duke.pdf

Heather & Eva,

NC issued a title V permit for this facility last month. We received an inquiry about that from BREDL.

Then on Tuesday 10/5, we received the attached draft PSD permit (different permit engineer than the title V). It appears to correspond to NC-251.

Thanks,
Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

✓

Ceron, Heather

From: Shepherd, Lorinda
Sent: Tuesday, October 22, 2013 1:44 PM
To: Ceron, Heather
Subject: RE: Facility ID: 7700070, Hamlet, NC, Richmond County
Attachments: Richmond co. fact sheet revised.pdf; 130909 BREDL comments to DAQ re RCCT.PDF

NC did receive a comment from BREDL (attached). I do not know yet what their response is. The final permit has not been issued. The original permit engineer is no longer with NCDENR and it has gone through a couple of hands there.

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ceron, Heather
Sent: Wednesday, September 25, 2013 1:39 PM
To: Shepherd, Lorinda
Subject: RE: Facility ID: 7700070, Hamlet, NC, Richmond County

Let me know if comments were received by NC. I will respond with a thank you for your interest kind of thing.

From: Shepherd, Lorinda
Sent: Tuesday, September 24, 2013 2:40 PM
To: Ceron, Heather
Subject: RE: Facility ID: 7700070, Hamlet, NC, Richmond County

The public comment period for this permit was Sept. 8. As far as I know, there were no comments received by NC. Trying to get confirmation of that now. It was not targeted for review. The EPA review period ended on Sept. 23.

How would you like to respond to this?

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ceron, Heather
Sent: Tuesday, September 24, 2013 8:08 AM
To: Shepherd, Lorinda
Subject: Fw: Facility ID: 7700070, Hamlet, NC, Richmond County

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From: bredl <bredl@skybest.com>
Sent: Monday, September 23, 2013 9:33:52 PM
To: Ceron, Heather
Subject: Facility ID: 7700070, Hamlet, NC, Richmond County

September 23, 2013

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T14
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Dear Ms. Ceron:

On behalf of the Blue Ridge Environmental Defense League, please find attached information about the Richmond County Turbines draft permit now under review by the North Carolina Division of Air Quality.

Louis A. Zeller
Executive Director
Blue Ridge Environmental Defense League

NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review (**PROPOSED**)

Permit Issue Date:

Region: Fayetteville Regional Office
County: Richmond
NC Facility ID: 7700070
Inspector's Name: James Moser
Date of Last Inspection: 06/19/2013
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Duke Energy Progress - Richmond County Turbines

Facility Address:
Duke Energy Progress - Richmond County Turbines
Richmond County Energy Complex
Hamlet, NC 28345

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: 2D .0530(h) State BACT update
NSPS: 2D .0524 NSPS Subpart KKKK update
NESHAP: 2D .1111 Subpart MACT YYYY update
PSD: 2D .0530 BACT update
PSD Avoidance:
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Kim Kashmer Senior Environmental Specialist (910) 205-2111 198 Energy Way Hamlet, NC 28345	Teresa Wilson Station Manager (910) 205-2101 198 Energy Way Hamlet., NC 28345	Ann Quillian Sr. Environmental Specialist (919) 546-6610 PO Box 1551 Raleigh, NC 27602

Application Data

Application Number: 7700070.11A
Date Received: 06/13/2011
Application Type: Modification
Application Schedule: TV-Significant

Existing Permit Data

Existing Permit Number: 08759/T16
Existing Permit Issue Date: 12/03/2013
Existing Permit Expiration Date: 03/31/2016

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2012	22.11	514.96	63.50	657.11	205.81	37.72	25.88 [Formaldehyde]
2011	19.59	517.01	49.39	506.63	159.16	29.73	19.86 [Formaldehyde]
2010	12.46	442.12	35.51	372.95	118.70	21.26	14.67 [Formaldehyde]
2009	8.27	237.29	21.92	229.34	74.05	13.07	9.00 [Formaldehyde]
2008	9.02	239.34	17.34	192.57	61.34	10.91	7.48 [Formaldehyde]

Review Engineer: Mike Gordon / Jeff Twisdale

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

Comments / Recommendations:
Issue 08759/T17
Permit Issue Date:
Permit Expiration Date: 03/31/2016

1. **Purpose of Application:**

Duke Energy Progress, Inc. "DEP" submitted an application for significant modification of their Title V permit on June 13, 2011. The application is for the incorporation of changes authorized previously, under 15A NCAC 2Q .0501(c)(2) rules, into the facility Title V permit within twelve (12) months of commencing operation. DEP is also requesting in the application the removal of several emissions sources that are owned by a third party, the removal of alternative compliance procedures under several NSPS and MACT sources, clarification of several rule requirements that DEP felt were confusing as written, and other minor permit corrections.

2. **Facility Description:**

Duke Energy Progress, Inc – Richmond County Combustion Turbine Facility (RCCTF) is located in Hamlet, Richmond County, North Carolina. Prior to construction of the combined-cycle combustion turbine project that included the two nominal 190 MW Siemens SGT6-5000F combustion turbine generators (ID Nos. ES-13 and ES-14) and ancillary equipment (see Section 5.1 below), the facility operated a 1,600 MW combustion turbine electric generation facility. The facility consisted of five dual fuel General Electric 7FA, simple cycle combustion turbines using dry low NOx (DLN) combustors and having water injection capability for NOx control, two dual fuel General Electric 7FA, combined cycle combustion turbines using DLN combustors, and having selective catalytic reduction (SCR) control and water injection capability for NOx control, two No. 2 fuel oil storage tanks, one cooling tower with drift eliminator, and one natural gas fired auxiliary boiler. Two No. 2 fuel oil storage tanks (TK-3 and TK-4) and two natural gas fired auxiliary boilers (ES-2 and ES-3) have not been constructed as of this permit issuance. Duke Energy Progress, Inc. may opt to remove these units with the permit renewal. This facility operates under SIC code 4911.

3. **Application Chronology:**

Refer to "Comprehensive Application Report" for complete details.

4. **Statement of Compliance:**

The Division has reviewed the compliance status of this facility. During the last compliance inspection of June 19, 2013 by Mr. Jim Moser of the Fayetteville Regional Office, the facility was found to be in compliance with all applicable requirements at that time.

5. **Permit Modifications/Changes:**

5.1 Submission of application covered under 15A NCAC 2Q .0501(c)(2) rules

DEP submitted an application to incorporate modifications at the facility into their Title V permit in a timely manner within 12 months of commencing operation. The units associated with this submission include the following sources associated with the previously approved PSD permit modifications under 08759T10 (items a-e) and under 08759T11 (item f):

a) Two nominal 190 MW Siemens SGT6-5000F combustion turbine generators (ID No. ES-13 and ES-14)
b) One cooling tower (ID No. TOWER5)
c) One No. 2 fuel oil storage tank (ID No. TK-5)
d) One natural gas fired auxiliary boiler (ID No. ES-15)
e) Existing natural gas fired auxiliary boiler (ID No. ES-10)

f) Two dew point heaters (ID No. ES-19 and ES-20)

This previously approved PSD project will have a nominal generating capacity of 575 MW. RCCTF will have a nominal generating capacity of approximately 2,000 MW after the expansion. Each combustion turbine will be capable of firing pipeline-quality natural gas and ultra low sulfur (0.0015% S) fuel oil. The current permit (08759T16) allows for the year-round operation of the CTGs in combined-cycle mode firing natural gas. However, total annual operation of these units in simple-cycle mode will be limited to 4,000 full load equivalent turbine hours (8,336,000 MMBtu/yr) per calendar year, which is an average of 2,000 full load equivalent hours per calendar year per turbine. Distillate fuel oil combustion in these new units will be utilized on an as needed basis but no more than 2,000 turbine hours (3,966,817 MMBtu/yr) per year which is an average of 1,000 full load equivalent turbine hours per calendar year per turbine. The existing auxiliary boiler's annual operation will be increased by 7,368 hours based on a current averaged baseline of 1392 hours per year. This modification will result in no annual restriction.

5.2 Ozone Season and Exceptions to firing oil during the Ozone Season

DEP requested that DAQ update the ozone season to reflect the existing EPA definition of May 1st to September 30th. DEP also requested that the DAQ consider changing the permit requirement that "Only natural gas shall be burned during summer months (April through October) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed one hour per week per turbine), and during compliance testing." located in Section 2.1.A.3.g, Section 2.1.B.3.f, and 2.1.F.4.i be modified according to the following:
"Only natural gas shall be burned during summer months (May 1 through September 30) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed four hours per month per turbine), and during compliance testing."

DEP also requested that DAQ allow "oil-fired combustion turbine tuning" during the summer months as part of the list of exceptions. DAQ determined that such an addition was unnecessary because it is reasonable to state that turbine tuning is part of the four (4) hours allowed each month for "functional equipment testing" already authorized in the permit.

5.3 Removal of State-only BACT requirements

DEP was previously subject to State-only BACT requirements under 15A NCAC 2D .0530(h). As demonstrated in the original 2008 air permit application requesting state authorization to begin construction, this project did not trigger Prevention of Significant Deterioration (PSD) for SO_2. Therefore, it was not subject to a Best Available Control technology (BACT) analysis for SO_2. However, the combined-cycle combustion turbine project (see Section 5.1 sources above) was subject to state-only BACT requirements for SO_2 under the provisions of 15A NCAC 2D .0530(h) at that time. On September 1, 2010, 15A NCAC 2D .0530(h) was revised to read as follows: *(h) New natural gas-fired electrical utility generating units for which cost recovery is sought pursuant to G.S. 62-133.6 shall install best available control technology for NOx and SO2, regardless of applicability of the rest of this Rule.*

DEP will not be requesting cost recovery under G.S. 62-133.6 (Clean Smokestacks Act) for this project at RCCTF. Therefore, DEP requested that all references to SO_2 BACT emission limits and operating constraints for the new combustion turbines (ID Nos. ES-13 and ES-14) be removed from the permit as a result of this revised regulation.

DAQ agrees that BACT requirements listed in the rule have changed, and thus the facility is not subject to State-only BACT. Therefore Section 2.1.F.5 has been removed from the permit.

5.4 Removal of Natural Gas Fired Heaters (ID Nos.: ES-16, ES-17, ES-18, ES-21, ES-22, ES-23)

DEP has requested that the DAQ remove the natural gas fired heaters associated with the permit in Section 2.1.H and Section 2.1.K. According to DEP natural gas is delivered to RCCTF via a natural gas pipeline. Natural gas transmission pressures are different from those required at the facility. Therefore, the fuel will pass through a metering and regulating (M&R) station where the pressure of the incoming gas will be reduced. As the pressure of the gas decreases, the temperature will also decrease, which could lead to "freezing" of the piping, connections and valves.

RCCTF has existing three natural gas fired heaters (ID Nos. ES-21, ES-22 and ES-23); the nominal rating listed in the permit for these heaters is 8.75 MMBtu/hr each. As part of the February 2008 permit application, three additional natural gas fired heaters (ID Nos. ES-16, ES-17 and ES-18) with a nominal rating of 5.0 MMBtu/hr were proposed to support the new power block.

Although these heaters are located within the RCCTF fence line, the equipment is owned, operated and maintained by Piedmont Natural Gas. Even though this equipment was originally included in the applicable permit application, the definition of "stationary source" according to the DAQ indicates that inclusion of equipment owned, operated and maintained by Piedmont Natural Gas is not considered part of the stationary source that is owned, operated and maintained by DEP.

40 CFR 51.166(b)(5) defines "stationary source" as any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.
Additionally, 40 CFR 51.166(b)(6) defines "building, structure, facility, or installation" as all of the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e. which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 410).

These two definitions outline three distinct and independent criteria that must all be satisfied in order to be considered part of a single stationary source:

(1) Common legal control
(2) Contiguous or adjacent properties
(3) Part of the same 2-digit SIC code

At RCCTF, the M&R Station will be located on contiguous property and share the same 2-digit SIC code; however, it is not under common legal control. Therefore, the natural gas fired heaters are not required to be included in the RCCTF Title V permit, and thus the heaters have been removed from the permit.

5.5 Removal of alternative compliance procedures from Section 2.1.F

Section 2.1.F - Two natural gas/No. 2 fuel oil-fired simple/combined cycle internal combustion turbines, each equipped with a heat recovery steam generator, dry Low-NOx combustors and water injection control, both equipped with a common steam turbine (ID Nos. ES-13 and ES-14), and associated SCR's (ID Nos. CD13-SCR and CD14-SCR).

DEP requested that the permit requirements addressing the New Source Performance Standards (NSPS) Subpart KKKK (Section 2.1.F.3) be updated to reflect the selected procedures of testing, monitoring, recordkeeping and reporting requirements that DEP will follow to demonstrate compliance with NO_x and SO_2 for the new combustion turbines (ID Nos. ES-13 and ES-14). Although the permit currently outlines all available compliance demonstration options available according to the Subpart, DEP felt that the additional compliance options were confusing and has requested that all alternative procedures not selected for compliance by DEP, be removed from the permit.

DAQ agreed to remove the alternative options from the permit. DEP will now be required to follow the compliance demonstration options it has specifically accepted and will no longer be able to utilize alternative demonstration options unless the facility first undergoes the application process to have those options added back to the Title V permit.

DEP also requested that the requirements of Section 2.1.F.3 be modified for clarity. The following Table has been added to the permit:

Fuel Type	Operating Conditions*	NO_x Limit at 15 Percent O_2	Duct Firing Allowed?	Averaging Period	
				Simple Cycle	Combined Cycle
Natural Gas	≥ 75 Percent of Peak Load	15 ppm	Yes	4 hour rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	Yes	4 hour rolling average	30 day rolling average
Fuel Oil	≥ 75 Percent of Peak Load	42 ppm	No	4 hour rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	No	4 hour rolling average	30 day rolling average

* Peak Load defined as the design capacity at ISO conditions

The information contained in this table is exactly the same as the previous requirements that were listed in paragraph form and has been substituted to reduce confusion.

5.6 Request for modification defining malfunctions under 15A NCAC 2D .0530

DEP requested language defining the malfunctions and the procedures to exclude the emissions due to the start-up, shutdown and malfunction (SSM) from the BACT averaging period be included for easy understanding and operation of the new and existing combustion turbines. Language has been added to the table footnotes to indicate that "Emissions resulting from startup, shutdown, or malfunction shall not be included in the BACT averaging period."

DEP requested the following language be added to the permit: "Should a malfunction occur during the startup sequence, the period of excess emissions between the initiation of startup and the malfunction will not count against the allowable daily block of excess emissions for startups and shutdowns; however, the period of excess emissions during the abnormal startup and malfunction shall be reported in the next semi-annual report as a malfunction. Periods of excess emissions that occur during subsequent normal startups on the same day (after resolution of the malfunction) shall count against the allowable daily limit of two hours (120 minutes)."

DAQ has denied this request. It determined that the definition of startup, shutdown, and malfunction is sufficient to address BACT excess emission requirements. The facility is not required to count the time a source is operated during malfunction against the allowable daily block of excess emissions. However, if a normal startup occurs and then a malfunction occurs during that start up, the facility will need to apply the time of normal startup against the allowable daily block of excess emissions. If the facility is in violation of the two (2) hour limit for excess emissions due to startup and shutdown because of a malfunction, DEP may submit evidence demonstrating this as part of 15A NCAC 2D .0535 requirements.

These requests are associated with Section 2.1.A.3, Section 2.1.B.3, and Section 2.1.F.4.

5.7 Updated applicability of 15A NCAC 2D .1111 (MACT Subpart YYYY)

EPA has promulgated 40 CFR 63, Subpart YYYY, Maximum Achievable Control Technology (MACT) requirements for emissions of hazardous air pollutants (HAP) from stationary combustion turbines that are located at major sources of HAP. Stationary combustion turbines, which commenced construction after January 14, 2003, have been deemed "new" for purposes of this MACT.

EPA has issued a stay on the effectiveness of the emissions and operating limitations for new sources in the "lean premix gas-fired turbine" and "diffusion flame gas-fired turbine" subcategories on August 18, 2004 (§63.6095(d)). The combustion turbines (ID Nos. ES-13 and ES-14) are classified as new stationary combustion turbines for Subpart YYYY applicability, as the commencement of construction occurred in 2009 after permit 08759T10 was issued on April 2, 2009 and the facility is a major source of HAPs. These combustion turbines are permitted to fire both natural gas and No. 2 fuel oil, but are considered "lean premix gas-fired turbine" under this MACT standard because the combined total oil usage in all turbines at the site has not exceeded 1,000 hours per calendar year.

DEP is requesting that Specific Condition and Limitation No. 2.1.F.5 be updated to reflect the applicability threshold of Subpart YYYY. More specifically, DEP requested that this modified permit condition state that the facility is not subject to the emission and operating limitations until the combined total number of operating hours of operation on fuel oil by all the turbines at the facility exceeds 1,000 hours per calendar year.

Upon exceeding the 1,000 hour threshold, the facility must demonstrate compliance with all the applicable provisions of Subpart YYYY. Per §63.6110(a), the facility would then have 180 days to complete the initial compliance testing required under this MACT standard.

5.8 Permit Changes Table:

The following changes were made to the Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, Air Quality Permit No. 08759T16:

Old Page No.	New Page No.	Part, Section, or Condition No.	Change
-	-	Cover	Amended to reflect current permit number, issue date, effective date, and associated application information
4	4	Emissions Source Table	Removed ES-16 to ES-18, and ES-21 to ES-23 natural gas-fired heaters that are owned and operated by Piedmont Natural Gas and not DEP
7	7	Section 2.1.A.2	Corrected several references to the CFR that were inaccurate
9	9	Section 2.1.A.3.a	Added statement that emissions from startup, shutdown, or malfunction are not included in the BACT averaging period.
10	10	Section 2.1.A.3.f	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4 hrs/month.
13-14	13-14	Section 2.1.B.2	Corrected several references to the CFR that were inaccurate
15	16	Section 2.1.B.3.a	Added statement that emissions from startup, shutdown, or malfunction are not included in the BACT averaging period.
16	16	Section 2.1.B.3.f	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4 hrs/month.
22	22	Section 2.1.F Table	Removed references to compliance demonstration alternatives that Duke Energy Progress, Inc. has requested be removed from the permit
23-29	23-28	Section 2.1.F.3	Inserted table describing emissions limitations according to 40 CFR 60 Subpart KKKK requirements. Deleted verbal description of those requirements stated in table. DEP felt this format more clearly outlined the requirements according to the Subpart.
23-29	23-28	Section 2.1.F.3	Removed compliance demonstration alternatives that will not be used by DEP. This was done at their request to reduce confusion in the permit.
28-29	27-28	Section 2.1.F.3.o	Updated emissions reporting requirements according to the type of operation (simple vs. combined cycle operation)
32-33	30-31	Section 2.1.F.4.a.	Updated BACT requirements listed in the footnotes of the table for clarity at request of DEP

Old Page No.	New Page No.	Part, Section, or Condition No.	Change
34	32	Section 2.1.F.4.g	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4 hrs/month.
36-37	-	Section 2.1.F.5	Removed State only Sulfur Dioxide requirements
37-39	34-35	Section 2.1.F.6	Removed Formaldehyde requirements under 40 CFR 63 Subpart YYYY due to a stay on the effectiveness of the emissions and operating limits under 40 CFR 63.6095(d) that is in place until final action is taken by the EPA in the Federal Register.
40-41	36	Section 2.1.G.4.b	Updated recordkeeping requirements for clarity as requested by DEP.
42-44	-	2.1.H	Removed permit conditions associated with three natural gas heaters (ES-16 to ES-18) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
46-48	-	2.1.K	Removed permit conditions associated with three natural gas heaters (ES-21 to ES-23) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
54-62	45-53	General Conditions	Updated with latest version 3.6

6. Public Notice/EPA/Affected States review

This permit will require a 30 day public notice period and a 45 day EPA review. The draft permit was sent to public notice on August 9, 2013, and the public comment period ended on September 8, 2013. The draft permit was also sent to the affected states, and no comments were received. Public comments were received from Duke Energy Progress (Ms. Ann Quillian) on August 12 and 23, 2013 and from Blue Ridge Environmental Defense League (BREDL – Mr. Louis Zeller and Ms. Kate Dunnagan) on September 9, 2013 via e-mail (Timely receipt was accepted by DAQ Director Sheila Holman via her executive assistant (Vickie Woods) since September 8, 2013 was on Sunday). Since public comments (addressed below) were received, the proposed permit will be sent separately to EPA for their 45 day review.

Duke Energy Progress (DEP) comments

DEP requested some administrative type clarifications for the permit (e.g. adding operational mode for the averaging periods in the emission limits table) on August 12, 2013 and additional comments (e.g. specifying minutes in addition to hours for periods of excess emission due to startup and/or shutdown) on August 23, 2013.

1) Clarify the exception time period not to exceed four hours per **calendar** month per turbine that are required to burn only natural gas firing during summer months. (Sections 2.1 A.3.g., B.3.f., and F.4.g. of the proposed permit) - *DAQ concurs.*

2) Clarify the averaging periods for the simple-cycle (4-hour rolling) and combined-cycle (30 day rolling) in the emission limitations table rather than being footnoted. (Section 2.1 F.3.b. Table of the proposed permit) - *DAQ concurs.*

3) Properly align the emission limitations and control technology information in the BACT limit Table (Section 2.1 F.4.a of the proposed permit) - *DAQ concurs.*

4) Remove third paragraph of compliance options condition for NSPS Subpart KKKK for the turbines regarding Section 2.3 of Part 75 Appendix E or §75.19(c)(1)(iv)(H). (Section 2.1 F.3.k. of the proposed permit) - *DAQ disagrees since condition states "as an alternate to the annual performance tests to demonstrate continuous compliance..." so these other compliance options are available but not required. Condition will remain.*

5) Specify minutes in addition to hours for periods of excess emission due to startup and/or shutdown or operation below 60%/70% load) for each turbine in the footnote associated with the BACT limit Table (2.1 F.4.a. of the proposed permit) - *DAQ concurs.*

BREDL comments

1) Hold a permit hearing in the Hamlet, NC area.

DAQ Response:

The DAQ director has decided that public hearing is not required for this permit revision.

2) Reject the permit as written and draft a site-wide permit.

DAQ Response:

DAQ proposes to issue the permit for all sources listed in Section 1 that are owned and operated by DEP including the associated applicable regulatory requirements in Section 2 of the draft permit.

3) Require Duke Energy Progress to abide by the NC Clean Smokestacks Act.

DAQ Response:

DAQ believes DEP is complying with the NC Clean Smokestacks Act. See the latest Report: http://www.ncair.org/news/leg/2013_Clean_Smokestacks_Act_Report.pdf

4) Prevent six combustion sources to be separated from the existing permit.

DAQ Response:

Piedmont Natural Gas owns, operates and maintains the six natural gas-fired heaters (ID Nos. ES-16, ES-17, ES-18, ES-21, ES-22, and ES-23). The above heaters would not be considered part of the stationary source that is owned, operated and maintained by DEP since the heaters are not under common legal control. Therefore, DAQ proposes to remove the above heaters and associated requirements from DEP's permit. Refer to Section 5.4 above for details.

5) Deny request by Duke Energy Progress to side-step the North Carolina Clean Smokestacks Act at the Richmond County Turbine facility.

DAQ Response:

On April 2, 2009, Permit 08759T10 was issued with the 15A NCAC 2D .0530(h) requirement of *"new natural gas-fired electrical utility generating units shall install best available control technology for NOX and SO2."* However, on September 1, 2010, 15A NCAC 2D .0530(h) was revised to *"new natural gas-fired electrical utility generating units* ***for which cost recovery is sought pursuant to G.S. 62-133.6*** *shall install best available control technology for NOX and SO2,* ***regardless of applicability of the rest of this Rule.***" DEP has stated in their application that cost recovery will **not** be sought pursuant to G.S. 62-133.6 (Clean Smokestacks Act) for the new natural gas-fired combustion turbines (ID Nos. ES-13 and ES-14). Therefore, DAQ's proposes to remove the associated state-only BACT requirements under 15A NCAC 2D .0530(h) for SO2 as requested by DEP. Refer to Section 5.3 above for details.

6) Limit excessive emissions of hazardous air pollutants (HAP) from the new stationary combustion turbines (ID Nos. ES-13 and ES-14) as required by MACT Subpart YYYY.

DAQ response:

The natural gas/No. 2 fuel oil-fired combustion turbines (ID Nos. ES-13 and ES-14) are considered to be "lean premix gas-fired turbines" as defined under MACT Subpart YYYY (40 CFR 63.6175) since the turbines are equipped both to fire gas using lean premix technology and to fire oil, and are located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year. On August 18, 2004 EPA issued a stay (40 CFR 63.6095(d)) on the effectiveness of the emissions and operating limitations for new sources in the "lean premix gas-fired turbine" and "diffusion flame gas-fired turbine" subcategories that requires compliance with Initial Notification requirements (40 CFR 63.6145) but doesn't require compliance with any other requirement of this subpart until EPA takes final action to require compliance and publishes a document in the FEDERAL REGISTER. When all new, reconstructed, and existing stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, DEP shall demonstrate compliance with all applicable requirements under 40 CFR 63 Subpart YYYY for sources classified as "diffusion flame oil-fired stationary combustion turbines." Refer to Section 5.7 above for details.

7. Conclusions, Comments, Recommendations

This is a significant Title V permit modification for the Duke Energy Progress, Inc – Richmond County Combustion Turbine Facility. FRO has received a draft copy of this permit and review. Recommend issuance of permit once the public notice and EPA review periods have been completed.

NCDENR

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

XX XX, 2014

PROPOSED

Ms. Teresa Wilson
Station Manager
Duke Energy Progress, Inc.
Richmond County Combustion Turbine Facility
198 Energy Way
Hamlet, NC 28345

Dear Ms. Wilson:

SUBJECT: Air Quality Permit No. 08759T17
Facility ID: 7700070
Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Richmond County Combustion Turbine Facility
Hamlet, North Carolina
Richmond County
Fee Class: Title V

In accordance with your completed Air Quality Permit Application for a significant modification of a Title V permit received June 13, 2011, we are forwarding herewith Air Quality Permit No. 08759T17 to Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, Hamlet, Richmond County, North Carolina authorizing the construction and operation, of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 2Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

As the designated responsible official it is your responsibility to review, understand, and abide by all of the terms and conditions of the attached permit. It is also your responsibility to ensure that any person who operates any emission source and associated air pollution control device subject to any term or condition of the attached permit reviews, understands, and abides by the condition(s) of the attached permit that are applicable to that particular emission source.

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with both

the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.

You may request modification of your Air Quality Permit through informal means pursuant to NCGS 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of GS 143-215-108A(b) and received written approval from the Director of the Division of Air Quality to commence construction. Failure to receive an Air Quality Permit or written approval prior to commencing construction is a violation of GS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in GS 143-215.114A and 143-215.114B.

This Air Quality Permit shall be effective from XX XX, 2014 until March 31, 2016, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

The changes made to the permit are summarized in the attachment to this letter. Should you have any questions concerning this matter, please contact Mr. Jeff Twisdale at (919) 707-8472.

Sincerely yours,

William D. Willets, P.E., Chief, Permitting Section
Division of Air Quality, NCDENR

Enclosure

c: Heather Ceron, EPA Region 4
Fayetteville Regional Office
Central Files

Attachment
Insignificant Activities

Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Richmond County Combustion Turbine Facility

Emission Source I.D.	Emission Source Description	Regulatory Basis for Exemption
I-2	Seven, 6,200 gallons each, lube oil reservoirs	2Q .0503(8)
I-3	Seven, 500 gallons each, false start drain tanks	2Q .0503(8)
I-4	Seven, 5,000 gallons each, CT wash tanks	2Q .0503(8)
I-6	One 3,857 gallons steam turbine lube oil reservoir	2Q .0503(8)
I-7	One 281 gallons steam turbine oil drain tank	2Q .0503(8)
I-8	One 316 gallons steam turbine seal oil vacuum tank	2Q .0503(8)
I-9	Three, 200 gallons each, fuel gas coalescer drain tanks	2Q .0503(8)
I-10	One 100 Gallon Portable Diesel Tank	2Q .0503(8)
I-11	One 300 Gallon Diesel Tank	2Q .0503(8)
I-12	One 300 Gallon Gasoline Tank	2Q .0503(8)

Attachment

Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Richmond County Combustion Turbine Facility

The following changes were made to the Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, Air Quality Permit No. 08759T16:

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9	9	Section 2.1.A.3.a	Added statement that emissions from startup, shutdown, or malfunction are not included in the BACT averaging period.
10	10	Section 2.1.A.3.f	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1 hr/wk requirement to 4 hr/month.
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28-29	27-28	Section 2.1.F.3.o	Updated emissions reporting requirements according to the type of operation (simple vs. combined cycle operation)
32-33	30-31	Section 2.1.F.4.a.	Updated BACT requirements listed in the footnotes of the table for clarity at request of DEP

Old Page No.	New Page No.	Part, Section, or Condition No.	Change
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37-39	34-35	Section 2.1.F.6	Removed Formaldehyde requirements under 40 CFR 63 Subpart YYYY due to a stay on the effectiveness of the emissions and operating limits under 40 CFR 63.6095(d) that is in place until final action is taken by the EPA in the Federal Register.
40-41	36	Section 2.1.G.4.b	Updated recordkeeping requirements for clarity as requested by DEP.
42-44	-	2.1.H	Removed permit conditions associated with three natural gas heaters (ES-16 to ES-18) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
46-48	-	2.1.K	Removed permit conditions associated with three natural gas heaters (ES-21 to ES-23) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
54-62	45-53	General Conditions	Updated with latest version 3.6

State of North Carolina
Department of Environment
and Natural Resources

Division of Air Quality

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date*	Expiration Date*
08759T17	08759T16	XX, 2014	March 31, 2016

* Effective dates for the Phase II Acid Rain portion of this permit are from January 1, 2010 to December 31, 2014

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 2D and 2Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 2Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

Permittee:	Duke Energy Progress, Inc. d/b/a Duke Energy Progress
Facility ID:	7700070
Facility Site Location: City, County, State, Zip:	198 Energy Way Hamlet, Richmond County, NC 28345
Mailing Address: City, State, Zip:	198 Energy Way Hamlet, NC 28345
Application Number: Complete Application Date: Primary SIC Code:	7700070.11A June 13, 2013 4911
Division of Air Quality Regional Office Address:	Fayetteville Regional Office 225 Green Street, Suite 714, Fayetteville, NC 28301

Permit issued this the XX, 2014.

William D. Willets, P.E., Chief, Air Permits Section
By Authority of the Environmental Management Commission

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SECTION 1- PERMITTED EMISSION SOURCE (S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE (S) AND APPURTENANCES

The following table contains a summary of all permitted emission sources and associated air pollution control devices and appurtenances:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Units 1 through 4, and Unit 6 **PSD** **NSPS Subpart GG**	Five natural gas/No. 2 fuel oil-fired simple-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NOx control	N/A	No Controls
Unit 7 and Unit 8 **PSD** **NSPS Subpart GG**	Two natural gas/No. 2 fuel oil-fired combined-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with a heat recovery steam generator and a steam turbine, and dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NOx control	Unit 7 SCR Unit 8 SCR	Selective Catalytic Reduction
TK-1 and TK-2 **PSD**	Two, No. 2 fuel oil, fixed-roof storage tanks (not to exceed 5 million gallons capacity each, actual capacity 3.1 million gallons each) with atmospheric vents.	N/A	No Controls
Tower 4 **PSD**	One cooling tower with drift eliminators (123,220 gallons per minute recirculating water flow rate)	N/A	No Controls
ES-10 **PSD** **NSPS Subpart Dc** **2D .1109 Case-by-Case MACT**	One natural gas fired auxiliary boiler (16.74 million Btu per hour nominally rated heat input)	N/A	No Controls
ES-13 and ES-14 **PSD** **NSPS Subpart KKKK** **MACT Subpart YYYY**	Two natural gas/No. 2 fuel oil-fired simple/combined cycle internal combustion turbines, each equipped with a heat recovery steam generator, dry Low-NO_x combustors and water injection control, both equipped with a common steam turbine Simple-cycle mode of operation: 2,084 million Btu per hour heat input rate each when firing natural gas 1,983 million Btu per hour heat input rate each when firing No. 2 fuel oil Combined-cycle mode of operation: 2,225 million Btu per hour heat input rate each for gas turbine when firing natural gas and 390 million Btu per hour heat input rate each for duct burner when firing natural gas 1,983 million Btu per hour heat input rate each for gas turbine when firing No. 2 fuel and no duct burner firing in each heat recovery steam generator when firing No. 2 fuel oil	CD13-SCR and CD14-SCR	Selective Catalytic Reduction (applicable for combined-cycle mode of operation only)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-15 **PSD** **NSPS Subpart Dc** **2D .1109 Case-by-Case MACT**	One natural gas-fired auxiliary boiler (16.74 million Btu per hour heat input rate)	N/A	No Controls
ES-19 **2D .1109 Case-by-Case MACT**	One 2.6 million Btu/hr, natural gas dew point heater for ES-13	N/A	No Controls
ES-20 **2D .1109 Case-by-Case MACT**	One 2.6 million Btu/hr, natural gas dew point heater for ES-14	N/A	No Controls
Tower5 **PSD**	One multi-cell cooling tower with drift eliminators (150,000 gallons per minute recirculation water flow rate)	N/A	No Controls
TK-5 **PSD**	One No. 2 fuel oil fixed-roof storage tank with atmospheric vents (not to exceed 3.5 million gallons capacity)	N/A	No Controls

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Source(s) and Control Devices(s) Specific Limitations and Conditions

The emission source(s) and associated air pollution control device(s) and appurtenances listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. Five natural gas/No. 2 fuel oil-fired simple-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NOx control (ID Nos. Unit 1, Unit 2, Unit 3, Unit 4, and Unit 6)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions	15A NCAC 2D .0524 (40 CFR Part 60 Subpart GG)
Various	As defined in specific conditions	15A NCAC 2D .0530
Hazardous Air Pollutants	No requirements	15A NCAC 2D .1111 (40 CFR 63 Subpart YYYY)
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions See Section 2.3	15A NCAC 2D .2400 (40 CFR Part 96)
Sulfur Dioxide Nitrogen Oxides	Phase II Acid Rain Permit Requirements See Section 2.2	15A NCAC 2Q .0402

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source shall not be more than **20 percent opacity** (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

c. To assure compliance, the Permittee shall perform a Method 9 test for 1 hour using a pre-approved protocol to be submitted in accordance with General Condition JJ before the source operates more than 1100 hours using No. 2 fuel oil. This monitoring procedure shall be repeated before each subsequent 1100 hours of operation, from the time of the last test, using No. 2 fuel oil. If the results of this test are above the limit given in Section 2.1 A.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .0508(f)]

d. The Permittee shall keep records of the hours and associated dates, when these sources are in operation, and the dates and results of performance of Method 9 tests. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

e. The Permittee shall submit the results of the Method 9 test within 30 days of completion of the test or at the end of the quarter. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART GG)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 2D .0524, "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60, Subpart GG, including Subpart A "General Provisions."[15A NCAC 2D .0524]

b. **NSPS Emissions Limitations** - As required by 15A NCAC 2D .0524, the following permit limits shall not be exceeded:

AFFECTED FACILITY	POLLUTANT	EMISSION LIMIT
Combustion Turbines (ID Nos. Unit 1- 4, and Unit 6)	Nitrogen Oxides	STD* = 0.0075 x [(14.4) / Y**] + F***
	Sulfur Dioxide	0.015 percent by volume**** or 0.8 percent weight sulfur in fuel

* STD = allowable nitrogen oxide emissions in percent by volume at 15 percent O_2 on a dry basis.
** Y = manufacturer's rated heat rate at manufacturer's rated load or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. Y shall not exceed 14.43 kJ/w-h.
*** F = NOx emission allowance for fuel bound nitrogen as defined in 40CFR60.332(a)(3).
**** Allowable sulfur dioxide emissions at 15 percent O_2 on a dry basis.

Testing [15A NCAC 2Q .0508(f)]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.2. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. In addition to any other monitoring requirements of the EPA, the Permittee is required to monitor the following:
   i. The sulfur content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the sulfur dioxide standard in 40 CFR 60.333, using the test methods and procedures in 40 CFR 60.335, except as follows:
      1. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine sulfur content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for sulfur content in accordance with 40 CFR Part 75, Appendix D.
      2. When firing natural gas, the procedures from 40 CFR Part 75, Appendix D shall be used to sample and analyze for sulfur content.

   If the sulfur content of the fuel burned in each combustion turbine is not monitored as specified above or the sulfur dioxide emission rate of combustion turbine is above the limit given in Section 2.1.A.2.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

e. The Permittee shall demonstrate compliance with the NOx emissions limit through one of the alternative compliance methods (A or B) described below. Compliance Alternative B as provided for in 40 CFR 60.334(b), shall be the mandatory method for compliance demonstration if at any time a unit is subject to Acid Rain provisions and is no longer classified as a "peaking unit" under 40 CFR 72.2.

   Alternative A
   i. The nitrogen content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the nitrogen oxides standard as specified in 40 CFR 60.332, using the test methods and procedures in 40 CFR 60.335, except as follows:
      1. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine nitrogen content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for nitrogen content in accordance with ASTM Method D4629.
      2. Monitoring of fuel nitrogen content shall not be required while pipeline natural gas is the only fuel being fired in the combustion turbines.
   ii. As required by 40 CFR 60.334(a), using the test methods and procedures in 40 CFR 60.335, for each combustion turbine, a continuous monitoring system shall be installed and operated to monitor and record fuel consumption and the ratio of water-to-fuel being fired. The monitoring device shall be calibrated and maintained in accordance with the manufacturer's specifications. This system shall be accurate to within 5.0 percent and must be approved by the DAQ prior to installation.

   Alternative B
   i. The Permittee shall demonstrate compliance with the NOx emission limit using a continuous emission monitoring system (CEMS) installed, certified, maintained, operated, and quality-assured in accordance with 40 CFR Part 75. The missing data substitution methodology provided in 40 CFR 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in 40 CFR 60.7(c). A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NOx concentration or diluents (or both). The CEMS shall comply with all applicable requirements of 40 CFR 60.334 and 40 CFR 75. If the CEMS does not comply with the applicable requirements of 40 CFR 60.334 and 40 CFR 75, or the NOx emissions from these turbines exceed the emission limits set forth in 40 CFR 60.332, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

   If the nitrogen content of the fuel burned in each combustion turbine is not monitored as specified above or the nitrogen oxides emission rate of any combustion turbine is above the limit given in Section 2.1.A.2.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Reporting [15A NCAC 2Q .0508(f)]

f. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction.

g. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being fired exceeds 0.8 percent by weight.

h. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for nitrogen oxides shall be reported:

   i. For any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332 by the performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in 40 CFR 60.8.

   ii. Where the Permittee has elected to install a CEMS according to Alternative B of 2.1.A.2.e above, reporting shall be in accordance with 40 CFR 60.334(j)(1)(iii). Data must be reduced to hourly averages as specified in 40 CFR 60.13(h). An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NOx concentration exceeds the applicable emission limit in Section 2.1.A.2.b. A "4-hour rolling average NOx concentration" is the arithmetic average of the average NOx concentration measured by the CEMS for a given hour (corrected to 15 percent O2 and, if required under 40 CFR 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NOx concentrations immediately preceding that unit operating hour. Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst-case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of 40 CFR 60.335(b)(1). The Permittee shall comply with all applicable reporting requirements of 40 CFR 60.334.

i. The Permittee shall submit in writing the excess emissions of sulfur dioxide and nitrogen oxides as well as the sulfur content and fuel-bound nitrogen content of the No. 2 fuel oil fired in the combustion turbines and the number of hours of operation of each combustion turbine by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

   All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:
   i. Short term maximum emission rates for each simple-cycle combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) shall not exceed:

AFFECTED SOURCE	REGULATED NSR POLLUTANT	BACT Limits[a]		Control Description
		Natural Gas	No. 2 Fuel Oil	
Combustion Turbines (ID Nos. Unit 1-4, and Unit 6), per turbine	Nitrogen Oxides as NO_2	10.5 ppmvd[b] [CEM: 24 hour rolling average][c]	42 ppmvd[b] [CEM: 24 hour rolling average][c]	Natural Gas: Dry-Low NOx Fuel Oil: Water Injection
	Sulfur Dioxide	0.0006 lb/MMBtu [Stack Test: 3 hour average]	0.054 lb/MMBtu [Stack Test: 3 hour average]	0.05% Sulfur Fuel Oil
	Carbon Monoxide	9 ppmvd [Stack Test: 3 hour average]	20 ppmvd [Stack Test: 3 hour average]	Combustion Control
	VOC as C	1.4 ppmvw [Stack Test: 3 hour average]	3.5 ppmvw [Stack Test: 3 hour average]	Combustion Control
	$PM_{10}/PM_{2.5}$	Combustion Control and Use of Natural Gas and Low Sulfur Distillate Oil as Back-up Fuel	0.009 lb/MMBtu (filterable only) [Stack Test: 3 hour average]	-
	Sulfuric Acid	Use of Natural Gas and Low Sulfur Distillate Oil as Back-up Fuel	0.05% Sulfur Fuel Oil	-
	GHG as CO_2e	Use of Natural Gas and Low Sulfur Distillate Oil as Back-up Fuel	Use of Natural Gas and Low Sulfur Distillate Oil as Back-up Fuel	-

a BACT limits shall apply at all times except as provided under Section 2.1 A. 3. a. ii.
b ppmvd = parts per million by volume on a dry basis at 15% O_2.
c 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). Emissions resulting from startup, shutdown, or malfunction shall not be included in the BACT averaging period.

   ii. Emissions resulting from start-up, shutdown, or malfunction above those given in Section 2.1.A.3.a.(i) are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. For the simple-cycle turbines, periods of excess emissions due to start-up and/or shutdown shall not exceed two hours in any 24-hour block period beginning at midnight. When using natural gas, start-up shall be defined as the period from initial firing to mode 6/6Q (as defined by the manufacturer's dry low NOx control system information) and shutdown shall be defined as the period from mode 6/6Q to flame out. When using fuel oil, start-up shall be the period from initial firing to "water injection in-service" and shutdown shall be from the cessation of water injection to flameout. The facility shall not operate the turbines outside of mode 6/6Q when firing natural gas or without water injection when firing fuel oil at any time after startup and prior to shutdown. Unit emissions shall comply with those given in Section 2.1.A.3.a.i. once mode 6/6Q is reached or, when firing fuel oil, water injection is initiated. Any operation outside of these parameters shall be deemed a startup, shutdown, or malfunction event.

b. The following emission limits apply in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530; 40 CFR 51.166(k):

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT				
		Annual (tons/yr)*	Pounds per 24-hour	Pounds per 8-hour	Pounds per 3-hour	Pounds per 1-hour
Combustion Turbines (ID Nos. Unit 1- 4, Unit 6, Unit 7, and Unit 8), total	Nitrogen Dioxide	2940.1				
	Sulfur Dioxide	373.9	16632		2079	
	Carbon Monoxide			3640		455
	PM-10/PM-2.5 (Front Half)	303.1	2856			

* Tons per rolling consecutive 12-month period. Annual emissions for the combustion turbines are for all seven turbines firing fuel oil for 1000 hours per year, five simple-cycle turbines firing natural gas for 7760 hours per year and two combined-cycle turbines firing natural gas for 7760 hours per year, at 100% load.

Testing [15A NCAC 2Q .0508(f)]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 3. a. i. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The maximum annual hours of operation for each combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) shall not exceed 1000 full load equivalent hours per rolling consecutive 12-month period when firing No. 2 fuel oil.

e. The Permittee shall record and maintain records of the actual number of hours of operation, and the amounts of each fuel burned during each day for each combustion turbine (ID Nos. Unit 1 through Unit 4, and Unit 6) in accordance with 40 CFR Part 75. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained.

f. Only natural gas shall be burned during summer months (May 1 through September 30) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed four hours per calendar month per turbine), and during compliance testing.

g. The sulfur content of the No. 2 fuel oil shall not exceed 0.05 percent sulfur by weight.

h. Water injection shall be used when the combustion turbines are firing No. 2 fuel oil only.

i. The Permittee shall monitor operations to demonstrate compliance with the BACT emission limits as follows:
   i. Determine the sulfur content of the fuel being fired in each combustion turbine in accordance with Section 2.1 A. 2. d. i.
   ii. Determine nitrogen oxide emissions according to:
      1. The requirements of 40 CFR Part 75 Appendix E. At least 45 days prior to performing any required initial performance testing required by the procedure in Appendix E, the Permittee must submit a testing protocol to the Regional Supervisor, Division of Air Quality for review and approval prior to performing such tests.
      2. If the facility has installed CEMS for NOx monitoring, emissions shall be determined according to Alternative B under Section 2.1.A.2.e.

   Note: If Appendix E is being used in lieu of a NO_X CEM under the Acid Rain Program, then certification to use Appendix E shall be completed no later than the applicable deadline specified in 40 CFR Part 75.4 pursuant to the requirements in §75.20.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the sulfur content of the fuel is not monitored or the nitrogen oxide emissions are not monitored.

Reporting [15A NCAC 2Q .0508(f)]

j. The Permittee shall submit in writing the following reports by January 30 of each calendar year for the

preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:

i. Periods of excess emissions for sulfur dioxide for any daily period during which the sulfur content of the No. 2 fuel oil being fired exceeds 0.05 percent by weight, within 30 days after each calendar year quarter for the previous 3-month period; and

ii. Periods of excess emissions for nitrogen oxides for any 24-hour rolling averaging period during which the concentrations exceed 10.5 ppmvd when firing natural gas and 42 ppmvd when firing No. 2 fuel oil, as determined by the procedure specified in 40 CFR Part 75 Appendix E, postmarked within 30 days after each calendar year quarter for the previous 3-month period. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NO_X concentrations are obtained at normal operating conditions as defined by 2.1.A.3.a(ii) and at least 15 minutes apart.

B. Two natural gas/No. 2 fuel oil-fired combined-cycle internal combustion turbines (1,628 million Btu per hour nominally rated heat input each, when firing natural gas, 1,819 million Btu per hour nominally rated heat input each, when firing No. 2 fuel oil), each equipped with a heat recovery steam generator and a steam turbine, and dual fuel dry Low-NOx combustors when firing natural gas and water injection when firing No. 2 fuel oil for NOx control (ID Nos. Unit 7 and Unit 8), and associated SCR's (ID No. Unit 7 SCR and Unit 8 SCR)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions	15A NCAC 2D .0524 (40 CFR Part 60 Subpart GG)
Various	As defined in specific conditions	15A NCAC 2D .0530
PSD Pollutants	Projected Actual Emissions Reporting	15A NCAC 2D .0530(u)
Hazardous Air Pollutants	No requirements	15A NCAC 2D .1111 (40 CFR 63 Subpart YYYY)
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions See Section 2.3	15A NCAC 2D .2400 (40 CFR Part 96 CAIR)
Sulfur Dioxide Nitrogen Oxides	Phase II Acid Rain Permit Requirements See Section 2.2	15A NCAC 2Q .0402

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source shall not be more than **20 percent opacity** (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

c. To assure compliance, the Permittee shall perform a Method 9 test for 1 hour using a pre-approved protocol to be submitted in accordance with General Condition JJ before the source operates more than 1100 hours using No. 2 fuel oil. This monitoring procedure shall be repeated before each subsequent 1100 hours of operation, from the time of the last test, using No. 2 fuel oil. If the results of this test are above the limit given in Section 2.1 B.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .0508(f)]

d. The Permittee shall keep records of the hours and associated dates, when these sources are in operation, and the dates and results of performance of Method 9 tests. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

e. The Permittee shall submit the results of the Method 9 test within 30 days of completion of the test or at the end of the quarter. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART GG)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements in accordance with 15A NCAC 2D .0524, "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60, Subpart GG, including Subpart A "General Provisions."[15A NCAC 2D .0524]

b. NSPS Emissions Limitations - As required by 15A NCAC 2D .0524, the following permit limits shall not be exceeded:

AFFECTED FACILITY	POLLUTANT	EMISSION LIMIT
Please add an additional row for each additional source. To add an additional row: place the cursor anywhere in the existing table; pick "table" from the menu bar; select "insert"; select the radio button for "row"; select whether you want the new row to be "before" or "after" the cursor; click ok. Combustion Turbines (ID No.s. Unit 7 And Unit 8)	Nitrogen Oxides	Std* = 0.0075 X [(14.4) / Y**] + F***
	Sulfur Dioxide	0.015 Percent By Volume**** Or 0.8 Percent Weight Sulfur In Fuel

* STD = allowable nitrogen oxides emissions in percent by volume at 15 percent O_2 on a dry basis.

** Y = manufacturer's rated heat rate at manufacturer's rated load or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. Y shall not exceed 14.43 kJ/w-h.

*** F = NOx emission allowance for fuel bound nitrogen as defined in 40CFR 60.332(a)(3).

**** Allowable sulfur dioxide emissions at 15 percent O_2 on a dry basis.

Testing [15A NCAC 2Q .0508(f)]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 2. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The sulfur content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the sulfur dioxide standard in 40 CFR 60.333, using the test methods and procedures in 40 CFR 60.335, except as follows:
   i. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine sulfur content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for sulfur content in accordance with 40 CFR Part 75, Appendix D.
   ii. When firing natural gas, the procedures from 40 CFR Part 75, Appendix D shall be used to sample and analyze for sulfur content. If the sulfur content of the fuel burned in each combustion turbine is not monitored as specified above or the sulfur dioxide emission rate of combustion turbine is above the limit given in Section 2.1 B. 2. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

e. The Permittee shall demonstrate compliance with the NOx emissions limit through one of the alternative compliance methods (A or B) described below. Compliance Alternative B as provided for in 40 CFR 60.334(b), shall be the mandatory method for compliance demonstration if at any time a unit is subject to Acid Rain provisions and is no longer classified as a "peaking unit" under 40 CFR 72.2.

   Alternative A
   i. The nitrogen content of the fuel being fired in each combustion turbine shall be monitored as specified in 40 CFR 60.334(h) to demonstrate compliance with the nitrogen oxides standard as specified in 40 CFR 60.332, using the test methods and procedures in 40 CFR 60.335, except as follows:
      1. When firing fuel oil, as an alternate to sampling each occasion that fuel oil is transferred to each storage tank from any other source (as specified in 40 CFR 60.334(i)(1)), the Permittee may sample each tank to determine nitrogen content after all shipments have been transferred into the tank and prior to placing the tank in service for supply to the turbines. Samples shall be analyzed for nitrogen content in accordance with ASTM Method D4629.
      2. Monitoring of fuel nitrogen shall not be required while pipeline natural gas is the only fuel being fired in the combustion turbines.
   ii. As required by 40 CFR 60.334(a), using the test methods and procedures in 40 CFR 60.335, for each combustion turbine, a continuous monitoring system shall be installed and operated to monitor and record fuel consumption and the ratio of water-to-fuel being fired. The monitoring device shall be calibrated and maintained in accordance with the manufacturer's specifications. This system shall be accurate to within 5.0 percent and must be approved by the DAQ prior to installation.

   Alternative B
   i. The Permittee shall demonstrate compliance with the NOx emission limit using a continuous emission monitoring system (CEMS) installed, certified, maintained, operated, and quality-assured in accordance with 40 CFR Part 75. The missing data substitution methodology provided in 40 CFR 75, subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in 40 CFR 60.7(c). A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either NOx concentration or diluent (or both). The CEMS shall comply with all applicable requirements of 40 CFR 60.334 and 40 CFR 75. If the CEMS does not comply with the applicable requirements of 40 CFR 60.334 and 40 CFR 75, or the NOx emissions from these turbines exceed the emission limits set forth in 40 CFR 60.332, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Reporting [15A NCAC 2Q .0508(f)]

f. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction.
g. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for sulfur dioxide shall be reported for any daily period during which the sulfur content of the fuel being fired exceeds 0.8 percent by weight.
h. For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions for nitrogen oxides shall

be reported:

i. For any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332 by the performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the performance test required in 40 CFR 60.8.

ii. Where the Permittee has elected to install a CEMS according to Alternative B of 2.1.B.2.e above, reporting shall be in accordance with 40 CFR 60.334(j)(1)(iii). Data must be reduced to hourly averages as specified in 40 CFR 60.13(h). An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NOx concentration exceeds the applicable emission limit in Section 2.1.B.2.b. A "4-hour rolling average NOx concentration" is the arithmetic average of the average NOx concentration measured by the CEMS for a given hour (corrected to 15 percent O2 and, if required under 40 CFR 60.335(b)(1), to ISO standard conditions) and the three unit operating hour average NOx concentrations immediately preceding that unit operating hour. Each report shall include the ambient conditions (temperature, pressure, and humidity) at the time of the excess emission period and (if the owner or operator has claimed an emission allowance for fuel bound nitrogen) the nitrogen content of the fuel during the period of excess emissions. You do not have to report ambient conditions if you opt to use the worst-case ISO correction factor as specified in 40 CFR 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of 40 CFR 60.335(b)(1). The Permittee shall comply with all applicable reporting requirements of 40 CFR 60.334.

i. The Permittee shall submit in writing the excess emissions of sulfur dioxide and nitrogen oxides as well as the sulfur content and fuel-bound nitrogen content of the No. 2 fuel oil fired in the combustion turbines and the number of hours of operation of each combustion turbine by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September.

All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

i. Short term maximum emission rates for each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8) shall not exceed:

AFFECTED SOURCE	POLLUTANT	BACT EMISSION LIMITS[a]		BACT CONTROLS
		Natural Gas	No. 2 Fuel Oil	
		lbs/million Btu ppm	lbs/million Btu ppm	
Combustion Turbines (ID Nos. Unit 7 and Unit 8), per unit	Opacity	20%	20%	Combustion Control
	Nitrogen Oxides	0.010 2.5 ppmvd[b] (24-hour rolling average)[c,d]	0.054 13 ppmvd[b] (24-hour rolling average)[c,e]	Natural Gas: Dry-Low NOx And SCR Fuel Oil: Water Injection And SCR
	Sulfur Dioxide	0.0006	0.054	0.05% Sulfur Fuel Oil
	Carbon Monoxide	0.018 9 ppmvd	0.037 20 ppmvd	Combustion Control
	VOC's	0.0017 1.4 ppmvw	0.004 3.5 ppmvw	Combustion Control
	Particulates/PM-10 (Front Half)	0.0055	0.009	Combustion Control
	Sulfuric Acid		Fuel Oil Sulfur Content	0.05% Sulfur Fuel Oil
	Ammonia	10 ppmvd		

a BACT limits shall apply at all times except as provided under Section 2.1 B.3.a.ii.

b ppmvd = parts per million by volume on a dry basis at 15% O_2.

c 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). Emissions resulting from startup, shutdown, or malfunction shall not be included in the BACT averaging period.

d The NO_X emission limit is 2.5 ppmvd for the first 500 hours of operation (on a 24-hour rolling average basis). After 500 hours, the emission limit is 3.5 ppmvd (on a 24-hour rolling average basis). However, the ammonia injection rate shall not exceed that rate established per Section 2.1 B.3.i.i. at each load point. Three months after the 24-hour rolling average exceeds 3.3 ppmvd three times within any rolling 50-hour period, the emission limit changes to 2.5 ppmvd for the next 500 hours of operation. However, the Permittee will not be deemed to be out of compliance until the 24-hour rolling average exceeds 3.5 ppmvd during this three-month period. After any 500-hour period where the 2.5 ppmvd is maintained without exceedance of the 3.3 ppmvd trigger level, the limit reverts back to 3.5 ppmvd.

e The NO_X emission limit is 13 ppmvd for the first 500 hours of operation (on a 24-hour rolling average basis). After 500 hours, the emission limit is 18 ppmvd (on a 24-hour rolling average basis). However, the ammonia injection rate shall not exceed that rate established per Section 2.1 B.3.i.i. at each load point. Three months after the 24-hour rolling average exceeds 17 ppmvd three times within any rolling 50 hour period, the emission limit changes to 13 ppmvd for the next 500 hours of operation. However, the Permittee will not be deemed to be out of compliance until the 24-hour rolling average exceeds 18 ppmvd during this three-month period. After any 500 hour period where the 13 ppmvd is maintained without exceedance of the 17 ppmvd trigger level, the limit reverts back to 18 ppmvd

ii. Emissions resulting from start-up, shutdown or malfunction above those given in Section 2.1.B.3.a.(i) are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized. For the combined-cycle turbines, periods of excess emissions due to start-up and/or shutdown shall not exceed six hours in any 24-hour block period beginning at midnight. When using natural gas, start-up shall be defined as the period from initial firing to mode 6/6Q (as defined by the manufacturers Dry low NOx control system information) and shutdown shall be defined as the period from mode 6/6Q to flame out. When using fuel oil, start-up shall be the period from initial firing to "water injection in-service" and shutdown shall be from the cessation of water injection to flameout. The facility shall not operate the turbines outside of mode 6/6Q when firing natural gas or without water injection when firing fuel oil at any time after startup and prior to shutdown. Unit emissions shall comply with those given in Section 2.1.B.3.a.i. once mode 6/6Q is reached for natural gas or, when firing fuel oil, water injection is initiated. Any operation outside of these parameters shall be deemed a startup, shutdown, or malfunction event.

b. The following emission limits apply in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530; 40 CFR 51.166(k):

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT				
		Annual (tons/yr)[a]	Pounds per 24-hour	Pounds per 8-hour	Pounds per 3-hour	Pounds per 1-hour
Combustion Turbines (ID No.'s Unit 1- 4, Unit 6, Unit 7, and Unit 8), total	Nitrogen Dioxide	2940.1				
	Sulfur Dioxide	373.9	16,632		2079	
	Carbon Monoxide			3640		455
	PM-10/PM-2.5 (Front Half)	303.1	2856			

[a] Tons per rolling consecutive 12-month period. Annual emissions for the combustion turbines are for all seven turbines firing fuel oil for 1000 hours per year, five simple-cycle turbines firing natural gas for 7760 hours per year and two combined-cycle turbines firing natural gas for 7760 hours per year, at 100% load.

Testing [15A NCAC 2Q .0508(f)]

c. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The maximum annual hours of operation for each combustion turbine (ID No. Unit 7 and Unit 8) shall not exceed 1000 full load equivalent hours per rolling consecutive 12-month period when firing No. 2 fuel oil.
e. The Permittee shall record and maintain records of the actual number of hours of operation, and the amounts of each fuel burned during each day for each combustion turbine (ID Nos. Unit 7 and Unit 8) in accordance with 40 CFR Part 75. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained.
f. Only natural gas shall be burned during summer months (May 1 through September 30) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed four hours per calendar month per turbine), and during compliance testing.
g. The sulfur content of the No. 2 fuel oil shall not exceed 0.05 percent sulfur by weight.
h. Water injection shall be used when the combustion turbines are firing No. 2 fuel oil only.
i. For each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8) compliance with the BACT NO_X 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_X 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_X 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.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the nitrogen oxide emissions are not monitored using CEMs, as required in Section 2.1.B.2.e above or the ammonia injection rate to the SCR system is not continuously measured and recorded, as required in Section 2.1.B.3.i(i) above or nitrogen oxide or ammonia emission rate of combustion turbine is above the limit given in Section 2.1.B.3.a(i). above.

j. Under the provisions of North Carolina General Statute 143-215.108, for each combined-cycle combustion turbine (ID Nos. Unit 7 and Unit 8), the Permittee shall monitor operations to demonstrate compliance with the BACT emission limits as follows:

i. Determine the sulfur content of the fuel being fired in each combustion turbine in accordance with Section 2.1.B.2.d(i)

ii. Determine nitrogen oxide emissions according to Alternative B under Section 2.1.B.2.e

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the records required in Section 2.1.B.2 above are not kept or the nitrogen oxide emission rate of combustion turbine is above the limit given in Section 2.1.B.3.a. above.

Reporting [15A NCAC 2Q .0508(f)]

k. The Permittee shall submit in writing the following reports by January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September:

i. Periods of excess emissions for sulfur dioxide for any daily period during which the sulfur content of the No. 2 fuel oil being fired exceeds 0.05 percent by weight, within 30 days after each calendar year quarter for the previous 3-month period; and

ii. Periods of excess emissions for nitrogen oxides for any 24-hour rolling averaging period during which the concentrations exceed 0.010 lb/MMBtu (2.5 ppmvd) when firing natural gas and 0.054 lb/MMBtu (13 ppmvd) when firing No. 2 fuel oil, as determined by the procedure specified in 40 CFR Part 75 Appendix E, postmarked within 30 days after each calendar year quarter for the previous 3-month period. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NO_X concentrations are obtained at normal operating conditions as defined by 2.1.B.3.a(ii) and at least 15 minutes apart.

4. 15A NCAC 2D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

Pursuant to Application 7700070.12A for a modification to repair/ replace equipment and parts associated with Unit 7 and Unit 8, the Permittee shall perform the following:

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .0530(u)]

a. The Permittee shall maintain records of annual emissions sufficient to determine if repair and/or replacement of equipment described in the above modification application resulted in a major modification based on projected actual emissions methodology. These records shall be maintained on a calendar year basis for 10 years following the date regular operations commence after these changes are made. The Permittee may use continuous emissions monitoring data, operational levels, fuel usage data, source test results, or any other readily available data of sufficient accuracy to document actual annual emissions of these sources. The Permittee shall notify the Regional Office within thirty (30) days after the changes to the units are made and submission of such notification shall represent the date regular operations commenced.

b. The Permittee shall submit a report to the director within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

c. The Permittee shall make the information documented and maintained under this condition available to the Director pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

d. If the Director determines that actual emissions rate exceeds the projected actual emissions rate in any calendar year and would have resulted in a major modification at the time the application was submitted, the Permittee

shall be deemed in non-compliance with 15A NCAC 2D .0530.

C. Two No. 2 fuel oil, fixed-roof storage tanks atmospheric vents (not to exceed 5 million gallons capacity each, actual capacity 3.1 million gallons each, ID Nos. TK-1 and TK-2)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
VOC's	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:
   i. Long term maximum emission rates for fuel oil storage tanks (ID Nos. TK1 and TK2) shall not exceed:

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT Annual (tons/yr)[a]
Fuel Oil Storage Tanks (ID Nos. TK1 and TK2), total	VOCs	5.79

a Tons per rolling consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. The combined maximum throughput for No. 2 fuel oil for two storage tanks shall not exceed 45,480,000 gallons per year.

c. The Permittee shall keep records for fuel consumed from each storage tank on a monthly basis for No. 2 fuel oil in a written or electronic format. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of fuel oil used is not monitored or the combined annual throughput for two storage tanks exceeds the limit included above in Section 2.1.C.1.b.

D. One cooling tower with drift eliminators (ID No. Tower 4)

The following table provides a summary of limits and standards for the emission source(s) described above:

REGULATED POLLUTANT	LIMITS/STANDARDS	APPLICABLE REGULATION
Particulate Matter	$E = 4.10P^{0.67}$ for P < = 30 Tons Per Hour $E = 55.0P^{0.11} - 40$ for P > 30 Tons Per Hour Where E = Allowable Emission Rate in Pounds per Hour P = Process Weight in Tons per Hour	15A NCAC 2D .0515
Particulates/PM-10	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{for P \# 30 tons per hour}$$

Or

$$E = 55.0 \times P^{0.11} - 40 \quad \text{for P > 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate matter emissions from this source.

2. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following emission limits apply in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530; 40 CFR 51.166(k):

AFFECTED SOURCE	POLLUTANT	EMISSION LIMIT	
		Annual (tons/year)[a]	Daily lbs/day
Cooling Tower (ID No. Tower 4)	Particulate/PM-10	6.0	33.12

a Tons per rolling consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for particulate emissions from this source.

E. One natural gas-fired auxiliary boiler (16.74 million Btu per hour nominally rated heat input, ID No. ES-10)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.395 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
None	Recordkeeping	15A NCAC 2D .0524 (40 CFR 60 Subpart Dc)
Nitrogen Oxides (as NO_2) Carbon Monoxide VOC PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from this source (ID No. ES-10) into the atmosphere, shall not exceed 0.395 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 E. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in this source (ID No. ES-10).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source (ID No. ES-10) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 E. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from natural gas for this source.

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source (ID No. ES-10) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from this source.

4. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART Dc)

Recordkeeping [15A NCAC 2Q .0508(f)]

a. The Permittee shall record and maintain records of the amounts each fuel combusted during each month. Such records shall be maintained for a period of two years following the date of such record. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

5. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS	CONTROL TECHNOLOGY
Auxiliary Boiler (ID No. ES-10)	Nitrogen Oxides (as NO_2)	0.035 lb/million Btu	Low-NOx burner
	Carbon Monoxide	0.037 lb/million Btu	Good combustion control
	VOC (as CH_4)	0.016 lb/million Btu	Good combustion control
	PM/PM10 (Filterable and condensable)	0.01 lb/million Btu	Good combustion control

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for emissions of NOx, CO, VOC, and PM/PM10 from the firing of natural gas in this source.

6. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID No. ES-10). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burner, and clean or replace any components of the burner as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

   The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

c. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

d. No reporting is required.

F. Two natural gas/No. 2 fuel oil-fired simple/combined cycle internal combustion turbines, each equipped with a heat recovery steam generator, dry Low-NO_x combustors and water injection control, both equipped with a common steam turbine (ID Nos. ES-13 and ES-14), and associated SCR's (ID Nos. CD13-SCR and CD14-SCR)

Simple-cycle mode of operation:
- 2,084 million Btu per hour heat input rate each when firing natural gas
- 1,983 million Btu per hour heat input rate each when firing No. 2 fuel oil

Combined-cycle mode of operation:
- 2,225 million Btu per hour heat input rate each for gas turbine when firing natural gas and 390 million Btu per hour heat input rate each for duct burner when firing natural gas
- 1,983 million Btu per hour heat input rate each for gas turbine when firing No. 2 fuel and no duct burner firing in each heat recovery steam generator when firing No. 2 fuel oil

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 lb/million Btu each [When duct burners are operating in heat recovery units]	15A NCAC 2D .0503
Visible Emissions	20 percent opacity each	15A NCAC 2D .0521
Nitrogen Oxides	15 ppm at 15 percent O_2 each [When firing natural gas] 42 ppm at 15 percent O_2 each [When firing No. 2 fuel oil] 96 ppm at 15 percent O_2 each [When operating at less than 75 percent peak load or operating at less than 0°F]	15A NCAC 2D .0524 [NSPS Subpart KKKK]
Sulfur Dioxide	0.06 lb/million Btu heat input each	15A NCAC 2D .0524 [NSPS Subpart KKKK]
Nitrogen Oxides (as NO_2) Carbon Monoxide VOC PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
Hazardous Air Pollutants	As defined in specific conditions	15A NCAC 2D .1111 [MACT Subpart YYYY]
Nitrogen Oxides Sulfur Dioxide	As defined in specific conditions	15A NCAC 2D .2400
Sulfur Dioxide Nitrogen Oxides	Phase II Acid Rain Permit Requirements See Section 2.2	15A NCAC 2Q .0402

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas and No. 2 fuel oil that are discharged from these sources (duct burners of heat recovery units of each combustion turbine, ID Nos. ES-13 and ES-14) into the atmosphere shall not exceed 0.19 pound per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 F. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas and No. 2 fuel oil in these sources (duct burners of heat recovery units of each combustion turbine, ID Nos. ES-13 and ES-14).

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources (ID Nos. ES-13 and ES-14) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F. 2. a., the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas and No. 2 fuel oil in these sources (ID Nos. ES-13 and ES-14).

3. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR PART 60 SUBPART KKKK)

a. The Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart KKKK, including Subpart A "General Provisions."[15A NCAC 2D .0524]

Emission Limitations

b. NOx emissions (except during startup, shutdowns, and malfunction) from each combustion turbine (ID Nos. ES-13 and ES-14) when either combustion turbine only or when both combustion turbine and heat recovery unit are operating, shall not exceed the limitations contained in the following table:

Fuel Type	Operating Conditions*	NO_x Limit at 15 Percent O_2	Duct Firing Allowed?	Averaging Period	
				Simple Cycle	Combined Cycle
Natural Gas	≥ 75 Percent of Peak Load	15 ppm	Yes	4 hour rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	Yes	4 hour rolling average	30 day rolling average
Fuel Oil	≥ 75 Percent of Peak Load	42 ppm	No	4 hour rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	No	4 hour rolling average	30 day rolling average

* Peak Load defined as the design capacity at ISO conditions

[§60.4320]

c. If the total heat input to each combustion turbine (ID Nos. ES-13 and ES-14) is greater than or equal to 50 percent natural gas, the Permittee shall meet the corresponding NOx emission limit in Section 2.1 F.3.b. above for natural gas when the Permittee is burning that fuel. Similarly, when the total heat input to each combustion turbine (ID Nos. ES-13 and ES-14) is greater than 50 percent No. 2 fuel oil, the Permittee shall meet the corresponding emission limit in Section 2.1 F.3.b. above for No. 2 fuel oil for the duration of the time that the Permittee burns No. 2 fuel oil.

[§60.4325]

d. The Permittee shall not allow any fuel to be burned in the combustion turbines (ID Nos. ES-13 and ES-14), which contains total potential sulfur emissions in excess of 0.06 lb SO_2/million Btu heat input each (fuel sulfur content limit).

[§60.4330]

Testing [15A NCAC 2Q .0508(f)]
NOx Testing for Simple-cycle Operation

e. The Permittee shall conduct initial performance test and submit a written report for NOx for one of the combustion turbines (ID Nos. ES-13 and ES-14)[1] within 180 days of initial start-up of the first combustion turbine (either ES-13 or ES-14) in simple-cycle mode for both natural gas and No. 2 fuel oil firing or within 60 days after the unit achieves maximum production (either ES-13 or ES-14) in simple-cycle mode for both natural gas and fuel oil firing, whichever occurs first. The Permittee shall conduct the initial performance test in accordance with General Condition JJ.

The Permittee is required to perform subsequent annual testing (no more than 14 calendar months following the previous performance test) for NOx in accordance with General Condition JJ, if the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above.

As an alternate to subsequent annual tests requirement when the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above, the Permittee may install, calibrate, maintain and operate either continuous emission monitoring or continuous parameter monitoring for NOx on combustion turbines (ID Nos. ES-13 and ES-14).

If the Permittee elects to install NOx CEMs on combustion turbines (ID Nos. ES-13 and ES-14), the performance evaluation of the CEMS may either be conducted separately or (as described in §60.4405), as part of the initial performance test. Data collected during the CEMS RATA may be used to demonstrate compliance for NOx. The CEMS shall be certified according to Part 60, Section 60.4345. A NOx CEMS that is installed and certified according to Appendix A of Part 75 is also acceptable for use under this Subpart.

If the NOx emission result from any annual performance test is less than or equal to 75 percent of the NOx emission limit in Section 2.1 F.3.b. above, the frequency of testing can be reduced to once every two years for subsequent performance tests. If the results of any subsequent performance test exceed 75 percent of the NOx emission limit, the Permittee shall resume the annual performance tests.

Each performance test (initial and subsequent) for NOx shall be conducted at ± 25 percent of 100 percent peak load or at the highest achievable load point if at least 75 percent peak load cannot be achieved in practice. Three runs shall be required for each performance test (initial and subsequent) and each run shall last for a minimum 20 minutes. Separate performance testing is required for each fuel. The ambient temperature for each test run shall be above 0^0F.

If three-run arithmetic average of NOx emissions from any performance test is above the emission limit for NOx in Section 2.1 F.3.b. above or fuel consumption and water to fuel ratio for each test run of initial performance test are not determined (when firing No. 2 fuel oil and fuel ratio monitoring is used for compliance) or initial and subsequent stack tests (when required) are not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

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[1] DAQ is requiring initial performance test on only one of two combustion turbines (ID Nos. ES-13 and ES-14). This requirement is contingent upon the stack test results of the tested turbine showing that the margin of compliance with NOx emission limit is high.

NOx Testing for Combined-cycle Operation

f. The Permittee shall conduct initial performance test and submit a written report for NOx for one of the combustion turbines (ID Nos. ES-13 and ES-14)[2] within 180 days of initial start-up of the first combustion turbine (either ES-13 or ES-14) in combined-cycle mode for both natural gas and No. 2 fuel oil firing or within 60 days after the unit achieves maximum production (either ES-13 or ES-14) in combined-cycle mode for both natural gas and fuel oil firing, whichever occurs first. The Permittee shall conduct the initial performance test in accordance with General Condition JJ.

The Permittee is required to perform subsequent annual testing (no more than 14 calendar months following the previous performance test) for NOx in accordance with General Condition JJ, if the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above.

As an alternate to subsequent annual tests requirement when the Permittee is not using water injection to comply with NOx emission limit in Section 2.1 F.3.b. above, the Permittee may install, calibrate, maintain and operate either continuous emission monitoring or continuous parameter monitoring for NOx on combustion turbines (ID Nos. ES-13 and ES-14).

If the Permittee elects to install NOx CEMs on combustion turbines (ID Nos. ES-13 and ES-14), the performance evaluation of the CEMS may either be conducted separately or (as described in §60.4405), as part of the initial performance test. Data collected during the CEMS RATA may be used to demonstrate compliance for NOx. The CEMS shall be certified according to Part 60, Section 60.4345. A NOx CEMS that is installed and certified according to Appendix A of Part 75 is also acceptable for use under this Subpart.

If the NOx emission result from any annual performance test is less than or equal to 75 percent of the NOx emission limit in Section 2.1 F.3.b. above, the frequency of testing can be reduced to once every two years for subsequent performance tests. If the results of any subsequent performance test exceed 75 percent of the NOx emission limit, the Permittee shall resume the annual performance tests.

Each performance test (initial and subsequent) for NOx shall be conducted at ± 25 percent of 100 percent peak load or at the highest achievable load point if at least 75 percent peak load cannot be achieved in practice. Three runs shall be required for each performance test (initial and subsequent) and each run shall last for a minimum 20 minutes. Separate performance testing is required for each fuel. The ambient temperature for each test run shall be above 0^0F.

Compliance with the applicable NOx emission limit shall be demonstrated by measuring the combined emissions of both units (ID Nos. ES-13 and ES-14) utilizing a common HRSG steam header (as described in §60.4333(b)). Alternatively, the Permittee can develop, demonstrate, and provide information satisfactory to the EPA Administrator on methods for apportioning the combined gross energy output from the heat recovery unit for each of the affected combustion turbines (ID Nos. ES-13 and ES-14). The EPA Administrator may approve such demonstrated substitute methods for apportioning the combined gross energy output measured at the steam turbine whenever the demonstration ensures accurate estimation of emissions related under this part.

For combined cycle turbine systems with supplemental heat (duct burner), the Permittee shall measure the total NO_X emissions after the duct burner rather than directly after the turbine. The duct burner shall be in operation during the performance test.

If three-run arithmetic average of NOx emissions from any performance test is above the emission limit for NOx in Section 2.1 F.3.b. above or fuel consumption and water to fuel ratio for each test run of initial performance test are not determined (when firing No. 2 fuel oil and fuel ratio monitoring is used for compliance) or initial and subsequent stack tests (when required) are not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

[§60.8, and §§§60.4340, 60.4400 and 60.4405]

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[2] DAQ is requiring initial performance test on only one of two combustion turbines (ID Nos. ES-13 and ES-14). This requirement is contingent upon the stack test results of the tested turbine showing that the margin of compliance with NOx emission limit is high.

g. The fuel sulfur determination as per Section 2.1. F.3.k. below shall be used to comply with the SO_2 emission limit.

[§60.8, and §§60.4360 and 60.4415]

Monitoring/Record keeping [15A NCAC 2Q .0508(f)]

h. The Permittee shall operate and maintain the combustion turbines (ID Nos. ES-13 and ES-14) including dry low NOx burners, selective catalytic reduction systems, water to fuel ratio monitoring equipment, and any other monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions and in accordance with manufacturer's guidelines at all times including during start-up, shutdown, and malfunction. [§60.4333]

i. The Permittee shall install, certify, maintain, and operate a continuous emission monitoring system (CEMS) consisting of a NO_X monitor and a diluent gas (oxygen (O_2) or carbon dioxide (CO_2)) monitor, to determine the hourly NO_X emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu).

If NOx CEMs do not comply with the requirements of §§60.4335(b) and 60.4345 or the NO_x emissions (except during startup, shutdowns, and malfunction) from the combustion turbines (ID No. ES-13 and ES-14) exceed the emission limit in Section 2.1 F.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

j. As an alternate to the annual performance tests to demonstrate continuous compliance in Section 2.1 F.e. and f. above for NOx (i.e., when water injection is not used to comply with NOx emission limit in Section 2.1 F.3.b. above), the Permittee can install, calibrate, maintain and operate a NOx CEM as per §§60.4335(b) and 60.4345 or the Permittee can install, calibrate, maintain and operate NOx continuous parameter monitoring system measuring appropriate parameters to determine whether the combustion turbines (ID Nos. ES-13 and ES-14) are operating in low-NOx mode and to verify the proper operation of SCRs, or instead upon DAQ approval, the Permittee can perform parametric monitoring described in Section 2.3 of Part 75 appendix E or in §75.19(c)(1)(iv)(H), if the combustion turbine (ID Nos. ES-13 and ES-14) are also regulated under Part 75.

If the NOx CEMs do not comply with the requirements of §§60.4335(b) and 60.4345 or the NO_x emissions (except during startup, shutdowns, and malfunction) from the combustion turbines (ID No. ES-13 and ES-14) exceed the emission limit in Section 2.1 F.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

If the Permittee does not comply with the requirements in Section 2.3 of Part 75 Appendix E or §75.19(c)(1)(iv)(H) or if the NOx emissions (except during startup, shutdowns, and malfunction) from combustion turbines (ID Nos. ES-13 and ES-14) exceed the NOx emission limit in Section 2.1 F.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.
[§§60.4335 and 60.4340]

k. The Permittee may demonstrate the fuel sulfur content by using the fuel quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract for the fuel, specifying that the maximum total sulfur content for oil use is 0.05 weight percent (500 ppmw), the total sulfur content for natural gas use is 20 grains of sulfur or less per 100 standard cubic feet and has the potential sulfur emissions of less than 0.06 lb SO_2/million Btu.

Or the Permittee may demonstrate the fuel sulfur content through representative fuel sampling data showing that potential sulfur emissions of the fuel does not exceed 0.06 lb SO_2/million Btu. In this case, the Permittee shall provide at a minimum the amount of data in Section 2.3.1.4 or 2.3.2.4. of Appendix D of Part 75.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524, if the Permittee does not make the above demonstration for natural gas and fuel oil, or the demonstration indicate that the total sulfur content of natural gas and fuel oil exceed the sulfur content limit of 20 grains per 100 standard cubic feet and 0.05 weight percent (500 ppmw), respectively, or the SO_2 emissions excluding the emissions during start-up, shutdown, and malfunction, from the combustion turbines (ID Nos. ES-13 and ES-14) exceed the emission limit in Section 2.1 F.3.c. above.

[§60.4365]

Reporting [15A NCAC 2Q .0508(f)]

l. The Permittee shall submit a notification of the date construction of an affected facility is commenced, postmarked no later than 30 days after such date. [§60.7(a)(1)]

m. The Permittee shall submit a notification of the date of initial start-up of an affected facility, postmarked within 15 days after such date. [§60.7(a)(3)]

n. The Permittee shall submit a notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with §60.13(c). Notification shall be postmarked not less than 30 days prior to such date. [§60.7(a)(5)]

o. The Permittee shall submit reports of excess emissions and monitor downtime in accordance with §60.7(c) for the combustion turbines (ID Nos. ES-13 and ES-14). The Permittee shall report excess emissions for all periods of operation, including start-up, shutdown, and malfunction. These reports shall be postmarked by the 30th day following the end of each 6-month period. [§§60.4375(a) and 60.4395]

   i. If the combustion turbine is using NOx CEM as described in §§60.4335(b), and 60.4345 excess emissions and monitor downtime shall be determined as follows:

      (A) Combined Cycle Operation: Excess emissions are any combined cycle operating period in which the 30-day rolling average NO_x emission rate exceeds the applicable emission limit in §60.4320. For the purposes of this Subpart, a "30-day rolling average NO_x emission rate" is the arithmetic average of all hourly NO_x emission data in ppm or ng/J (lb/MWh) measured by the CEM equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day, where the unit is in combined cycle mode. A new 30-day average is calculated each unit operating day as the average of all hourly NO_x emissions rates for the preceding 30 unit operating days if a valid NO_x emission rate is obtained for at least 75 percent of all operating hours.

      (B) Simple Cycle Operation: Excess emissions are any simple cycle operating period in which the 4-hour exceeds the applicable emissions limit in 40 CFR 60.4320. A "4-hour rolling average NO_x emissions rate" is the arithmetic average of the average NO_x emissions rate in ppm or ng/J (lb/MWh) measured by the CEM equipment for a given hour and the three unit operating hour average NO_x emissions rate immediately preceding that unit operating hour, where the unit is in simple cycle mode. Calculate the rolling average if a valid NO_x emissions rate is obtained for at least 3 of the 4 hours.

      (C) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_x concentration, CO_2 or O_2 concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if you will use this information for compliance purposes.

      (D) For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard. [§60.4380(b)]

   ii. If the Permittee chooses the option to monitor the sulfur content of the fuel, excess emissions and monitoring downtime shall be defined as follows [§60.4385]:

      (A) For samples of gaseous fuel, an excess emission occurs each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

      (B) If the option to sample each delivery of fuel oil has been selected, the Permittee shall immediately switch to one of the other oil sampling options (i.e., daily sampling, flow proportional sampling, or sampling from the unit's storage tank) if the sulfur content of a delivery exceeds 0.05 weight percent. The Permittee shall continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and the Permittee shall evaluate excess emissions according to this Section 2.1 F.3.o.ii. When all of the fuel from the delivery has been burned, the Permittee may resume using the as-delivered sampling option.

      (C) A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

p. The Permittee shall submit a written report of the results of each performance test required in §60.4340(a) before the close of business on the 60th day following the completion of the performance test. [§60.4375(b)]

q. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+ Natural Gas	Emission Limits*+ No. 2 Fuel Oil	Control Technology
Combustion Turbines (ID Nos. ES-13 and ES-14)	NOx (as NO_2)	Combined Cycle With Duct Firing	2 ppmvd at 15% O_2 [30-day rolling average] [First 500 hours of operation of SCR] 2.5 ppmvd at 15% O_2 [30-day rolling average] [After 500 hours of operation of SCR]	-	Dry-low NOx Combustors and Selective Catalytic Reduction
		Combined Cycle Without Duct Firing	2 ppmvd at 15% O_2 [30-day rolling average] [First 500 hours of operation of SCR] 2.5 ppmvd at 15% O_2 [30-day rolling average] [After 500 hours of operation of SCR]	10 ppmvd at 15% O_2 [24-hour rolling average]	Dry-low NOx Combustors (natural gas only), Water Injection (No. 2 fuel oil only), and Selective Catalytic Reduction
		Simple Cycle	9 ppmvd at 15% O_2 [24-hour rolling average]	42 ppmvd at 15% O_2 [24-hour rolling average]	Dry-low NOx Combustors (natural gas only) and Water Injection (No. 2 fuel oil only)

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+ Natural Gas	No. 2 Fuel Oil	Control Technology
Combustion Turbines (ID Nos. ES-13 and ES-14)	CO	Combined Cycle With Duct Firing	8 ppmvd at 15% O_2 at 60%-100% load (Stack Test, 3 run average)	-	good combustion control
		Combined Cycle Without Duct Firing	4 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 90%-100% load (Stack Test, 3 run average)	good combustion control
			10 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	20 ppmvd at 15% O_2 at 80%-90% load (Stack Test, 3 run average)	
				30 ppmvd at 15% O_2 at 70%-80% load (Stack Test, 3 run average	
		Simple Cycle	4 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 90%-100% load (Stack Test, 3 run average)	good combustion control
			10 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	20 ppmvd at 15% O_2 at 80%-90% load (Stack Test, 3 run average)	
				30 ppmvd at 15% O_2 at 70%-80% load (Stack Test, 3 run average)	

Emission Source	Pollutant	Mode Of Operation	Emission Limits*+ Natural Gas	No. 2 Fuel Oil	Control Technology
Combustion Turbines (ID Nos. ES-13 and ES-14)	VOC (as CH_4)	Combined Cycle With Duct Firing	3 ppmvd at 15% O_2 at 60%-100% load (Stack Test, 3 run average)	-	good combustion control
		Combined Cycle Without Duct Firing	1 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average) 5 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	good combustion control
		Simple Cycle	1 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average) 5 ppmvd at 15% O_2 at 60%-70% load (Stack Test, 3 run average)	10 ppmvd at 15% O_2 at 70%-100% load (Stack Test, 3 run average)	good combustion control
Combustion Turbines (ID Nos. ES-13 and ES-14)	PM/PM10 (filterable and condensible)	Combined Cycle With Duct Firing	0.0059 lb/million Btu (Stack Test, 3 run average)	-	use of natural gas (0.2 grain/100 sft^3 sulfur content)
		Combined Cycle Without Duct Firing	0.0071 lb/million Btu (Stack Test, 3 run average)	0.0435 lb/million Btu (Stack Test, 3 run average)	use of natural gas (0.2 grain/100 sft^3 sulfur content) and No. 2 fuel oil (0.0015%w sulfur content)
		Simple Cycle	0.0069 lb/million Btu (Stack Test, 3 run average)	0.0432 lb/million Btu (Stack Test, 3 run average)	use of natural gas (0.2 grain/100 sft^3 sulfur content) and No. 2 fuel oil (0.0015%w sulfur content)

* BACT emission limits shall apply to each source (ID Nos. ES-13 and ES-14). Emissions resulting from start-up, shutdown or malfunction above those given in Section 2.1 F.4.a. above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized.

For the simple cycle operation using natural gas, periods of excess emissions due to start-up and/or shutdown or operation below 60% load shall not exceed two hours (120 minutes) in any 24-hour block period beginning at midnight. For the simple cycle operation using fuel oil, periods of excess emissions due to start-up and/or shutdown or operation below 70% load shall not exceed two hours in any 24-hour block period beginning at midnight. In no case shall the start-up and/or shutdown or operation below 60% load (natural gas)/70% load (fuel oil) exceed two hours (120 minutes) in any 24-hour block period beginning at midnight for simple-cycle operations.

For the combined cycle operation using natural gas, periods of excess emissions due to start-up and/or shutdown or operation below 60% load shall not exceed six hours (360 minutes) in any 24-hour block period beginning at midnight. For the combined cycle operation using fuel oil, periods of excess emissions due to start-up and/or shutdown or operation below 70% load shall not exceed six hours (360 minutes) in any 24-hour block period beginning at midnight. In no case shall the start-up and/or shutdown or operation below 60% load (natural gas)/70% load (fuel oil) exceed six hours (360 minutes) in any 24-hour block period beginning at midnight for combined-cycle operations.

Start-up for both simple cycle and combined cycle operations is defined as the period from initial firing to 60% load for natural gas and initial firing to 70% load for fuel oil. Shutdown for both simple cycle and combined cycle operations is defined as the period from 60% load to flame out for natural gas and 70% load to flameout for fuel oil.

+ Compliance with the BACT limits (except for NOx BACT for combined cycle operation) shall be based on 3-run average of a stack test. Any use of continuous emission monitoring systems data for demonstrating compliance with BACT for any pollutants (except NOx for combined cycle operation) will require reevaluation of applicable BACT limits.

b. The following emission limits shall apply and shall not be exceeded in order to demonstrate compliance with the National Ambient Air Quality Standards as required by 15A NCAC 2D .0530 and 40 CFR 51.166(k):

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS			
		Annual tons/yr[a]	per 24-hour lbs	per 8-hour lbs	per 1-hour lbs
Combustion Turbines (ID Nos. ES-13 and ES-14)	Nitrogen Oxides (As Nitrogen Dioxide)	545.3	-	-	-
	Particulates/PM-10 (Filterable And Condensable)	-	1,337.3	-	-
	Carbon Monoxide	-	-	1,066.9	133.4

[a] Tons per consecutive 12-month period based on a maximum 2,000 operating hours for simple cycle operations in each combustion turbine (ID Nos. ES-13 and ES-14), a maximum of 1,000 operating hours for fuel oil firing in each combustion turbine (ID Nos. ES-13 and ES-14) in either simple or combined cycle operations, a maximum of 8,760 hours for combined cycle operations for natural gas firing in each combustion turbine (ID Nos. ES-13 and ES-14), and 100% load.

Testing [15A NCAC 2Q .0508(f)]

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits for NOx, CO, and VOC in Section 2.1 F.4.a. above by testing one of these combustion turbines (ID Nos. ES-13 and ES-14) within 180 days of initial start-up of the first combustion turbine (either ES-13 or ES-14) in simple cycle mode for both natural gas and No. 2 fuel oil firing.

Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits for NOx, CO, and VOC in Section 2.1 F.4.a. above by testing one of these combustion turbines (ID Nos. ES-13 and ES-14) within 180 days of initial start-up of the first combustion turbine (either ES-13 or ES-14) in combined-cycle mode for both natural gas and No. 2 fuel oil firing. The Permittee shall measure NOx, CO, and VOC emissions for each scenario: combined cycle with duct firing and combined cycle without duct firing.

Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ.

Performance tests for NOx, CO, and VOC shall be conducted at ± 25 percent of 100 percent peak load or at the highest achievable load point if at least 75 percent peak load cannot be achieved in practice. Number of runs and time required for each run for the performance tests shall be in accordance with the approved testing protocol and Section 2.1 F.4.a. above. The ambient temperature for each test run shall be above 0^0F. The averaging time for demonstrating compliance for NOx, CO, and VOC shall be those in the Section 2.1 F.4.a. above.

If the average of all runs of any performance test for NOx or CO or VOC emissions exceed the respective emission limits in Section 2.1 F.4.a. above or the stack tests are not performed, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

No emission testing is required for compliance with PM/PM10 emission limits in Section 2.1 F.4.a. and b. above.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

d. The maximum annual hours of operation for each combustion turbine (ID Nos. ES-13 and ES-14) shall not exceed 1,000 full load equivalent hours per rolling 12-month period when firing No. 2 fuel oil.

e. The maximum annual hours of operation for simple cycle operation for each combustion turbine (ID Nos. ES-13 and ES-14) shall not exceed 2,000 full load equivalent hours per rolling 12-month period.

f. The Permittee shall record and maintain records of the actual number of hours of operation for simple cycle operation and fuel oil firing for each combustion turbine (ID Nos. ES-13 and ES-14). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained or if the hours of operation for simple cycle operation for any combustion turbine (ID Nos. ES-13 and ES-14) exceeds 2,000 full load equivalent hours per rolling 12-month period or the hours of operation for fuel oil firing in any combustion turbine (ID Nos. ES-13 and ES-14) exceeds 1,000 full load equivalent hours per rolling 12-month period.

g. Only natural gas shall be burned during summer months (May 1 through September 30) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed four hours per calendar month per turbine), and during compliance testing.

h. No monitoring/recordkeeping is required for emissions of CO, VOC, and PM/PM10 from the combustion turbines (ID Nos. ES-13 and ES-14).

i. The Permittee shall monitor NOx emissions from the combustion turbines (ID Nos. ES-13 and ES-14) using CEMS for both simple and combined cycle operations, in order to demonstrate compliance with the NOx BACT emission limits. If the NOx CEMS does not comply with the requirements of §60.4335(b) and §60.4345 or if the NOx emissions (except during startup, shutdowns, and malfunction) exceed the NOx BACT emission limits in Section 2.1 F.4.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

j. In addition to the NOx emissions monitoring requirement in Section 2.1 F.4.i. above, the Permittee shall comply with the following requirements for NOx emissions from the combustion turbines (ID Nos. ES-13 and ES-14) 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_x 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_x 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.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the ammonia injection rate to the SCR system is not continuously measured and recorded when the turbine is operating in a combined cycle mode of operation or the ammonia injection rate is less than the injection rate established during the performance test in Section 2.1 F.4.c. above.

Reporting [15A NCAC 2Q .0508(f)]

k. The Permittee shall submit a written report of the results of each performance test required in Section 2.1 F.4.c. above, before the close of business on the 60th day following the completion of the performance test.

l. For combustion turbines (ID Nos. ES-13 and ES-14) when operating in either simple cycle or combined cycle mode of operation, the Permittee shall submit reports of excess emissions and monitor downtime in accordance with §60.7(c). The Permittee shall report excess emissions for all periods of operation, including start-up, shutdown, and malfunction. These reports shall be postmarked by the 30th day following the end of each 6-month period.

   i. For the NOx CEM, excess emissions and monitor downtime due to the combined cycle operations firing natural gas shall be as defined below:

(A) An excess emission is any unit operating period in which the 30-day rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. A "30-day rolling average NO_X emission rate" is the arithmetic average of all hourly NO_X emission data in ppm measured by the continuous emission monitoring equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NO_X emissions rates for the preceding 30 unit operating days if a valid NO_X emission rate is obtained for at least 75 percent of all operating hours.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration.

ii. For the NOx CEM, excess emissions and monitor downtime due to the combined cycle operations firing fuel oil shall be as defined below:

(A) An excess emission is any unit operating period in which the 24-hour rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at loads above 70 percent at least 15 minutes apart.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration.

iii. For the NOx CEM, excess emissions and monitor downtime due to the simple cycle operations firing natural gas shall be as defined below:

(A) An excess emission is any unit operating period in which the 24-hour rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at loads above 60 percent at least 15 minutes apart.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration

iv. For the NOx CEM, excess emissions and monitor downtime due to the simple cycle operations firing fuel oil shall be as defined below:

(A) An excess emission is any unit operating period in which the 24-hour rolling average NO_X emission rate exceeds the emission limit in Section 2.1 F.4.a. above. The 24-hour rolling average is calculated using only actual operating hours (periods of zero emissions when not operating are not included). A valid hourly emission rate shall be calculated for each hour in which at least two NOx concentrations are obtained at loads above 70 percent at least 15 minutes apart.

(B) A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO_X concentration, CO_2 or O_2 concentration

m. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY [40 CFR 63 Subpart YYYY]

a. For combustion turbines (ID Nos. ES-13 and ES-14), the Permittee shall demonstrate compliance upon startup with all applicable provisions, including emission limitations, operating limitations, monitoring, record keeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart YYYY "National Emission Standards of Hazardous Air Pollutants for Stationary Combustion Turbines".

b. These combustion turbines are affected sources subject to the stay of standards for gas-fired subcategories under 40 CFR 63.6095(d). Based on historic fuel oil usage at this major source these combustion turbines are classified as "lean premix gas-fired stationary combustion turbines" as defined in 40 CFR 63.6175 because they are equipped to fire both natural gas using lean premix technology and oil, and are located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year. Beginning on the date on which all new, reconstructed, and existing stationary combustion turbines fire oil more than 1000 hours in any calendar year, the Permittee shall demonstrate compliance with all applicable requirements under 40 CFR 63 Subpart YYYY for sources classified as "diffusion flame oil-fired stationary combustion turbines" as defined in 40 CFR 63.6175. If all new, reconstructed, and existing stationary combustion turbines fire oil more than 1000 hours per calendar year but fail to meet all applicable requirements under 40 CFR 63 Subpart YYYY for " diffusion flame oil-fired stationary combustion turbines" the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

c. The Permittee shall submit the initial notification in accordance with 40 CFR 63.6145(d) and 40 CFR 63.9(a)(4)(ii) and submit notification just prior to the date on which all new, reconstructed, and existing stationary combustion turbines fire oil more than 1000 hours in any calendar year to the following: [15A NCAC 2Q .0508(f)]
   i. Division of Air Quality, Permitting Section
   ii. Division of Air Quality, Fayetteville Regional Office Permitting Section, and
   iii. EPA Region 4

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the initial notification is not submitted.

   Recordkeeping [15A NCAC 2Q .0508(f)]

d. The Permittee shall maintain record of the number of hours all on-site new, reconstructed, and existing stationary combustion turbines fire oil during each calendar year. These records shall be maintained on file in a logbook (written or electronic format) for a minimum of five (5) years and be available for inspection by DAQ personnel upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the above records are not maintained.

6. 15A NCAC 2D .2400: CLEAN AIR INTERSTATE RULES

The Permittee shall comply with all applicable requirements in 15A NCAC 2D .2400 for combustion turbines (ID Nos. ES-13 and ES-14).

G. One natural gas-fired auxiliary boiler (16.74 million Btu per hour heat input rate, ID No. ES-15)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
None	Recordkeeping	15A NCAC 2D .0524 (40 CFR 60 Subpart Dc)
Nitrogen Oxides (As NO_2) Carbon Monoxide Volatile Organic Compounds PM/PM_{10}	As defined in specific conditions	15A NCAC 2D .0530
HAP's	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from this source (ID No. ES-15) into the atmosphere shall not exceed 0.19 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in this source (ID No. ES-15).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source (ID No. ES-15) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas for this source (ID No. ES-15).

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source (ID No. ES-15) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from this source (ID No ES-15).

4. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR PART 60 SUBPART Dc)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Dc, including Subpart A "General Provisions."
[15A NCAC 2D .0524]

Recordkeeping [15A NCAC 2Q .0508(f)]

b. The Permittee shall record and maintain records of the amount of fuel burned during each calendar month. Such records shall be maintained on site at the source for a period of two (2) years following the date of such record. [§60.48c(g)]
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

c. The Permittee shall submit a notification of the date construction of an affected facility is commenced, postmarked no later than 30 days after such date. [§60.7(a)(1) and §60.48c(a)]
d. The Permittee shall submit a notification of the date of initial start-up of an affected facility, postmarked within 15 days after such date. [§60.7(a)(3) and §60.48c(a)]
e. The Permittee shall submit a summary report of recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS	CONTROL TECHNOLOGY
Auxiliary Boiler (ID No. ES-15)	Nitrogen Oxides (as NO_2)	0.018 lb/million Btu	Low-NOx burner
	Carbon Monoxide	0.037 lb/million Btu	Good combustion control
	VOC (as CH_4)	0.016 lb/million Btu	Good combustion control

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS	CONTROL TECHNOLOGY
	PM/PM10 (filterable and condensable)	0.01lb/million Btu	Good combustion control

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. No monitoring/recordkeeping/reporting is required for emissions of NOx, CO, VOC, and PM/PM10 from the firing of natural gas in this source.

6. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID No. ES-15). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burner, and clean or replace any components of the burner as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

   The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

c. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and,
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

d. No reporting is required.

H. One multi-cell cooling tower (150,000 gallons per minute recirculation water flow rate, ID No. Tower5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tons/hr Or $E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons/hr Where: E = allowable emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 2D .0515
PM/PM10	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source (ID No. Tower5) shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)]

$E = 4.10 \times P^{0.67}$ for $P \leq 30$ tons per hour
or
$E = 55.0 \times P^{0.11} - 40$ for $P > 30$ tons per hour

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in 2.1 H.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate matter emissions from this source.

2. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

EMISSION SOURCE	POLLUTANT	EMISSION LIMITS*	CONTROL TECHNOLOGY
Cooling Tower (ID No. Tower5)	PM/PM10	0.0005% drift loss [3-hour rolling average]	Drift Eliminators

* BACT emission limits shall apply at all times except during the following: Emissions resulting from start-up, shutdown or malfunction above those given in Section 2.1 H.2.a. above are permitted provided that optimal operational practices are adhered to and periods of excess emissions are minimized.

Testing [15A NCAC 2Q .0508(f)]

b. No emission testing is required for compliance with PM/PM10 emission limit for this source (ID No. Tower5) in Section 2.1 H.2.a. above.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for PM/PM10 emissions from this source (ID No. Tower5).

I. One No. 2 fuel oil fixed-roof storage tank with atmospheric vents (not to exceed 3.5 million gallons capacity, ID No. TK-5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
None	Recordkeeping	15A NCAC 2D .0524 (40 CFR 60 Subpart Kb)
VOC's	As defined in specific conditions	15A NCAC 2D .0530

1. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR 60 SUBPART Kb)

Recordkeeping [15A NCAC 2Q .0508(f)]

a. The Permittee shall comply with the recordkeeping requirements of this standard by maintaining records, available for review at any time upon request, showing the dimensions of the storage vessels and an analysis showing the capacity of the storage vessels. All records shall be kept for the life of the source. These sources are exempt from General Provisions (40 CFR Part 60 Subpart A) and from any other provisions of Subpart Kb.

2. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Emission Source	Pollutant	Emission Limit Annual (Tons/Yr)*	Control Technology
Fuel Oil Storage Tank (ID No. TK-5)	VOC's	0.35	Storage of low vapor pressure material (< 3.5 psia)

* Tons per consecutive 12-month period.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

b. The maximum throughput for No. 2 fuel oil for the storage tank (ID No. TK5) shall not exceed 28,284,500 gallons per year.

c. The Permittee shall keep records for the storage tank (ID No. TK-5) on a monthly basis for No. 2 fuel oil in a written or electronic format. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amount of No. 2 fuel oil used is not monitored or the annual throughput for the storage tank (ID No. TK5) exceeds the limit included in Section 2.1 I.1.a. above.

J. Two natural gas-fired fuel gas heaters (2.6 million Btu per hour heat input rate each, ID Nos. ES-19 and ES-20)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.19 pound per million Btu heat input	15A NCAC 2D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible Emissions	20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity if (i) no six-minute period exceeds 87 percent opacity, (ii) no more than one six-minute period exceeds 20 percent opacity in any hour, and (iii) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.	15A NCAC 2D .0521
Hazardous Air Pollutants	Best Combustion Practices	15A NCAC 2D .1109

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas that are discharged from these sources (ID Nos. ES-19 and ES-20) the atmosphere shall not exceed 0.19 pounds per million Btu heat input each. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 J.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in these sources (ID Nos. ES-19 and ES-20)).

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources (ID Nos. ES-19 and ES-20) shall not exceed 2.3 pounds per million Btu heat input each. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 J.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas for these sources (ID Nos. ES-19 and ES-20).

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources (ID Nos. ES-19 and ES-20) shall not be more than 20 percent opacity (except during startups, shutdowns, and malfunctions) when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 J.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

a. No monitoring/recordkeeping/reporting is required for visible emissions from these sources (ID Nos. ES-19 and ES-20).

4. 15A NCAC 2D .1109: Case-by-Case MACT

a. The Permittee shall use best combustion practices when operating the affected boilers (ID Nos. ES-19 and ES-20). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **April 25, 2014.** These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring/Recordkeeping

a. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
   i. Inspect the burner, and clean or replace any components of the burner as necessary;
   ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
   iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

   The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

b. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and
   iii. The results of any maintenance performed on the boilers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

c. No reporting is required.

2.2 - Phase II Acid Rain Permit Requirements

ORIS code: 7805
Effective: January 1, 2010 through December 31, 2014

1. Statement of Basis

Statutory and Regulatory Authorities: In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended and Titles IV and V of the Clean Air Act, the Department of Environment and Natural Resources, Division of Air Quality issues this permit pursuant to Title 15A North Carolina Administrative Codes, Subchapter 2Q .0400 and 2Q .0500, and other applicable Laws.

2. SO_2 Allowance Allocations and NO_x Requirements for each affected unit

		2006	2007	2008	2009	2010
Unit 1 (IC Turbine) **Unit 2 (IC Turbine)** **Unit 3 (IC Turbine)** **Unit 4 (IC Turbine)** **Unit 6 (IC Turbine)** **Unit 7 (IC Turbine)** **Unit 8 (IC Turbine)** **Unit 13 (IC Turbine)** **Unit 14 (IC Turbine)**	SO_2 allowances, under Tables 2, 3, or 4 of 40 CFR part 73.	NA*	NA*	NA*	NA*	NA*
	NO_x limit	NA**				

* SO_2 allowances are not allocated by U.S. EPA for new units under 40 CFR Part 72.
** Does not apply for gas or oil-fired units.

3. Comments, Notes and Justifications

None.

4. Phase II Permit Application (attached)

The Phase II Permit Application submitted for this facility, as approved by the Department of Environment and Natural Resources, Division of Air Quality, is part of this permit. The owners and operators of these Phase II acid rain sources must comply with the standard requirements and special provisions set forth in the following attached application:

Acid Rain Permit Application dated December 14, 2009

2.3 - Clean Air Interstate Rules (CAIR) Permit Requirements

ORIS code: 7805

The following sources are affected CAIR units:

PERMITTED SOURCE ID No.	CAIR ID No.
Unit 1	1
Unit 2	2
Unit 3	3
Unit 4	4
Unit 6	6
Unit 7	7
Unit 8	8

A. 15A NCAC 2D .2403: NITROGEN OXIDE EMISSIONS

1. The total nitrogen oxide (NOx) emissions from the affected CAIR units listed above at the Richmond County Combustion Turbine Facility shall not exceed, except as provided in 15A NCAC 2D .2408: [15A NCAC 2D .2403]
   a. 374 tons annually for 2009-2014
   b. 318 tons annually for 2015 and later
   If any of the CAIR sources listed above is a new source for which allocations have not been included in the table in 15A NCAC 2D .2403, the CAIR designated representative may submit a request to be allocated CAIR NOx allowances for those sources using the procedures in 40 CFR 96.142(c)(2) and (3).
2. The affected CAIR NOx sources shall comply with the requirements of 15A NCAC 2D .2400 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2403 shall be subject to the provisions of 40 CFR 96.106(f). [15A NCAC 2D .2403]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2403 and 15A NCAC 2D .2407(a)(1)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.106(b) and (e), and 40 CFR 96 Subpart HH for each CAIR NOx unit.
5. The emissions of nitrogen oxides of a CAIR NOx source shall not exceed the number of allowances that it has in its compliance account established and administered under Rule .2408 of this Section.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HH shall be used to determine compliance by each CAIR NOx source with its emissions limitation according to 40 CFR 96.106(c) including 96.106(c)(5) and (6).
7. The provisions of 40 CFR 96.106(d) shall be used for excess emissions.

B. 15A NCAC 2D .2405: NITROGEN OXIDE EMISSIONS DURING OZONE SEASON

1. Ozone season NOx emissions from the affected CAIR units listed above at the Richmond County Combustion Turbine Facility shall not exceed, except as provided in 15A NCAC 2D .2408: [15A NCAC 2D .2405(a)(1) and (b)]
   a. 335 tons during the ozone season for 2009-2014; and
   b. 285 tons during the ozone season for 2015 and later
   The ozone season shall be defined as the period of time extending from May 1st to September 30th of each calendar year. If any of the CAIR sources listed above is a new source for which allocations have not been included in the table in 15A NCAC 2D .2405, the CAIR designated representative may submit a request to be allocated CAIR NOx ozone season allowances for those sources using the procedures in 40 CFR 96.342(c)(2) and (3).
2. The affected CAIR NOx Ozone Season sources shall comply with the requirements of 15A NCAC 2D .2400 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2405 shall be subject to the provisions of 40 CFR 96.306(f). [15A NCAC 2D .2405]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2405 and 15A NCAC 2D .2407(a)(3)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.306(b) and (e), and 40 CFR 96 Subpart HHHH for each CAIR Ozone Season NOx unit.

5. The nitrogen oxide ozone season emissions of a CAIR NOx Ozone Season source shall not exceed the number of allowances that it has in its compliance account established and administered under 15A NCAC 2D .2408. For purposes of making deductions for excess emissions for the ozone season in 2008 under the NOx SIP Call (15A NCAC 2D .1400), the Administrator shall deduct allowances allocated under this Rule (15A NCAC 2D .2405) for the ozone season in 2009.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHHH shall be used to determine compliance by each CAIR NOx Ozone Season source with its emissions limitation according to 40 CFR 96.306(c) including 96.306(c)(5) and (6).
7. The provisions of 40 CFR 96.306(d) shall be used for excess emissions.

C. 15A NCAC 2D .2404: SULFUR DIOXIDE EMISSIONS

1. The annual allocation of sulfur dioxide allowances shall be determined by EPA. The allocations for CAIR SO_2 units are listed in the table below and reflect the absence of allocations listed in 40 CFR 73.10:

SOURCE	ALLOCATION FOR 2000-2009	ALLOCATION FOR 2010 AND LATER
Unit 1	0	0
Unit 2	0	0
Unit 3	0	0
Unit 4	0	0
Unit 6	0	0
Unit 7	0	0
Unit 8	0	0

2. The affected CAIR SO2 sources shall comply with the requirements of 15A NCAC 2D .2400 using the trading program and banking set out in 40 CFR Part 96. [15A NCAC 2D .2408]
3. The owner or operator of any unit or source covered under 15A NCAC 2D .2404 shall be subject to the provisions of 40 CFR 96.206(f). [15A NCAC 2D .2404]

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .2404 and 15A NCAC 2D .2407(a)(2)]

4. The Permittee shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 96.206(b) and (e), and 40 CFR 96 Subpart HHH for each CAIR SO2 unit.
5. The emissions of sulfur dioxides of a source described in Section 2.5.C.1 above shall not exceed the number of allowances that it has in its compliance account established and administered under Rule 15A NCAC 2D .2408.
6. The emissions measurements recorded and reported according to 40 CFR Part 96 Subpart HHH shall be used to determine compliance by each CAIR SO2 source with its emissions limitation according to 40 CFR 96.206(c) including 96.206(c)(5) and (6).
7. The provisions of 40 CFR 96.206(d) shall be used for excess emissions.

D. CAIR Permit Application

The permit application submitted for this facility, as approved by the Department of Environment and Natural Resources, Division of Air Quality, is part of this permit. The owner and operator of these CAIR NOx and SO2 sources must comply with the standard requirements and special provisions set forth in the following attached application:

CAIR Permit Application dated June 26, 2007

SECTION 3 - GENERAL CONDITIONS (version 3.6)

This section describes terms and conditions applicable to this Title V facility.

A. **General Provisions** [NCGS 143-215 and 15A NCAC 2Q .0508(i)(16)]

1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 2D and 2Q.
2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 2Q .0507(k) and .0508(i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environment and Natural Resources upon request.

C. **Severability Clause** [15A NCAC 2Q .0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 2Q .0507(e) and 2Q .0508(i)(16)]
Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:
Supervisor, Stationary Source Compliance
North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

All submittals shall include the facility name and Facility ID number (refer to the cover page of this permit).

E. **Duty to Comply** [15A NCAC 2Q .0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

F. **Circumvention** - STATE ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

G. **Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 2Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 2Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 2Q .0524 and 2Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 2Q.0524 and 2Q .0505.
3. Minor Permit Modifications [15A NCAC 2Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 2Q .0515.
4. Significant Permit Modifications [15A NCAC 2Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 2Q .0516.
5. Reopening for Cause [15A NCAC 2Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 2Q .0517.

H. **Changes Not Requiring Permit Modifications**
1. Reporting Requirements
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

2. Section 502(b)(10) Changes [15A NCAC 2Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.
   d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 2Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or
   b. the change is not covered under any applicable requirement.

4. Emissions Trading [15A NCAC 2Q .0523(c)]
   To the extent that emissions trading is allowed under 15A NCAC 2D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 2Q .0523(c).

I.A. **Reporting Requirements for Excess Emissions and Permit Deviations**
[15A NCAC 2D .0535(f) and 2Q .0508(f)(2)]
"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 2D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 2Q .0700. *(Note: Definitions of excess emissions under 2D .1110 and 2D .1111 shall apply where defined by rule.)*
"Deviations" - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 2D .0535 as follows:
   a. Pursuant to 15A NCAC 2D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 2D .0535(f)(3).

Permit Deviations

3. Pursuant to 15A NCAC 2Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
   a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 2D .0535 quarterly. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.B. **Other Requirements under 15A NCAC 2D .0535**
The Permittee shall comply with all other applicable requirements contained in 15A NCAC 2D .0535, including 15A NCAC 2D .0535(c) as follows:

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 2D .0535(c)(1) through (7).
2. 15A NCAC 2D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

J. **Emergency Provisions** [40 CFR 70.6(g)]

The Permittee shall be subject to the following provisions with respect to emergencies:

1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
   a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
   b. the permitted facility was at the time being properly operated;
   c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
   d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 2Q .0508(e) and 2Q .0513(b)]
This 15A NCAC 2Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 2Q .0500 renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 2Q .0512(b)(1), this 15A NCAC 2Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 2Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 2Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 2Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 2Q .0508(i)(4)]
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 2Q .0508(i)(9)]

1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 2Q .0507(f)]
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 2Q .0508(f) and 2Q .0508 (l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and

readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 2Q .0508(n)]
The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:
1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. **Certification by Responsible Official** [15A NCAC 2Q .0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 2Q .0512]
1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
   a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
   b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
   c. the applicable requirements under Title IV; or
   d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 2Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 2Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 2Q .0519]
The Director may terminate, modify, or revoke and reissue this permit if:
1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. **Insignificant Activities** [15A NCAC 2Q .0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 2Q .0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. **Inspection and Entry** [15A NCAC 2Q .0508(l) and NCGS 143-215.3(a)(2)]

1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
   a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
   b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
   c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
   d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 2Q .0508(i)(10)]

1. The Permittee shall pay all fees in accordance with 15A NCAC 2Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environment and Natural Resources. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 2Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 2Q .0207]

The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 2Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

Y. **Confidential Information** [15A NCAC 2Q .0107 and 2Q. 0508(i)(9)]

Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 2Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 2Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 2Q .0100 and .0300]

A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 2Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 2Q .0505 and .0507]

The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 2Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History** [15A NCAC 2Q .0507(d)(4)]

The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 2Q .0501(e)]

1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.

2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR □ 82.166. Reports shall be submitted to the EPA or its designee as required.

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 2Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** - FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. **Title IV Allowances** [15A NCAC 2Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 2D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 2D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 2D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 2D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 2D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 2D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 2Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 2D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.

4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
   a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
      (1) Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
      (2) Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
      (3) Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
   b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 2D .2600 has precedence over all other tests.

KK. **Reopening for Cause** [15A NCAC 2Q .0517]

1. A permit shall be reopened and revised under the following circumstances:
   a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
   b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
   c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
   d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 2Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 2Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 2Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 2Q .0508(i)(16)]

The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. During operation the monitoring recordkeeping and reporting requirements as prescribed by the permit shall be implemented within the monitoring period.

MM. **Fugitive Dust Control Requirement** [15A NCAC 2D .0540] - STATE ENFORCEABLE ONLY

As required by 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 2D .0540(f). "Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

NN. **Specific Permit Modifications** [15A NCAC 2Q.0501 and .0523]

1. For modifications made pursuant to 15A NCAC 2Q .0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 2Q .0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 2Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
   a. a description of the change at the facility;
   b. the date on which the change will occur;
   c. any change in emissions; and
   d. any permit term or condition that is no longer applicable as a result of the change.

   In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

OO. **Third Party Participation and EPA Review** [15A NCAC 2Q .0521, .0522 and .0525(7)]

For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 2Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
BTU	British thermal unit
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
DAQ	Division of Air Quality
DENR	Department of Environment and Natural Resources
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
OAH	Office of Administrative Hearings
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TPY	Tons Per Year
VOC	Volatile Organic Compound

Ceron, Heather

From: Shepherd, Lorinda
Sent: Wednesday, July 23, 2014 11:53 AM
To: Ceron, Heather
Subject: RE: Proposed NC Air Quality Permit No. 08759T17
Attachments: AirPermitReviewT17proposed.doc

This permit had a numbering issue in NC's system. BREDL originally comment during the PSD permit's comment period which prompted Art's email below.

Mr. Zeller:

The U.S. Environmental Protection Agency has received your petition dated January 17, 2014, on behalf of the Concerned Citizens of Richmond County and the Blue Ridge Environmental Defense League (BREDL), regarding Duke Energy Progress – Richmond County Combustion Turbine Facility. However, after consulting with NCDENR, it is our understanding that your petition is "premature" (*i.e.*, it was submitted prior to the 60-day petition period since NCDENR pulled the permitting action out of parallel track in response to your comments on the draft/proposed title V significant revision) and, thus, not ripe for consideration by EPA at this time. It appears that there may have been some confusion regarding petitioning timeframes that resulted from an error made by NCDENR's data system (the duplicative designation of the subject permitting action as "08759T15"). Nonetheless, NCDENR plans to repropose the permitting action (to EPA) after it addresses your comments and to notify you of the restarting of EPA's 45-day review period. This will, of course, establish another 60-day petition period during which you may resubmit the petition should you feel NCDENR still has not resolved your issues/concerns to your satisfaction.

If you have any questions regarding this matter, please feel free to contact me or Lori Shepherd at (404) 562-8435. Thank you.

Art Hofmeister

In response to the comments, the title V permit was taken out of parallel review and was re-proposed to us on June 5. The proposed permit did not go back out to public comment because the changes made to the draft permit due to public comments were not significant. NC addressed the comments in the S.O.B./review (attached). The review also lists the other changes made to the permit.

The last comment I had was regarding the six gas heaters removed from the permit because they are owned, operated and maintained by Piedmont Natural Gas. Duke/Progress supplied documentation from PNG that this was the case and there is no control of the heaters by Duke/Progress.

I need to refer back to the original BREDL comments. I am looking now to see if I have a copy in my emails. I do not recall a specific comment on SSM emissions.

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303

(404) 562-8435

From: Ceron, Heather
Sent: Wednesday, July 23, 2014 11:27 AM
To: Shepherd, Lorinda
Subject: Re: Proposed NC Air Quality Permit No. 08759T17

No idea. I want to update scott on this. Can you do a quick email to me on what this is and the history?

From: Shepherd, Lorinda
Sent: Wednesday, July 23, 2014 11:24:56 AM
To: Ceron, Heather
Subject: RE: Proposed NC Air Quality Permit No. 08759T17

So, what is our next step with this?

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ceron, Heather
Sent: Tuesday, July 22, 2014 9:36 AM
To: Shepherd, Lorinda
Subject: Fw: Proposed NC Air Quality Permit No. 08759T17

From: bredl <bredl@skybest.com>
Sent: Monday, July 21, 2014 11:59:14 PM
To: Ceron, Heather; Lusky, Katy; Krivo, Stan
Subject: Proposed NC Air Quality Permit No. 08759T17

July 21, 2014

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached_____

NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review (**PROPOSED**)

Permit Issue Date:

Region: Fayetteville Regional Office
County: Richmond
NC Facility ID: 7700070
Inspector's Name: James Moser
Date of Last Inspection: 06/19/2013
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Duke Energy Progress - Richmond County Turbines

Facility Address:
Duke Energy Progress - Richmond County Turbines
Richmond County Energy Complex
Hamlet, NC 28345

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: 2D .0530(h) State BACT update
NSPS: 2D .0524 NSPS Subpart KKKK update
NESHAP: 2D .1111 Subpart MACT YYYY update
PSD: 2D .0530 BACT update
PSD Avoidance:
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Kim Kashmer Senior Environmental Specialist (910) 205-2111 198 Energy Way Hamlet, NC 28345	Teresa Wilson Station Manager (910) 205-2101 198 Energy Way Hamlet., NC 28345	Ann Quillian Sr. Environmental Specialist (919) 546-6610 PO Box 1551 Raleigh, NC 27602

Application Data

Application Number: 7700070.11A
Date Received: 06/13/2011
Application Type: Modification
Application Schedule: TV-Significant

Existing Permit Data

Existing Permit Number: 08759/T16
Existing Permit Issue Date: 12/03/2013
Existing Permit Expiration Date: 03/31/2016

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2012	22.11	514.96	63.50	657.11	205.81	37.72	25.88 [Formaldehyde]
2011	19.59	517.01	49.39	506.63	159.16	29.73	19.86 [Formaldehyde]
2010	12.46	442.12	35.51	372.95	118.70	21.26	14.67 [Formaldehyde]
2009	8.27	237.29	21.92	229.34	74.05	13.07	9.00 [Formaldehyde]
2008	9.02	239.34	17.34	192.57	61.34	10.91	7.48 [Formaldehyde]

Review Engineer: Mike Gordon / Jeff Twisdale

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

Comments / Recommendations:

Issue 08759/T17
Permit Issue Date:
Permit Expiration Date: 03/31/2016

1. **Purpose of Application:**

Duke Energy Progress, Inc. "DEP" submitted an application for significant modification of their Title V permit on June 13, 2011. The application is for the incorporation of changes authorized previously, under 15A NCAC 2Q .0501(c)(2) rules, into the facility Title V permit within twelve (12) months of commencing operation. DEP is also requesting in the application the removal of several emissions sources that are owned by a third party, the removal of alternative compliance procedures under several NSPS and MACT sources, clarification of several rule requirements that DEP felt were confusing as written, and other minor permit corrections.

2. **Facility Description:**

Duke Energy Progress, Inc – Richmond County Combustion Turbine Facility (RCCTF) is located in Hamlet, Richmond County, North Carolina. Prior to construction of the combined-cycle combustion turbine project that included the two nominal 190 MW Siemens SGT6-5000F combustion turbine generators (ID Nos. ES-13 and ES-14) and ancillary equipment (see Section 5.1 below), the facility operated a 1,600 MW combustion turbine electric generation facility. The facility consisted of five dual fuel General Electric 7FA, simple cycle combustion turbines using dry low NOx (DLN) combustors and having water injection capability for NOx control, two dual fuel General Electric 7FA, combined cycle combustion turbines using DLN combustors, and having selective catalytic reduction (SCR) control and water injection capability for NOx control, two No. 2 fuel oil storage tanks, one cooling tower with drift eliminator, and one natural gas fired auxiliary boiler. Two No. 2 fuel oil storage tanks (TK-3 and TK-4) and two natural gas fired auxiliary boilers (ES-2 and ES-3) have not been constructed as of this permit issuance. Duke Energy Progress, Inc. may opt to remove these units with the permit renewal. This facility operates under SIC code 4911.

3. **Application Chronology:**

Refer to "Comprehensive Application Report" for complete details.

4. **Statement of Compliance:**

The Division has reviewed the compliance status of this facility. During the last compliance inspection of June 19, 2013 by Mr. Jim Moser of the Fayetteville Regional Office, the facility was found to be in compliance with all applicable requirements at that time.

5. **Permit Modifications/Changes:**

5.1 Submission of application covered under 15A NCAC 2Q .0501(c)(2) rules

DEP submitted an application to incorporate modifications at the facility into their Title V permit in a timely manner within 12 months of commencing operation. The units associated with this submission include the following sources associated with the previously approved PSD permit modifications under 08759T10 (items a-e) and under 08759T11 (item f):

a) Two nominal 190 MW Siemens SGT6-5000F combustion turbine generators (ID No. ES-13 and ES-14)
b) One cooling tower (ID No. TOWER5)
c) One No. 2 fuel oil storage tank (ID No. TK-5)
d) One natural gas fired auxiliary boiler (ID No. ES-15)
e) Existing natural gas fired auxiliary boiler (ID No. ES-10)

f) Two dew point heaters (ID No. ES-19 and ES-20)

This previously approved PSD project will have a nominal generating capacity of 575 MW. RCCTF will have a nominal generating capacity of approximately 2,000 MW after the expansion. Each combustion turbine will be capable of firing pipeline-quality natural gas and ultra low sulfur (0.0015% S) fuel oil. The current permit (08759T16) allows for the year-round operation of the CTGs in combined-cycle mode firing natural gas. However, total annual operation of these units in simple-cycle mode will be limited to 4,000 full load equivalent turbine hours (8,336,000 MMBtu/yr) per calendar year, which is an average of 2,000 full load equivalent hours per calendar year per turbine. Distillate fuel oil combustion in these new units will be utilized on an as needed basis but no more than 2,000 turbine hours (3,966,817 MMBtu/yr) per year which is an average of 1,000 full load equivalent turbine hours per calendar year per turbine. The existing auxiliary boiler's annual operation will be increased by 7,368 hours based on a current averaged baseline of 1392 hours per year. This modification will result in no annual restriction.

5.2 Ozone Season and Exceptions to firing oil during the Ozone Season

DEP requested that DAQ update the ozone season to reflect the existing EPA definition of May 1st to September 30th. DEP also requested that the DAQ consider changing the permit requirement that "Only natural gas shall be burned during summer months (April through October) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed one hour per week per turbine), and during compliance testing." located in Section 2.1.A.3.g, Section 2.1.B.3.f, and 2.1.F.4.i be modified according to the following:
"Only natural gas shall be burned during summer months (May 1 through September 30) except during operational curtailment of interruptible transportation, Force Majeure events, malfunctions, functional equipment testing (periods not to exceed four hours per month per turbine), and during compliance testing."

DEP also requested that DAQ allow "oil-fired combustion turbine tuning" during the summer months as part of the list of exceptions. DAQ determined that such an addition was unnecessary because it is reasonable to state that turbine tuning is part of the four (4) hours allowed each month for "functional equipment testing" already authorized in the permit.

5.3 Removal of State-only BACT requirements

DEP was previously subject to State-only BACT requirements under 15A NCAC 2D .0530(h). As demonstrated in the original 2008 air permit application requesting state authorization to begin construction, this project did not trigger Prevention of Significant Deterioration (PSD) for SO_2. Therefore, it was not subject to a Best Available Control technology (BACT) analysis for SO_2. However, the combined-cycle combustion turbine project (see Section 5.1 sources above) was subject to state-only BACT requirements for SO_2 under the provisions of 15A NCAC 2D .0530(h) at that time. On September 1, 2010, 15A NCAC 2D .0530(h) was revised to read as follows: *(h) New natural gas-fired electrical utility generating units for which cost recovery is sought pursuant to G.S. 62-133.6 shall install best available control technology for NOx and SO2, regardless of applicability of the rest of this Rule.*

DEP will not be requesting cost recovery under G.S. 62-133.6 (Clean Smokestacks Act) for this project at RCCTF. Therefore, DEP requested that all references to SO_2 BACT emission limits and operating constraints for the new combustion turbines (ID Nos. ES-13 and ES-14) be removed from the permit as a result of this revised regulation.

DAQ agrees that BACT requirements listed in the rule have changed, and thus the facility is not subject to State-only BACT. Therefore Section 2.1.F.5 has been removed from the permit.

5.4 Removal of Natural Gas Fired Heaters (ID Nos.: ES-16, ES-17, ES-18, ES-21, ES-22, ES-23)

DEP has requested that the DAQ remove the natural gas fired heaters associated with the permit in Section 2.1.H and Section 2.1.K. According to DEP natural gas is delivered to RCCTF via a natural gas pipeline. Natural gas transmission pressures are different from those required at the facility. Therefore, the fuel will pass through a metering and regulating (M&R) station where the pressure of the incoming gas will be reduced. As the pressure of the gas decreases, the temperature will also decrease, which could lead to "freezing" of the piping, connections and valves.

RCCTF has existing three natural gas fired heaters (ID Nos. ES-21, ES-22 and ES-23); the nominal rating listed in the permit for these heaters is 8.75 MMBtu/hr each. As part of the February 2008 permit application, three additional natural gas fired heaters (ID Nos. ES-16, ES-17 and ES-18) with a nominal rating of 5.0 MMBtu/hr were proposed to support the new power block.

Although these heaters are located within the RCCTF fence line, the equipment is owned, operated and maintained by Piedmont Natural Gas. Even though this equipment was originally included in the applicable permit application, the definition of "stationary source" according to the DAQ indicates that inclusion of equipment owned, operated and maintained by Piedmont Natural Gas is not considered part of the stationary source that is owned, operated and maintained by DEP.

40 CFR 51.166(b)(5) defines "stationary source" as any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.
Additionally, 40 CFR 51.166(b)(6) defines "building, structure, facility, or installation" as all of the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e. which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 410).

These two definitions outline three distinct and independent criteria that must all be satisfied in order to be considered part of a single stationary source:

(1) Common legal control
(2) Contiguous or adjacent properties
(3) Part of the same 2-digit SIC code

At RCCTF, the M&R Station will be located on contiguous property and share the same 2-digit SIC code; however, it is not under common legal control. Therefore, the natural gas fired heaters are not required to be included in the RCCTF Title V permit, and thus the heaters have been removed from the permit.

5.5 Removal of alternative compliance procedures from Section 2.1.F

Section 2.1.F - Two natural gas/No. 2 fuel oil-fired simple/combined cycle internal combustion turbines, each equipped with a heat recovery steam generator, dry Low-NOx combustors and water injection control, both equipped with a common steam turbine (ID Nos. ES-13 and ES-14), and associated SCR's (ID Nos. CD13-SCR and CD14-SCR).

DEP requested that the permit requirements addressing the New Source Performance Standards (NSPS) Subpart KKKK (Section 2.1.F.3) be updated to reflect the selected procedures of testing, monitoring, recordkeeping and reporting requirements that DEP will follow to demonstrate compliance with NO_x and SO_2 for the new combustion turbines (ID Nos. ES-13 and ES-14). Although the permit currently outlines all available compliance demonstration options available according to the Subpart, DEP felt that the additional compliance options were confusing and has requested that all alternative procedures not selected for compliance by DEP, be removed from the permit.

DAQ agreed to remove the alternative options from the permit. DEP will now be required to follow the compliance demonstration options it has specifically accepted and will no longer be able to utilize alternative demonstration options unless the facility first undergoes the application process to have those options added back to the Title V permit.

DEP also requested that the requirements of Section 2.1.F.3 be modified for clarity. The following Table has been added to the permit:

Fuel Type	Operating Conditions*	NO_x Limit at 15 Percent O_2	Duct Firing Allowed?	Averaging Period	
				Simple Cycle	Combined Cycle
Natural Gas	≥ 75 Percent of Peak Load	15 ppm	Yes	4 hour rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	Yes	4 hour rolling average	30 day rolling average
Fuel Oil	≥ 75 Percent of Peak Load	42 ppm	No	4 hour rolling average	30 day rolling average
	< 75 Percent of Peak Load or operating at less than 0°F	96 ppm	No	4 hour rolling average	30 day rolling average

* Peak Load defined as the design capacity at ISO conditions

The information contained in this table is exactly the same as the previous requirements that were listed in paragraph form and has been substituted to reduce confusion.

5.6 Request for modification defining malfunctions under 15A NCAC 2D .0530

DEP requested language defining the malfunctions and the procedures to exclude the emissions due to the start-up, shutdown and malfunction (SSM) from the BACT averaging period be included for easy understanding and operation of the new and existing combustion turbines. Language has been added to the table footnotes to indicate that "Emissions resulting from startup, shutdown, or malfunction shall not be included in the BACT averaging period."

DEP requested the following language be added to the permit: "Should a malfunction occur during the startup sequence, the period of excess emissions between the initiation of startup and the malfunction will not count against the allowable daily block of excess emissions for startups and shutdowns; however, the period of excess emissions during the abnormal startup and malfunction shall be reported in the next semi-annual report as a malfunction. Periods of excess emissions that occur during subsequent normal startups on the same day (after resolution of the malfunction) shall count against the allowable daily limit of two hours (120 minutes)."

DAQ has denied this request. It determined that the definition of startup, shutdown, and malfunction is sufficient to address BACT excess emission requirements. The facility is not required to count the time a source is operated during malfunction against the allowable daily block of excess emissions. However, if a normal startup occurs and then a malfunction occurs during that start up, the facility will need to apply the time of normal startup against the allowable daily block of excess emissions. If the facility is in violation of the two (2) hour limit for excess emissions due to startup and shutdown because of a malfunction, DEP may submit evidence demonstrating this as part of 15A NCAC 2D .0535 requirements.

These requests are associated with Section 2.1.A.3, Section 2.1.B.3, and Section 2.1.F.4.

5.7 Updated applicability of 15A NCAC 2D .1111 (MACT Subpart YYYY)

EPA has promulgated 40 CFR 63, Subpart YYYY, Maximum Achievable Control Technology (MACT) requirements for emissions of hazardous air pollutants (HAP) from stationary combustion turbines that are located at major sources of HAP. Stationary combustion turbines, which commenced construction after January 14, 2003, have been deemed "new" for purposes of this MACT.

EPA has issued a stay on the effectiveness of the emissions and operating limitations for new sources in the "lean premix gas-fired turbine" and "diffusion flame gas-fired turbine" subcategories on August 18, 2004 (§63.6095(d)). The combustion turbines (ID Nos. ES-13 and ES-14) are classified as new stationary combustion turbines for Subpart YYYY applicability, as the commencement of construction occurred in 2009 after permit 08759T10 was issued on April 2, 2009 and the facility is a major source of HAPs. These combustion turbines are permitted to fire both natural gas and No. 2 fuel oil, but are considered "lean premix gas-fired turbine" under this MACT standard because the combined total oil usage in all turbines at the site has not exceeded 1,000 hours per calendar year.

DEP is requesting that Specific Condition and Limitation No. 2.1.F.5 be updated to reflect the applicability threshold of Subpart YYYY. More specifically, DEP requested that this modified permit condition state that the facility is not subject to the emission and operating limitations until the combined total number of operating hours of operation on fuel oil by all the turbines at the facility exceeds 1,000 hours per calendar year.

Upon exceeding the 1,000 hour threshold, the facility must demonstrate compliance with all the applicable provisions of Subpart YYYY. Per §63.6110(a), the facility would then have 180 days to complete the initial compliance testing required under this MACT standard.

5.8 Permit Changes Table:

The following changes were made to the Duke Energy Progress, Inc. d/b/a Duke Energy Progress, Richmond County Combustion Turbine Facility, Air Quality Permit No. 08759T16:

Old Page No.	New Page No.	Part, Section, or Condition No.	Change
-	-	Cover	Amended to reflect current permit number, issue date, effective date, and associated application information
4	4	Emissions Source Table	Removed ES-16 to ES-18, and ES-21 to ES-23 natural gas-fired heaters that are owned and operated by Piedmont Natural Gas and not DEP
7	7	Section 2.1.A.2	Corrected several references to the CFR that were inaccurate
9	9	Section 2.1.A.3.a	Added statement that emissions from startup, shutdown, or malfunction are not included in the BACT averaging period.
10	10	Section 2.1.A.3.f	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4 hrs/month.
13-14	13-14	Section 2.1.B.2	Corrected several references to the CFR that were inaccurate
15	16	Section 2.1.B.3.a	Added statement that emissions from startup, shutdown, or malfunction are not included in the BACT averaging period.
16	16	Section 2.1.B.3.f	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4 hrs/month.
22	22	Section 2.1.F Table	Removed references to compliance demonstration alternatives that Duke Energy Progress, Inc. has requested be removed from the permit
23-29	23-28	Section 2.1.F.3	Inserted table describing emissions limitations according to 40 CFR 60 Subpart KKKK requirements. Deleted verbal description of those requirements stated in table. DEP felt this format more clearly outlined the requirements according to the Subpart.
23-29	23-28	Section 2.1.F.3	Removed compliance demonstration alternatives that will not be used by DEP. This was done at their request to reduce confusion in the permit.
28-29	27-28	Section 2.1.F.3.o	Updated emissions reporting requirements according to the type of operation (simple vs. combined cycle operation)
32-33	30-31	Section 2.1.F.4.a.	Updated BACT requirements listed in the footnotes of the table for clarity at request of DEP

Old Page No.	New Page No.	Part, Section, or Condition No.	Change
34	32	Section 2.1.F.4.g	Corrected Ozone season to correspond with EPA definition. Also changed no more than 1hr/wk requirement to 4 hrs/month.
36-37	-	Section 2.1.F.5	Removed State only Sulfur Dioxide requirements
37-39	34-35	Section 2.1.F.6	Removed Formaldehyde requirements under 40 CFR 63 Subpart YYYY due to a stay on the effectiveness of the emissions and operating limits under 40 CFR 63.6095(d) that is in place until final action is taken by the EPA in the Federal Register.
40-41	36	Section 2.1.G.4.b	Updated recordkeeping requirements for clarity as requested by DEP.
42-44	-	2.1.H	Removed permit conditions associated with three natural gas heaters (ES-16 to ES-18) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
46-48	-	2.1.K	Removed permit conditions associated with three natural gas heaters (ES-21 to ES-23) owned by Piedmont Natural Gas and not Duke Energy Progress, Inc.
54-62	45-53	General Conditions	Updated with latest version 3.6

6. Public Notice/EPA/Affected States review

This permit will require a 30 day public notice period and a 45 day EPA review. The draft permit was sent to public notice on August 9, 2013, and the public comment period ended on September 8, 2013. The draft permit was also sent to the affected states, and no comments were received. Public comments were received from Duke Energy Progress (Ms. Ann Quillian) on August 12 and 23, 2013 and from Blue Ridge Environmental Defense League (BREDL – Mr. Louis Zeller and Ms. Kate Dunnagan) on September 9, 2013 via e-mail (Timely receipt was accepted by DAQ Director Sheila Holman via her executive assistant (Vickie Woods) since September 8, 2013 was on Sunday). Since public comments (addressed below) were received, the proposed permit will be sent separately to EPA for their 45 day review.

Duke Energy Progress (DEP) comments

DEP requested some administrative type clarifications for the permit (e.g. adding operational mode for the averaging periods in the emission limits table) on August 12, 2013 and additional comments (e.g. specifying minutes in addition to hours for periods of excess emission due to startup and/or shutdown) on August 23, 2013.

1) Clarify the exception time period not to exceed four hours per **calendar** month per turbine that are required to burn only natural gas firing during summer months. (Sections 2.1 A.3.g., B.3.f., and F.4.g. of the proposed permit) - *DAQ concurs.*

2) Clarify the averaging periods for the simple-cycle (4-hour rolling) and combined-cycle (30 day rolling) in the emission limitations table rather than being footnoted. (Section 2.1 F.3.b. Table of the proposed permit) - *DAQ concurs.*

3) Properly align the emission limitations and control technology information in the BACT limit Table (Section 2.1 F.4.a of the proposed permit) - *DAQ concurs.*

4) Remove third paragraph of compliance options condition for NSPS Subpart KKKK for the turbines regarding Section 2.3 of Part 75 Appendix E or §75.19(c)(1)(iv)(H). (Section 2.1 F.3.k. of the proposed permit) - *DAQ disagrees since condition states "as an alternate to the annual performance tests to demonstrate continuous compliance..." so these other compliance options are available but not required. Condition will remain.*

5) Specify minutes in addition to hours for periods of excess emission due to startup and/or shutdown or operation below 60%/70% load) for each turbine in the footnote associated with the BACT limit Table (2.1 F.4.a. of the proposed permit) - *DAQ concurs.*

BREDL comments

1) Hold a permit hearing in the Hamlet, NC area.

DAQ Response:

The DAQ director has decided that public hearing is not required for this permit revision.

2) Reject the permit as written and draft a site-wide permit.

DAQ Response:

DAQ proposes to issue the permit for all sources listed in Section 1 that are owned and operated by DEP including the associated applicable regulatory requirements in Section 2 of the draft permit.

3) Require Duke Energy Progress to abide by the NC Clean Smokestacks Act.

DAQ Response:

DAQ believes DEP is complying with the NC Clean Smokestacks Act. See the latest Report: http://www.ncair.org/news/leg/2013_Clean_Smokestacks_Act_Report.pdf

4) Prevent six combustion sources to be separated from the existing permit.

DAQ Response:

Piedmont Natural Gas owns, operates and maintains the six natural gas-fired heaters (ID Nos. ES-16, ES-17, ES-18, ES-21, ES-22, and ES-23). The above heaters would not be considered part of the stationary source that is owned, operated and maintained by DEP since the heaters are not under common legal control. Therefore, DAQ proposes to remove the above heaters and associated requirements from DEP's permit. Refer to Section 5.4 above for details.

5) Deny request by Duke Energy Progress to side-step the North Carolina Clean Smokestacks Act at the Richmond County Turbine facility.

DAQ Response:

On April 2, 2009, Permit 08759T10 was issued with the 15A NCAC 2D .0530(h) requirement of *"new natural gas-fired electrical utility generating units shall install best available control technology for NOX and SO2."* However, on September 1, 2010, 15A NCAC 2D .0530(h) was revised to *"new natural gas-fired electrical utility generating units* ***for which cost recovery is sought pursuant to G.S. 62-133.6*** *shall install best available control technology for NOX and SO2,* ***regardless of applicability of the rest of this Rule.*** *"* DEP has stated in their application that cost recovery will **not** be sought pursuant to G.S. 62-133.6 (Clean Smokestacks Act) for the new natural gas-fired combustion turbines (ID Nos. ES-13 and ES-14). Therefore, DAQ's proposes to remove the associated state-only BACT requirements under 15A NCAC 2D .0530(h) for SO2 as requested by DEP. Refer to Section 5.3 above for details.

6) Limit excessive emissions of hazardous air pollutants (HAP) from the new stationary combustion turbines (ID Nos. ES-13 and ES-14) as required by MACT Subpart YYYY.

DAQ response:

The natural gas/No. 2 fuel oil-fired combustion turbines (ID Nos. ES-13 and ES-14) are considered to be "lean premix gas-fired turbines" as defined under MACT Subpart YYYY (40 CFR 63.6175) since the turbines are equipped both to fire gas using lean premix technology and to fire oil, and are located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year. On August 18, 2004 EPA issued a stay (40 CFR 63.6095(d)) on the effectiveness of the emissions and operating limitations for new sources in the "lean premix gas-fired turbine" and "diffusion flame gas-fired turbine" subcategories that requires compliance with Initial Notification requirements (40 CFR 63.6145) but doesn't require compliance with any other requirement of this subpart until EPA takes final action to require compliance and publishes a document in the FEDERAL REGISTER. When all new, reconstructed, and existing stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, DEP shall demonstrate compliance with all applicable requirements under 40 CFR 63 Subpart YYYY for sources classified as "diffusion flame oil-fired stationary combustion turbines." Refer to Section 5.7 above for details.

7. Conclusions, Comments, Recommendations

This is a significant Title V permit modification for the Duke Energy Progress, Inc – Richmond County Combustion Turbine Facility. FRO has received a draft copy of this permit and review. Recommend issuance of permit once the public notice and EPA review periods have been completed.

Ceron, Heather

From: Shepherd, Lorinda
Sent: Thursday, June 05, 2014 4:41 PM
To: Ceron, Heather
Subject: FW: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A
Attachments: AirPermitReviewT17proposed.doc; RC permit T17 proposed.docx

FYI – This was the permit that BREDL was waiting for after NC's permit numbers were duplicated causing BREDL to comment on the wrong one.

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Thursday, June 05, 2014 3:56 PM
To: Shepherd, Lorinda
Cc: Lusky, Katy; Hofmeister, Art; Moser, Jim; Thaker, Rahul; bredl; Quillian, Ann
Subject: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Please see attached permit & statement of basis for the significant modification of DEP's RCCTF permit for EPA's 45 day review.

Regards,

Jeff Twisdale

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: (919) 707-8472
www.ncair.org
jeff.twisdale@ncdenr.gov
****Please note: NC DENR-DAQ's Central Office has relocated to the DENR Building in the Green Square Office Complex at 217 West Jones Street, Raleigh, NC 27603.****
****

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****

Ceron, Heather

From:	Ceron, Heather
Sent:	Tuesday, January 21, 2014 5:11 PM
To:	Gettle, Jeaneanne; Kemker, Carol
Cc:	Davis, Scott
Subject:	FW: Richmond Combustion Turbines Permit No 08759T15 CAA Section 505 Petition
Attachments:	140117 BREDL-CCRC CAA petition to EPA-4 re RCCT.pdf

It was BREDL not BENDI that submitted the petition. Sorry for the confusion – I had looked at it quickly and read it wrong.

From: bredl [mailto:bredl@skybest.com]
Sent: Saturday, January 18, 2014 12:21 AM
To: van der Vaart Don; Ceron, Heather
Subject: Richmond Combustion Turbines Permit No 08759T15 CAA Section 505 Petition

In the matter of a

Part 70 Air Quality Operating Permit

Issued by North Carolina Department
of Environment and Natural Resources
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070
Hamlet, NC, Richmond County
Permit No. 08759T15

On behalf of the Concerned Citizens of Richmond County and the Blue Ridge Environmental Defense League, I hereby petition the United States Environmental Protection Agency to object to the issuance of the Title V permit No. 08759T15 issued by the North Carolina Department of Environment and Natural Resources Division of Air Quality to the Richmond County Combustion Turbine Facility operated by Duke Energy Progress. The petition is attached to this email.

Louis A. Zeller
Executive Director
Blue Ridge Environmental Defense League
PO Box 88 Glendale Springs, NC 28629
(336) 982-2691
BREDL@skybest.com

Ceron, Heather

From: Ceron, Heather
Sent: Friday, January 31, 2014 1:35 PM
To: Shepherd, Lorinda; Powell, Keri; Kornylak, Vera S.; Hofmeister, Art
Subject: FW: Duke Energy Progress Richmond County Combustion Turbine Facility, Hamlet, NC - Air Permit No. 08759T15 - Title V Petition from BREDL Dated January 17, 2014

FYI – we will probably need to discuss how to handle this. I will look into it more next week when we are all back in the office.

From: Thaker, Rahul [mailto:rahul.thaker@ncdenr.gov]
Sent: Friday, January 31, 2014 11:19 AM
To: Ceron, Heather
Cc: Evans, John; Twisdale, Jeff
Subject: Duke Energy Progress Richmond County Combustion Turbine Facility, Hamlet, NC - Air Permit No. 08759T15 - Title V Petition from BREDL Dated January 17, 2014

Heather:

I am writing to you in reference to a petition (dated January 17, 2014) filed by Blue Ridge Environmental Defense League (BREDL) ("third party") to object an air permit 08759T15, issued on November 21, 2013, by the NCDAQ, to Duke Energy Progress, Richmond County Combustion Turbine Facility, Hamlet, NC.

There appears to be some confusion that I hope this e-mail clarifies. BREDL objected to air permit 08759T15 (hereinafter "PSD/Title V"). This permit was issued on December 3, 2013 following the close of the 30 day public comment period and EPA's 45 day review period.[1] No public comments were received during the comment period. This permit was a PSD project that authorized increased gas usage at the existing five simple cycle CT units.

At around the same time we had a separate draft/proposed permit out to notice for Title V significant modification as well some changes like taking out the state-only NOx BACT limit and removing some equipment that Duke/Progress do not own or operate (hereinafter "Title V Significant Modification"). Unfortunately, because of our data system, the draft/proposed permit was also referred to as 08759T15. BREDL did comment on this draft/proposed permit and therefore, consistent with our agreement on parallel processing of notice periods, this draft/proposed permit was taken off the parallel track. We will respond to BREDL's comments and intend on sending a proposed permit to your office in the near future.

The issues raised by BREDL in their January 17th Petition are the same issues they raised during the comment period to the Title V Significant Modification application. Because we have not yet sent your office a proposed permit for the Title V Significant Modification application and the issues raised by BREDL deal only with the Title V Significant Modification, we believe that BREDL's petition is premature. (For example, BREDL's petition objects to the removal of the six gas heaters that are owned and operated by the gas company and not Duke/Progress. The current effective permit still contains these emission units on the permit. It is true that the draft permit does include our conclusion that the units can be removed. However, we will not remove these units until after we send your agency a proposed permit and the 45-day period runs.)

As can be seen above explanation, there were two separate applications being processed by DAQ at the same time with the same permit number (08769T15), so it is easy to where there is confusion. We sent a similar clarification to BREDL as some point prior to their petition although it did not seem to do any good.

[1] To further complicate the matter procedurally, the 30-day comment period for "PSD/Title V" application ended on November 17, 2013 and the EPA's 45-day review ended on December 2, 2013. DAQ inadvertently issued the 08759T15 permit (November 21, 2013) before the end of EPA's 45-day review period (December 2, 2013). We immediately noted the timing error and subsequently reissued the permit (08759T16) on December 3, 2013, after the close of 45-day review period.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
Permitting Section
NCDENR Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: 919-707-8740
www.ncair.org
rahul.thaker@ncdenr.gov

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[1] To further complicate the matter procedurally, the 30-day comment period for "PSD/Title V" application ended on November 17, 2013 and the EPA's 45-day review ended on December 2, 2013. DAQ inadvertently issued the 08759T15 permit (November 21, 2013) before the end of EPA's 45-day review period (December 2, 2013). We immediately noted the timing error and subsequently reissued the permit (08759T16) on December 3, 2013, after the close of 45-day review period.

Shepherd, Lorinda

From: Hofmeister, Art
Sent: Friday, December 19, 2014 2:04 PM
To: Beller, Clifford
Cc: Shepherd, Lorinda
Subject: Request for Final on Letterhead Re: AX-15-000-3348
Attachments: DRAFT_Duke Energy General Counsel_LOR_12-19-2014.docx

Importance: High

Please prep for routing. Thanks.

Art Hofmeister
Environmental Engineer
Air Permits Section
U.S. EPA
Region 4
(404) 562-9115

Shepherd, Lorinda

From: Twisdale, Jeff <jeff.twisdale@ncdenr.gov>
Sent: Thursday, November 20, 2014 3:21 PM
To: Shepherd, Lorinda
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Thanks Lori! We (DAQ) believe that the 60 days would have concluded based on a receipt date of September 17, 2014. Is there still a pending decision?

From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Thursday, November 20, 2014 3:15 PM
To: Twisdale, Jeff
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Jeff,

I have double checked with our permitting staff and our assigned regional counsel and there has been no change in the status for this yet.

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Tuesday, November 18, 2014 9:07 AM
To: Shepherd, Lorinda
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Thanks for the update Lori!

From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Tuesday, November 18, 2014 8:31 AM
To: Twisdale, Jeff
Cc: Pullen, Booker; Willets, William; Thaker, Rahul
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Hi Jeff,

I have not been informed of any action either way from our regional counsel. The person handling petitions for us here in permitting is out of the office until tomorrow. I will speak to him as soon as he is back and let you know the status.

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4

61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Monday, November 17, 2014 4:41 PM
To: Shepherd, Lorinda
Cc: Pullen, Booker; Willets, William; Thaker, Rahul
Subject: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Hey Lori,

We're curious if there has been any action to grant or deny the petition from BREDL in accordance with §505(b)(2) of CAA. Please let us know.

Thanks very much,

Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
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Shepherd, Lorinda

From: Powell, Keri
Sent: Thursday, November 20, 2014 3:02 PM
To: Shepherd, Lorinda
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

No change in the status of this petition.

From: Shepherd, Lorinda
Sent: Thursday, November 20, 2014 2:28 PM
To: Powell, Keri
Subject: FW: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Hi Keri,

Are you working on this petition? If so, has there been any change in the status?

Thanks,
Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Hofmeister, Art
Sent: Thursday, November 20, 2014 2:21 PM
To: Shepherd, Lorinda
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

No, not to my knowledge.

Art Hofmeister
Environmental Engineer
Air Permits Section
U.S. EPA
Region 4
(404) 562-9115

From: Shepherd, Lorinda
Sent: Thursday, November 20, 2014 2:18 PM
To: Hofmeister, Art
Subject: FW: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Art,
Has there been any action on this petition yet?

Thanks,
Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Monday, November 17, 2014 4:41 PM
To: Shepherd, Lorinda
Cc: Pullen, Booker; Willets, William; Thaker, Rahul
Subject: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Hey Lori,

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Thanks very much,

Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
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Shepherd, Lorinda

From: Hofmeister, Art
Sent: Thursday, November 20, 2014 2:21 PM
To: Shepherd, Lorinda
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

No, not to my knowledge.

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Environmental Engineer
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From: Shepherd, Lorinda
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Subject: FW: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

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Lori Shepherd
Environmental Scientist
Air Permits Section
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From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Monday, November 17, 2014 4:41 PM
To: Shepherd, Lorinda
Cc: Pullen, Booker; Willets, William; Thaker, Rahul
Subject: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

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Jeff

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Shepherd, Lorinda

From: Twisdale, Jeff <jeff.twisdale@ncdenr.gov>
Sent: Tuesday, November 18, 2014 9:07 AM
To: Shepherd, Lorinda
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Thanks for the update Lori!

From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Tuesday, November 18, 2014 8:31 AM
To: Twisdale, Jeff
Cc: Pullen, Booker; Willets, William; Thaker, Rahul
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Hi Jeff,

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Lori Shepherd
Environmental Scientist
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From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Monday, November 17, 2014 4:41 PM
To: Shepherd, Lorinda
Cc: Pullen, Booker; Willets, William; Thaker, Rahul
Subject: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

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Jeff

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Shepherd, Lorinda

From: Willets, William <william.willets@ncdenr.gov>
Sent: Monday, November 17, 2014 8:50 PM
To: Twisdale, Jeff; Shepherd, Lorinda
Cc: Pullen, Booker; Thaker, Rahul
Subject: RE: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Thanks for keeping up with this folks!

William D. Willets, P.E., Chief

Permitting Section

NC DENR, Division of Air Quality

1641 MSC

Raleigh, NC 27699-1641

Phone/Fax: 919-707-8726

www.ncair.org

william.willets@ncdenr.gov

****

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statute or other regulation.

****

From: Twisdale, Jeff
Sent: Monday, November 17, 2014 4:40 PM
To: Shepherd, Lorinda <Shepherd.Lorinda@epa.gov> (Shepherd.Lorinda@epa.gov)
Cc: Pullen, Booker; Willets, William; Thaker, Rahul
Subject: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

Hey Lori,

We're curious if there has been any action to grant or deny the petition from BREDL in accordance with §505(b)(2) of CAA. Please let us know.

Thanks very much,

Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
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Shepherd, Lorinda

From: Twisdale, Jeff <jeff.twisdale@ncdenr.gov>
Sent: Monday, November 17, 2014 4:41 PM
To: Shepherd, Lorinda
Cc: Pullen, Booker; Willets, William; Thaker, Rahul
Subject: Duke Energy - Richmond County CTs - Petition of DAQ Permit No. 08759T15

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Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: (919) 707-8472
www.ncair.org
jeff.twisdale@ncdenr.gov
****Please note: NC DENR-DAQ's Central Office has relocated to the DENR Building in the Green Square Office Complex at 217 West Jones Street, Raleigh, NC 27603.****
****

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****

Shepherd, Lorinda

From: Hofmeister, Art
Sent: Wednesday, September 24, 2014 12:03 PM
To: Shepherd, Lorinda
Subject: RE: Petition to EPA re NC DAQ Permit No. 08759T17

Lori:

Can you verify that this petition is timely by looking at the database?
Thanks.

Art Hofmeister
Environmental Engineer
Air Permits Section
U.S. EPA
Region 4
(404) 562-9115

From: Ceron, Heather
Sent: Wednesday, September 17, 2014 7:24 AM
To: Hofmeister, Art; Shepherd, Lorinda
Subject: Fwd: Petition to EPA re NC DAQ Permit No. 08759T17

Art,
Please log this in and start the process.
Thanks!

Sent from my iPhone

Begin forwarded message:

From: bredl <bredl@skybest.com>
Date: September 17, 2014 at 12:16:08 AM EDT
To: Ceron Heather <ceron.heather@epa.gov>
Subject: Petition to EPA re NC DAQ Permit No. 08759T17

In the matter of a
Part 70 Air Quality Operating Permit

September 17, 2014

Issued by North Carolina Department
of Environment and Natural Resources
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070
Hamlet, NC, Richmond County
Permit No. 08759T17

THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE'S PETITION TO THE ENVIRONMENTAL PROTECTION AGENCY

TO OBJECT TO THE TITLE V AIR QUALITY PERMIT
ISSUED TO DUKE ENERGY PROGRESS RICHMOND COUNTY TURBINES
Attached to this email and mailed via USPS

Shepherd, Lorinda

From: Ceron, Heather
Sent: Wednesday, September 17, 2014 7:24 AM
To: Hofmeister, Art; Shepherd, Lorinda
Subject: Fwd: Petition to EPA re NC DAQ Permit No. 08759T17
Attachments: 140917 BREDL-CCRC CAA petition to EPA-4 re RCCT.pdf; ATT00001.htm

Art,
Please log this in and start the process.
Thanks!

Sent from my iPhone

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From: bredl <bredl@skybest.com>
Date: September 17, 2014 at 12:16:08 AM EDT
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Subject: Petition to EPA re NC DAQ Permit No. 08759T17

In the matter of a
Part 70 Air Quality Operating Permit

September 17, 2014

Issued by North Carolina Department
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Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070
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TO THE ENVIRONMENTAL PROTECTION AGENCY
TO OBJECT TO THE TITLE V AIR QUALITY PERMIT
ISSUED TO DUKE ENERGY PROGRESS RICHMOND COUNTY TURBINES
Attached to this email and mailed via USPS

Shepherd, Lorinda

From: Ceron, Heather
Sent: Tuesday, August 12, 2014 4:30 PM
To: Lloyd, David
Cc: Shepherd, Lorinda
Subject: FW: Proposed NC Air Quality Permit No. 08759T17
Attachments: 140721 Letter to EPA-4 re NAAQS impacts+photos.docx

David,

This permit has been issued, but the issues being raised seem to have more to do with enforcement. Let me know what you think. Also, how does enforcement usually handle concerns from the public regarding compliance? Thanks!!!

From: bredl [mailto:bredl@skybest.com]
Sent: Monday, July 21, 2014 11:59 PM
To: Ceron, Heather; Lusky, Katy; Krivo, Stan
Subject: Proposed NC Air Quality Permit No. 08759T17

July 21, 2014

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached_____

Shepherd, Lorinda

From: Ceron, Heather
Sent: Monday, August 11, 2014 10:20 AM
To: Shepherd, Lorinda
Subject: Accepted: Duke Progress Energy Richmond County Title V Permit

Shepherd, Lorinda

From: Ceron, Heather
Sent: Tuesday, July 29, 2014 9:10 AM
To: Shepherd, Lorinda
Subject: FW: Records Review Request

From: Therese Vick [mailto:therese.vick@gmail.com]
Sent: Tuesday, July 29, 2014 7:17 AM
To: Mather, Tom
Cc: Ceron, Heather
Subject: Re: Records Review Request

Thanks Tom. I guess one thing that I am trying to determine is if DENR required the permittee to do the modelling that was in question and that EPA recommended?

Therese

On Mon, Jul 28, 2014 at 4:52 PM, Mather, Tom <tom.mather@ncdenr.gov> wrote:

> Therese,
>
> We're doing a quick review of emails, but we think most if not all of the correspondence and records related to this permit are contained in the permit review file. The permit engineer (Rahul Thaker) for the Duke Combustion Turbine facility makes copies of any related emails and correspondence and includes them in the review. I've got the file on my desk and the permit review contains copies of various emails and letters.
>
> Tom Mather, Public Information Officer
>
> NC DENR, Division of Air Quality
>
> 1641 Mail Service Center
>
> Raleigh, NC 27699-1641
>
> Phone/Fax: 919-707-8446
>
> Cell: (919) 607-5424

www.ncair.org

tom.mather@ncdenr.gov

** Please note: Effective Oct. 24, 2011, DAQ's Central Office will relocate to the new Green Square Office complex at 217 West Jones St., Raleigh, NC.*

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties unless the content is exempt by statute or other regulation.

From: Therese Vick [mailto:therese.vick@gmail.com]
Sent: Sunday, July 27, 2014 8:35 AM
To: Mather, Tom
Cc: Ceron, Heather
Subject: Records Review Request

Hi Tom,

I would like to review records pertaining to the Duke Combustion Turbine facility #7900015 in Hamlet. The records I am interested in are emails, memorandums and meeting notes relevant to modeling for 1-hour NO2 NAAQS as recommended by EPA. Additionally, I am requesting those records pertaining to the discussion of environmental justice concerns for this facility These records may be in the files of Sheila Holman, Donald van der Vaart, Mike Abraczinskas, John Evans, Rahul Thakur and others.

Thank You,

Therese

Therese Vick

North Carolina Healthy Sustainable Communities Campaign Coordinator

Blue Ridge Environmental Defense League
therese.vick@gmail.com

919-345-3673
www.bredl.org

@tvickBREDL Twitter

https://www.facebook.com/BlueRidgeEnvironmentalDefenseLeague?ref=hl

From Where I Sit: Reports From The North Carolina Mining and Energy Commission Meetings

BREDL 1984-2014: ***Celebrating Thirty Years of Grassroots Action***

Be kind to all you meet, each of us carries a burden that others cannot see—

--

Therese Vick
North Carolina Healthy Sustainable Communities Campaign Coordinator
Blue Ridge Environmental Defense League
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Shepherd, Lorinda

From: Ceron, Heather
Sent: Monday, July 28, 2014 8:49 AM
To: Shepherd, Lorinda
Subject: FW: Records Review Request

From: Therese Vick [mailto:therese.vick@gmail.com]
Sent: Sunday, July 27, 2014 8:35 AM
To: Mather, Tom
Cc: Ceron, Heather
Subject: Records Review Request

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Thank You,

Therese

Therese Vick
North Carolina Healthy Sustainable Communities Campaign Coordinator
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therese.vick@gmail.com
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Shepherd, Lorinda

From: Ceron, Heather
Sent: Wednesday, July 23, 2014 11:27 AM
To: Shepherd, Lorinda
Subject: Re: Proposed NC Air Quality Permit No. 08759T17

No idea. I want to update scott on this. Can you do a quick email to me on what this is and the history?

From: Shepherd, Lorinda
Sent: Wednesday, July 23, 2014 11:24:56 AM
To: Ceron, Heather
Subject: RE: Proposed NC Air Quality Permit No. 08759T17

So, what is our next step with this?

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ceron, Heather
Sent: Tuesday, July 22, 2014 9:36 AM
To: Shepherd, Lorinda
Subject: Fw: Proposed NC Air Quality Permit No. 08759T17

From: bredl <bredl@skybest.com>
Sent: Monday, July 21, 2014 11:59:14 PM
To: Ceron, Heather; Lusky, Katy; Krivo, Stan
Subject: Proposed NC Air Quality Permit No. 08759T17

July 21, 2014

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached_____

Shepherd, Lorinda

From: Ceron, Heather
Sent: Tuesday, July 22, 2014 9:36 AM
To: Shepherd, Lorinda
Subject: Fw: Proposed NC Air Quality Permit No. 08759T17
Attachments: 140721 Letter to EPA-4 re NAAQS impacts+photos.docx

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From: bredl <bredl@skybest.com>
Sent: Monday, July 21, 2014 11:59:14 PM
To: Ceron, Heather; Lusky, Katy; Krivo, Stan
Subject: Proposed NC Air Quality Permit No. 08759T17

July 21, 2014

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached_____

Shepherd, Lorinda

From: Ceron, Heather
Sent: Tuesday, July 22, 2014 9:36 AM
To: Shepherd, Lorinda
Subject: Fw: Draft NC Air Quality Permit No. 08759T17 Duke Energy Progress - Richmond County Turbines

Importance: High

From: bredl <bredl@skybest.com>
Sent: Monday, July 21, 2014 4:16:43 PM
To: Ceron, Heather; Krivo, Stan; Lusky, Katy
Subject: Fw: Draft NC Air Quality Permit No. 08759T17 Duke Energy Progress - Richmond County Turbines

Ms. Ceron,

I have been unable to reach you by phone today, so I am resending this email with a read receipt.

Lou Zeller

From: bredl
Sent: Monday, July 21, 2014 3:39 PM
To: Ceron.Heather@epa.gov
Subject: Draft NC Air Quality Permit No. 08759T17 Duke Energy Progress - Richmond County Turbines

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Draft Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Dear Ms. Ceron:

I plan to submit to you today additional information regarding the Richmond County Turbines draft permit now under review by the North Carolina Division of Air Quality. The information is based on reports and photos from residents who live near the facility in Hamlet, NC. I understand the EPA 45-day review period ends today and I think the information will directly affect the EPA's review. I apologize in advance for submitting this information on the last hour of the last day of the EPA's review period, but the information gathering and preparation have not proceeded as quickly as I had hoped.

Thank you for your patience.

Sincerely,

Louis Zeller
Executive Director

Shepherd, Lorinda

From: Twisdale, Jeff <jeff.twisdale@ncdenr.gov>
Sent: Wednesday, July 16, 2014 2:31 PM
To: Shepherd, Lorinda
Subject: RE: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

Great! This will suffice! EPA's review period ends 7/20 so I was planning on early next week, but a few days early is better! Thanks, Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permitting Section - NSR Branch
NC DENR - Division of Air Quality
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Raleigh, NC 27699-1641
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From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Wednesday, July 16, 2014 1:14 PM
To: Twisdale, Jeff
Subject: RE: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

I have completed my review, so EPA has no further comments at this time. If you would like a more formal response, I can draft a letter. Just let me know. I have no objection to your issuing the permit, since, if I remember correctly, our review period ends in a day or two.

Thanks,
Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Tuesday, July 15, 2014 2:02 PM
To: Shepherd, Lorinda
Subject: RE: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

Great! Thanks Lori for the approval and the note of future PSD actions! So no additional comments, but is this your final comment or should we/I expect a more formal response from you/EPA? Or is it ok to move forward w/ permit issuance?

Jefferson (Jeff) T. Twisdale, E.I.T.
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From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Tuesday, July 15, 2014 1:42 PM
To: Twisdale, Jeff
Subject: RE: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

Thanks, Jeff.

The email from PNG answers the question I had regarding physical control.

I do not have any additional comments on the draft title V permit. However, I would suggest going back to take a look at the application for the recently issued PSD. If the heaters are considered a separate source, they should be accounted for as such in the air quality analysis, and in future PSD actions.

Lori Shepherd
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(404) 562-8435

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Tuesday, July 15, 2014 9:09 AM
To: Shepherd, Lorinda
Subject: RE: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

See below ... plus ... or if additional information would be required. Thanks, Jeff

---

From: Twisdale, Jeff
Sent: Monday, July 14, 2014 1:01 PM
To: Shepherd, Lorinda

Subject: FW: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

See attached. Please let me know if this is sufficient. Thanks, Jeff

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From: Gil Vinzani [mailto:gil.vinzani@piedmontng.com]
Sent: Monday, July 14, 2014 12:12 PM
To: Twisdale, Jeff
Cc: Willets, William; Matt Kanes; Quillian, Ann
Subject: Richmond County Heaters, AQ Permit No. 08759T15

Jeff:
This is in response to your request for information regarding six heaters owned by Piedmont Natural Gas (PNG) which are listed as sources in the subject permit held by Duke Energy Progress, Inc. (Reference sources ES-16, ES-17, ES-18, ES-21, ES-22, and ES-23). PNG independently owns, operates, and maintains these heaters. There is no contract with Duke Energy regarding their operation or maintenance.

PNG has no objections to the removal of these sources from the subject permit. As we discussed, they should be exempted from permitting by PNG under 15A NCAC 2Q .0102 (c) (2). This is consistent with our conversation on June 10 and the determination made for this same situation at Duke's Wayne County combustion turbine site (see the attached letter).

Please let me know if you have any questions or wish to discuss further.

Gil Vinzani, P. E.
Environmental Engineer
Piedmont Natural Gas
150 Fayetteville St. Suite 570
Raleigh, NC 27601
(919) 899-6081 Office
(919) 623-5701 Mobile

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Environmental Scientist
Air Permits Section
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Atlanta, GA 30303
(404) 562-8435

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To: Twisdale, Jeff
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Subject: Richmond County Heaters, AQ Permit No. 08759T15

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Gil Vinzani, P. E.
Environmental Engineer

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Raleigh, NC 27601
(919) 899-6081 Office
(919) 623-5701 Mobile

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Gil Vinzani, P. E.
Environmental Engineer
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150 Fayetteville St. Suite 570
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(919) 899-6081 Office
(919) 623-5701 Mobile

Shepherd, Lorinda

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Sent: Monday, July 14, 2014 1:01 PM
To: Shepherd, Lorinda
Subject: FW: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15
Attachments: 2011-02-04 Wayne Co Heater Applicability Letter.pdf

See attached. Please let me know if this is sufficient. Thanks, Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
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Subject: Richmond County Heaters, AQ Permit No. 08759T15

Jeff:
This is in response to your request for information regarding six heaters owned by Piedmont Natural Gas (PNG) which are listed as sources in the subject permit held by Duke Energy Progress, Inc. (Reference sources ES-16, ES-17, ES-18, ES-21, ES-22, and ES-23). PNG independently owns, operates, and maintains these heaters. There is no contract with Duke Energy regarding their operation or maintenance.

PNG has no objections to the removal of these sources from the subject permit. As we discussed, they should be exempted from permitting by PNG under 15A NCAC 2Q .0102 (c) (2). This is consistent with our conversation on June 10 and the determination made for this same situation at Duke's Wayne County combustion turbine site (see the attached letter).

Please let me know if you have any questions or wish to discuss further.

Gil Vinzani, P. E.
Environmental Engineer
Piedmont Natural Gas
150 Fayetteville St. Suite 570
Raleigh, NC 27601
(919) 899-6081 Office
(919) 623-5701 Mobile

Shepherd, Lorinda

From: Twisdale, Jeff <jeff.twisdale@ncdenr.gov>
Sent: Thursday, June 12, 2014 2:06 PM
To: Shepherd, Lorinda
Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Actually, I looked @ my emails a little closer, & I sent you the proposed permit on 6/5/2014 for 45 day review.

From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Thursday, June 12, 2014 12:53 PM
To: Twisdale, Jeff
Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Ok, thanks. I should get to this and get you any comments in the next couple of weeks.

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Thursday, June 12, 2014 12:51 PM
To: Shepherd, Lorinda
Cc: Willets, William; Thaker, Rahul
Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

The proposed permit did not go back out to public comment because the changes made to the draft permit due to public comments were not significant. We (NC DAQ) addressed the comments in the S.O.B. and then sent to EPA for your 45 day review period on June 12, 2014.

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: (919) 707-8472
www.ncair.org
jeff.twisdale@ncdenr.gov
****Please note: NC DENR-DAQ's Central Office has relocated to the DENR Building in the Green Square Office Complex at 217 West Jones Street, Raleigh, NC 27603.****
****

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****

From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Thursday, June 12, 2014 12:25 PM
To: Twisdale, Jeff
Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Thanks, Jeff.

When did this go back out for public comment?

Lori

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Thursday, June 05, 2014 3:56 PM
To: Shepherd, Lorinda
Cc: Lusky, Katy; Hofmeister, Art; Moser, Jim; Thaker, Rahul; bredl; Quillian, Ann
Subject: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Please see attached permit & statement of basis for the significant modification of DEP's RCCTF permit for EPA's 45 day review.

Regards,

Jeff Twisdale

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
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Shepherd, Lorinda

From: Twisdale, Jeff <jeff.twisdale@ncdenr.gov>
Sent: Thursday, June 12, 2014 1:01 PM
To: Shepherd, Lorinda
Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Sounds good ... thanks.

From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Thursday, June 12, 2014 12:53 PM
To: Twisdale, Jeff
Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Ok, thanks. I should get to this and get you any comments in the next couple of weeks.

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Thursday, June 12, 2014 12:51 PM
To: Shepherd, Lorinda
Cc: Willets, William; Thaker, Rahul
Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

The proposed permit did not go back out to public comment because the changes made to the draft permit due to public comments were not significant. We (NC DAQ) addressed the comments in the S.O.B. and then sent to EPA for your 45 day review period on June 12, 2014.

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
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Sent: Thursday, June 12, 2014 12:25 PM
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Lori

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Thursday, June 05, 2014 3:56 PM
To: Shepherd, Lorinda
Cc: Lusky, Katy; Hofmeister, Art; Moser, Jim; Thaker, Rahul; bredl; Quillian, Ann
Subject: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Please see attached permit & statement of basis for the significant modification of DEP's RCCTF permit for EPA's 45 day review.

Regards,

Jeff Twisdale

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
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Shepherd, Lorinda

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Sent: Thursday, June 12, 2014 12:51 PM
To: Shepherd, Lorinda
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Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

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From: Shepherd, Lorinda [mailto:Shepherd.Lorinda@epa.gov]
Sent: Thursday, June 12, 2014 12:25 PM
To: Twisdale, Jeff
Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Thanks, Jeff.

When did this go back out for public comment?

Lori

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Sent: Thursday, June 05, 2014 3:56 PM
To: Shepherd, Lorinda
Cc: Lusky, Katy; Hofmeister, Art; Moser, Jim; Thaker, Rahul; bredl; Quillian, Ann
Subject: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

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Regards,

Jeff Twisdale

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
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Sent: Thursday, June 05, 2014 3:56 PM
To: Shepherd, Lorinda
Cc: Lusky, Katy; Hofmeister, Art; Moser, Jim; Thaker, Rahul; bredl; Quillian, Ann
Subject: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A
Attachments: AirPermitReviewT17proposed.doc; RC permit T17 proposed.docx

Categories: NC Title V

Please see attached permit & statement of basis for the significant modification of DEP's RCCTF permit for EPA's 45 day review.

Regards,

Jeff Twisdale

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
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Shepherd, Lorinda

From: Thaker, Rahul <rahul.thaker@ncdenr.gov>
Sent: Tuesday, May 20, 2014 9:25 AM
To: Shepherd, Lorinda
Cc: Twisdale, Jeff
Subject: FW: Richmond County Combustion Turbine Facility

Categories: NC Title V

Lori:
Here is the copy of the email response from my colleague, Jeff Twisdale, to Mr. Zeller. Jeff's contact information is also included below.
Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
Permitting Section
NCDENR Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: 919-707-8740
www.ncair.org
rahul.thaker@ncdenr.gov

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From: Twisdale, Jeff
Sent: Monday, May 19, 2014 3:41 PM
To: BREDL@skybest.com
Cc: Willets, William; Thaker, Rahul
Subject: RE: Richmond County Combustion Turbine Facility

Hello Mr. Zeller.

I plan on working on this modification (addressing your comments, etc.) this wk. as discussed w/ William Willets, acting supervisor, last Fri.

Regards,

Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: (919) 707-8472

www.ncair.org
jeff.twisdale@ncdenr.gov
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From: Thaker, Rahul
Sent: Monday, May 19, 2014 2:37 PM
To: Twisdale, Jeff
Cc: BREDL@skybest.com
Subject: Richmond County Combustion Turbine Facility

Jeff:

Mr. Zeller of BREDL called and would like to know the status of Duke Energy Richmond County Combustion Turbine Facility's permit revision you are processing. Please let him know. If you need, his phone number is 336-982-2691. Thanks.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
Permitting Section
NCDENR Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: 919-707-8740
www.ncair.org
rahul.thaker@ncdenr.gov

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Shepherd, Lorinda

From: Hofmeister, Art
Sent: Monday, May 19, 2014 1:41 PM
To: Shepherd, Lorinda
Subject: FW: BREDL Petition of Duke Energy Progress Title V Significant Permit Revision

Hey, Lori...Lou Zeller called about this today. I called him back to say, based on our dbase, it doesn't look like it has been reproposed to us yet.
Said I would double-check with you.

From: Hofmeister, Art
Sent: Wednesday, March 12, 2014 1:23 PM
To: BREDL@skybest.com
Cc: rahul.thaker@ncdenr.gov; Shepherd, Lorinda; Ceron, Heather; Powell, Keri
Subject: BREDL Petition of Duke Energy Progress Title V Significant Permit Revision

Mr. Zeller:

The U.S. Environmental Protection Agency has received your petition dated January 17, 2014, on behalf of the Concerned Citizens of Richmond County and the Blue Ridge Environmental Defense League (BREDL), regarding Duke Energy Progress – Richmond County Combustion Turbine Facility. However, after consulting with NCDENR, it is our understanding that your petition is "premature" (*i.e.*, it was submitted prior to the 60-day petition period since NCDENR pulled the permitting action out of parallel track in response to your comments on the draft/proposed title V significant revision) and, thus, not ripe for consideration by EPA at this time. It appears that there may have been some confusion regarding petitioning timeframes that resulted from an error made by NCDENR's data system (the duplicative designation of the subject permitting action as "08759T15"). Nonetheless, NCDENR plans to repropose the permitting action (to EPA) after it addresses your comments and to notify you of the restarting of EPA's 45-day review period. This will, of course, establish another 60-day petition period during which you may resubmit the petition should you feel NCDENR still has not resolved your issues/concerns to your satisfaction.

If you have any questions regarding this matter, please feel free to contact me or Lori Shepherd at (404) 562-8435. Thank you.

Art Hofmeister
Environmental Engineer
Air Permits Section
EPA Region 4
(404) 562-9115

Shepherd, Lorinda

From: Twisdale, Jeff <jeff.twisdale@ncdenr.gov>
Sent: Tuesday, October 22, 2013 1:23 PM
To: Shepherd, Lorinda
Subject: FW: Public Comment on Richmond County Turbines - Duke Energy
Attachments: Richmond co. fact sheet revised.pdf

Categories: NC Title V

Hi Lori,
See below is a comment that we received from BREDL along w/ their attached fact sheet. Please note that I'm handling the final issuance of this permit since Mr. Gordon is no longer w/ DAQ.
Regards,
Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: (919) 707-8472
www.ncair.org
jeff.twisdale@ncdenr.gov
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From: Kate Dunnagan [mailto:katedunnagan@gmail.com]
Sent: Monday, September 09, 2013 2:17 PM
To: Twisdale, Jeff; Vandervaart, Donald
Cc: LZeller
Subject: Public Comment on Richmond County Turbines

Kate Dunnagan

1208 Pamlico Dr.

Greensboro, NC 27408

September 9, 2013

Mr. Jeff Twisdale

Mr. Donald Van der Vaart

Division of Air Quality

1641 Mail Service Center

Raleigh, NC 27699

Dear Mr. Twisdale and Mr. Van der Vaart,

I am writing to request a public hearing to be held in the Hamlet NC area, in regards to Duke Energy's application for a Title V Air Quality Permit (No. 08759T15) at Richmond County Energy Complex for the construction of two new combustion turbine generators which, if granted, would emit high levels of dangerous toxins into the air.

Please note that my concern is the increase in dangerous toxic air emissions, such as particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, sulfuric acid, ammonia and benzene. Air toxins such as these are known to cause "serious or incapacitating reversible illness" (Clean Air Act of 1963). The permit would also substantially increase the amount of natural gas being piped into the facility and burned as a result of hydraulic fracturing, which is an environmental threat to NC, with a relatively insignificant increase in the output rate of electricity at Richmond County.

Please see the attached fact sheet for a summary of information that is relevant to this request. I thank you very much for your time and consideration regarding this urgent matter.

Thank you.

Kind regards,

Kate Dunnagan

Email: katedunnagan@gmail.com
Development Director
Blue Ridge Environmental Defense League
http://www.bredl.org/
1208 Pamlico Dr.
Greensboro, NC 27408
phone: (919) 417-4939

On Mon, Sep 9, 2013 at 2:06 PM, LZeller <lzeller@bredl.org> wrote:
Dear Ms. Woods,

I received your voice mail and understand my comments on the draft permit may be sent via email but before midnight tonight. I have located the contact information for Don Van der Vaart and Jeff Twisdale on the DAQ website and will send our comments on the Richmond County Combustion Turbines to them.

Thank you for all you do for North Carolina!

Sincerely,

Lou Zeller
Louis A. Zeller, Executive Director
Blue Ridge Environmental Defense League
PO Box 88
Glendale Springs, NC 28629
BREDL@skybest.com
(336) 982-2691 office
(336) 977-0852 cell
http://www.BREDL.org
Founded in 1984, BREDL has chapters in Alabama, Tennessee, Georgia, South Carolina, North Carolina and Virginia

Twisdale, Jeff	Engineer	jeff.twisdale@ncdenr.gov	(919) 707-8472
Van der Vaart, Donald	Environmental Program Manager I	donald.vandervaart@ncdenr.gov	(919) 707-8475

--

Kate Dunnagan
Email: katedunnagan@gmail.com
Development Director
Blue Ridge Environmental Defense League
http://www.bredl.org/
1208 Pamlico Dr.
Greensboro, NC 27408
phone: (919) 417-4939

Shepherd, Lorinda

From: Ceron, Heather
Sent: Wednesday, September 25, 2013 1:39 PM
To: Shepherd, Lorinda
Subject: RE: Facility ID: 7700070, Hamlet, NC, Richmond County

Categories: NC Title V

Let me know if comments were received by NC. I will respond with a thank you for your interest kind of thing.

From: Shepherd, Lorinda
Sent: Tuesday, September 24, 2013 2:40 PM
To: Ceron, Heather
Subject: RE: Facility ID: 7700070, Hamlet, NC, Richmond County

The public comment period for this permit was Sept. 8. As far as I know, there were no comments received by NC. Trying to get confirmation of that now. It was not targeted for review. The EPA review period ended on Sept. 23.

How would you like to respond to this?

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ceron, Heather
Sent: Tuesday, September 24, 2013 8:08 AM
To: Shepherd, Lorinda
Subject: Fw: Facility ID: 7700070, Hamlet, NC, Richmond County

---

From: bredl <bredl@skybest.com>
Sent: Monday, September 23, 2013 9:33:52 PM
To: Ceron, Heather
Subject: Facility ID: 7700070, Hamlet, NC, Richmond County

September 23, 2013

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T14
Duke Energy Progress - Richmond County Turbines

Facility ID: 7700070, Hamlet, NC, Richmond County

Dear Ms. Ceron:

On behalf of the Blue Ridge Environmental Defense League, please find attached information about the Richmond County Turbines draft permit now under review by the North Carolina Division of Air Quality.

Louis A. Zeller
Executive Director
Blue Ridge Environmental Defense League

Shepherd, Lorinda

From: Ceron, Heather
Sent: Tuesday, September 24, 2013 8:08 AM
To: Shepherd, Lorinda
Subject: Fw: Facility ID: 7700070, Hamlet, NC, Richmond County
Attachments: 130923 BREDL letter to EPA-4 re RCCT.pdf

Categories: NC Title V

From: bredl <bredl@skybest.com>
Sent: Monday, September 23, 2013 9:33:52 PM
To: Ceron, Heather
Subject: Facility ID: 7700070, Hamlet, NC, Richmond County

September 23, 2013

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T14
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Dear Ms. Ceron:

On behalf of the Blue Ridge Environmental Defense League, please find attached information about the Richmond County Turbines draft permit now under review by the North Carolina Division of Air Quality.

Louis A. Zeller
Executive Director
Blue Ridge Environmental Defense League

Shepherd, Lorinda

From: Twisdale, Jeff <jeff.twisdale@ncdenr.gov>
Sent: Monday, July 21, 2014 8:06 AM
To: Shepherd, Lorinda
Subject: FW: 08759T17 Signed Duke - Richmond Co. CTs
Attachments: 08759T17.pdf

Here you go ... regards, Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: (919) 707-8472
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From: Hash, Kathy
Sent: Friday, July 18, 2014 5:33 PM
To: Twisdale, Jeff
Subject: 08759T17

Kathy Hash, Info Processing Assistant
NC DENR, Division of Air Quality
Permits Section 4430-I
1641 Mail Service Center, Raleigh NC 27699-1641
Phone/Fax: 919-707-8734
kathy.hash@ncdenr.gov
www.ncair.org

****
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****

Shepherd, Lorinda

From: Twisdale, Jeff <jeff.twisdale@ncdenr.gov>
Sent: Friday, July 18, 2014 3:06 PM
To: Quillian, Ann
Cc: Shepherd, Lorinda
Subject: Duke Energy Progress - Richmond Co. Combustion Turbine - Permit 08759T17

FYI – Permit 08759T17 was signed this afternoon. I will forward scanned signed copy when available if you like.

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permitting Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
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Ceron, Heather

From: Ceron, Heather
Sent: Monday, December 02, 2013 12:16 PM
To: Hazziez, Natasha
Cc: Shepherd, Lorinda
Subject: FW: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Natasha,

Was this one you reviewed?

Lori,

Did you have any comments on the TV?

From: Thaker, Rahul [mailto:rahul.thaker@ncdenr.gov]
Sent: Monday, December 02, 2013 9:56 AM
To: Ceron, Heather
Cc: Evans, John; Vandervaart, Donald
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Heather:

The 45-day review period for EPA ends today (12/2/2013). The facility is asking DAQ on whether there is any comment from EPA on this Title V permit revision. Please see my previous email (11/22/13) copied below on this matter.

Let us know soon.

Thanks.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
Permitting Section
NCDENR Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: 919-707-8740
www.ncair.org
rahul.thaker@ncdenr.gov

** Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties unless the content is exempt by statute or other regulation. **

From: Thaker, Rahul
Sent: Friday, November 22, 2013 11:17 AM
To: Ceron.Heather@epamail.epa.gov
Cc: Evans, John; Vandervaart, Donald
Subject: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Hello Heather:

We have received EPA comments on the draft Title V permit and preliminary determination, approving the PSD project. Specifically, we have received EPA letters dated November 6 and 13, 2013. These letters include comments pertaining to the PSD program. We are asking you if EPA has any additional comments with respect to the Title V program standpoint?

Let us know.

Thanks.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
Permitting Section
NCDENR Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: 919-707-8740
www.ncair.org
rahul.thaker@ncdenr.gov

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✓

Ceron, Heather

From: Hazziez, Natasha
Sent: Monday, December 02, 2013 12:27 PM
To: Ceron, Heather
Cc: Shepherd, Lorinda
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

No the one I reviewed was a Duke facility in SC.

From: Ceron, Heather
Sent: Monday, December 02, 2013 12:16 PM
To: Hazziez, Natasha
Cc: Shepherd, Lorinda
Subject: FW: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Natasha,

Was this one you reviewed?

Lori,

Did you have any comments on the TV?

From: Thaker, Rahul [mailto:rahul.thaker@ncdenr.gov]
Sent: Monday, December 02, 2013 9:56 AM
To: Ceron, Heather
Cc: Evans, John; Vandervaart, Donald
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Heather:

The 45-day review period for EPA ends today (12/2/2013). The facility is asking DAQ on whether there is any comment from EPA on this Title V permit revision. Please see my previous email (11/22/13) copied below on this matter.

Let us know soon.

Thanks.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
Permitting Section
NCDENR Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: 919-707-8740
www.ncair.org

rahul.thaker@ncdenr.gov

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From: Thaker, Rahul
Sent: Friday, November 22, 2013 11:17 AM
To: Ceron.Heather@epamail.epa.gov
Cc: Evans, John; Vandervaart, Donald
Subject: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Hello Heather:

We have received EPA comments on the draft Title V permit and preliminary determination, approving the PSD project. Specifically, we have received EPA letters dated November 6 and 13, 2013. These letters include comments pertaining to the PSD program. We are asking you if EPA has any additional comments with respect to the Title V program standpoint?

Let us know.

Thanks.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
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Ceron, Heather

From: Shepherd, Lorinda
Sent: Wednesday, July 23, 2014 11:25 AM
To: Ceron, Heather
Subject: RE: Proposed NC Air Quality Permit No. 08759T17

So, what is our next step with this?

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ceron, Heather
Sent: Tuesday, July 22, 2014 9:36 AM
To: Shepherd, Lorinda
Subject: Fw: Proposed NC Air Quality Permit No. 08759T17

From: bredl <bredl@skybest.com>
Sent: Monday, July 21, 2014 11:59:14 PM
To: Ceron, Heather; Lusky, Katy; Krivo, Stan
Subject: Proposed NC Air Quality Permit No. 08759T17

July 21, 2014

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached_____

Ceron, Heather

From: Ceron, Heather
Sent: Wednesday, July 23, 2014 11:27 AM
To: Shepherd, Lorinda
Subject: Re: Proposed NC Air Quality Permit No. 08759T17

No idea. I want to update scott on this. Can you do a quick email to me on what this is and the history?

From: Shepherd, Lorinda
Sent: Wednesday, July 23, 2014 11:24:56 AM
To: Ceron, Heather
Subject: RE: Proposed NC Air Quality Permit No. 08759T17

So, what is our next step with this?

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ceron, Heather
Sent: Tuesday, July 22, 2014 9:36 AM
To: Shepherd, Lorinda
Subject: Fw: Proposed NC Air Quality Permit No. 08759T17

From: bredl <bredl@skybest.com>
Sent: Monday, July 21, 2014 11:59:14 PM
To: Ceron, Heather; Lusky, Katy; Krivo, Stan
Subject: Proposed NC Air Quality Permit No. 08759T17

July 21, 2014

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached_____

Ceron, Heather

From: Ceron, Heather
Sent: Tuesday, January 21, 2014 9:47 AM
To: Powell, Keri; Hofmeister, Art; Shepherd, Lorinda
Subject: FW: Richmond Combustion Turbines Permit No 08759T15 CAA Section 505 Petition
Attachments: 140117 BREDL-CCRC CAA petition to EPA-4 re RCCT.pdf

FYI – I can't see that this was sent to anyone else. Who else does it need to go to? I don't want it to slip through the cracks.

From: bredl [mailto:bredl@skybest.com]
Sent: Saturday, January 18, 2014 12:21 AM
To: van der Vaart Don; Ceron, Heather
Subject: Richmond Combustion Turbines Permit No 08759T15 CAA Section 505 Petition

In the matter of a	
Part 70 Air Quality Operating Permit	

Issued by North Carolina Department
of Environment and Natural Resources
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070
Hamlet, NC, Richmond County
Permit No. 08759T15

On behalf of the Concerned Citizens of Richmond County and the Blue Ridge Environmental Defense League, I hereby petition the United States Environmental Protection Agency to object to the issuance of the Title V permit No. 08759T15 issued by the North Carolina Department of Environment and Natural Resources Division of Air Quality to the Richmond County Combustion Turbine Facility operated by Duke Energy Progress. The petition is attached to this email.

Louis A. Zeller
Executive Director
Blue Ridge Environmental Defense League
PO Box 88 Glendale Springs, NC 28629
(336) 982-2691
BREDL@skybest.com

Louis A. Zeller
Executive Director
Blue Ridge Environmental Defense League
PO Box 88 Glendale Springs, NC 28629
(336) 982-2691
BREDL@skybest.com

Ceron, Heather

From: Ceron, Heather
Sent: Tuesday, August 12, 2014 4:30 PM
To: Lloyd, David
Cc: Shepherd, Lorinda
Subject: FW: Proposed NC Air Quality Permit No. 08759T17
Attachments: 140721 Letter to EPA-4 re NAAQS impacts+photos.docx

David,

This permit has been issued, but the issues being raised seem to have more to do with enforcement. Let me know what you think. Also, how does enforcement usually handle concerns from the public regarding compliance? Thanks!!!

From: bredl [mailto:bredl@skybest.com]
Sent: Monday, July 21, 2014 11:59 PM
To: Ceron, Heather; Lusky, Katy; Krivo, Stan
Subject: Proposed NC Air Quality Permit No. 08759T17

July 21, 2014

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached_____

Ceron, Heather

From: Shepherd, Lorinda
Sent: Wednesday, July 23, 2014 12:12 PM
To: Ceron, Heather
Subject: RE: Proposed NC Air Quality Permit No. 08759T17
Attachments: 140117 BREDL-CCRC CAA petition to EPA-4 re RCCT.PDF; 130909 BREDL comments to DAQ re RCCT.PDF; Richmond co. fact sheet revised.pdf

I have found the petition that was filed prematurely due to the numbering error and BREDL's comment letter and fact sheet.

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

From: Ceron, Heather
Sent: Wednesday, July 23, 2014 11:27 AM
To: Shepherd, Lorinda
Subject: Re: Proposed NC Air Quality Permit No. 08759T17

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Subject: Proposed NC Air Quality Permit No. 08759T17

July 21, 2014

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached_____

Ceron, Heather

From: Ceron, Heather
Sent: Tuesday, August 12, 2014 4:28 PM
To: Tennessee, Denise
Subject: FW: Proposed NC Air Quality Permit No. 08759T17
Attachments: 140721 Letter to EPA-4 re NAAQS impacts+photos.docx

Denise,

FYI – APS submitted comments to NC on this draft permit. Since then the draft has been issued (7/18/14). Just wanted you to be aware that BREDL is now raising EJ concerns with Duke.

From: bredl [mailto:bredl@skybest.com]
Sent: Monday, July 21, 2014 11:59 PM
To: Ceron, Heather; Lusky, Katy; Krivo, Stan
Subject: Proposed NC Air Quality Permit No. 08759T17

July 21, 2014

Ms. Heather Ceron, Air Permits Section Chief
United States Environmental Protection Agency
Air, Pesticides, and Toxics Management Division
Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
Ceron.Heather@epa.gov

SUBJECT: Proposed Air Quality Permit No. 08759T17
Duke Energy Progress - Richmond County Turbines
Facility ID: 7700070, Hamlet, NC, Richmond County

Attached_____

/

Ceron, Heather

From: Shepherd, Lorinda
Sent: Monday, December 02, 2013 12:33 PM
To: Ceron, Heather; Hazziez, Natasha
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Heather

I think this one is Andy's. , so I didn't send them any comments.

Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

Information Redacted pursuant to
5 U.S.C. Section 552 (b)(5), Exemption 5,
Privileged Inter/Intra Agency Document
SpecificPrivilege: Deliberative Process

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Sent: Monday, December 02, 2013 12:16 PM
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Cc: Shepherd, Lorinda
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Was this one you reviewed?

Lori,

Did you have any comments on the TV?

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Sent: Monday, December 02, 2013 9:56 AM
To: Ceron, Heather
Cc: Evans, John; Vandervaart, Donald
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Heather:

The 45-day review period for EPA ends today (12/2/2013). The facility is asking DAQ on whether there is any comment from EPA on this Title V permit revision. Please see my previous email (11/22/13) copied below on this matter.

Let us know soon.

Thanks.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
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To: Ceron.Heather@epamail.epa.gov
Cc: Evans, John; Vandervaart, Donald
Subject: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Hello Heather:

We have received EPA comments on the draft Title V permit and preliminary determination, approving the PSD project. Specifically, we have received EPA letters dated November 6 and 13, 2013. These letters include comments pertaining to the PSD program. We are asking you if EPA has any additional comments with respect to the Title V program standpoint?

Let us know.

Thanks.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
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rahul.thaker@ncdenr.gov

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Ceron, Heather

From: Ceron, Heather
Sent: Friday, June 06, 2014 8:47 AM
To: Shepherd, Lorinda
Subject: RE: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Information Redacted pursuant to
5 U.S.C. Section 552 (b)(5), Exemption 5,
Privileged Inter/Intra Agency Document
SpecificPrivilege: Deliberative Process

From: Shepherd, Lorinda
Sent: Thursday, June 05, 2014 4:41 PM
To: Ceron, Heather
Subject: FW: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

FYI – This was the permit that BREDL was waiting for after NC's permit numbers were duplicated causing BREDL to comment on the wrong one.

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Thursday, June 05, 2014 3:56 PM
To: Shepherd, Lorinda
Cc: Lusky, Katy; Hofmeister, Art; Moser, Jim; Thaker, Rahul; bredl; Quillian, Ann
Subject: PROPOSED Permit/Review for Duke Energy Progress - Richmond County Combustion Turbine Facility - 7700070.11A

Please see attached permit & statement of basis for the significant modification of DEP's RCCTF permit for EPA's 45 day review.

Regards,

Jeff Twisdale

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Phone/Fax: (919) 707-8472
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jeff.twisdale@ncdenr.gov
****Please note: NC DENR-DAQ's Central Office has relocated to the DENR Building in the Green Square Office Complex at 217 West Jones Street, Raleigh, NC 27603.****
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Ceron, Heather

From: Shepherd, Lorinda
Sent: Monday, July 14, 2014 3:54 PM
To: Ceron, Heather
Subject: FW: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15
Attachments: 2011-02-04 Wayne Co Heater Applicability Letter.pdf

Can you take a look at this letter? NC sent it in reply to the conversation we had last week about excluding heaters from their existing title V permit. It isn't the same facility, but all the players are the same.

Thanks,
Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8435

Information Redacted pursuant to
5 U.S.C. Section 552 (b)(5), Exemption 5,
Privileged Inter/Intra Agency Document
SpecificPrivilege: Deliberative Process

From: Twisdale, Jeff [mailto:jeff.twisdale@ncdenr.gov]
Sent: Monday, July 14, 2014 1:01 PM
To: Shepherd, Lorinda
Subject: FW: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

See attached. Please let me know if this is sufficient. Thanks, Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
Environmental Engineer
Permits Section - NSR Branch
NC DENR - Division of Air Quality
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From: Gil Vinzani [mailto:gil.vinzani@piedmontng.com]
Sent: Monday, July 14, 2014 12:12 PM
To: Twisdale, Jeff
Cc: Willets, William; Matt Kanes; Quillian, Ann
Subject: Richmond County Heaters, AQ Permit No. 08759T15

Jeff:

This is in response to your request for information regarding six heaters owned by Piedmont Natural Gas (PNG) which are listed as sources in the subject permit held by Duke Energy Progress, Inc. (Reference sources ES-16, ES-17, ES-18, ES-21, ES-22, and ES-23). PNG independently owns, operates, and maintains these heaters. There is no contract with Duke Energy regarding their operation or maintenance.

PNG has no objections to the removal of these sources from the subject permit. As we discussed, they should be exempted from permitting by PNG under 15A NCAC 2Q .0102 (c) (2). This is consistent with our conversation on June 10 and the determination made for this same situation at Duke's Wayne County combustion turbine site (see the attached letter).

Please let me know if you have any questions or wish to discuss further.

Gil Vinzani, P. E.
Environmental Engineer
Piedmont Natural Gas
150 Fayetteville St. Suite 570
Raleigh, NC 27601
(919) 899-6081 Office
(919) 623-5701 Mobile

NCDENR

North Carolina Department of Environment and Natural Resources
Division of Air Quality

Beverly Eaves Perdue
Governor

Sheila C. Holman
Director

Dee Freeman
Secretary

February 4, 2011

Mr. Michael DePalma
Piedmont Natural Gas
Post Office Box 33068
Charlotte, NC 28233

SUBJECT: Permit Applicability Determination
Applicability Determination Application No. 1721
Piedmont Natural Gas Goldsboro, Wayne County

Dear Mr. DePalma:

The Division of Air Quality received your application on January 18, 2011 requesting that this Office determine whether an Air Quality Permit is necessary for the natural gas-fired heaters (total heat capacity not to exceed 17 million Btu per hour) located at Progress Energy Lee Plant.

In light of the information provided, personnel of the Division of Air Quality have reviewed your letter relative to applicability to Air Quality Permits, and our determinations are listed as follows:

DAQ considers this to be a separate facility per the EPA New Source Review Workshop Manual criteria, which requires ALL of the following to be met:

- Belong to the same source industrial grouping (including support facilities)
- Be located on one or more contiguous or adjacent properties
- Be under the control of the same person (or persons under common control)

Lee Plant and Piedmont Natural Gas do share a 2-digit SIC code (4911 for Lee and 4923 for PNG) in addition to being located on the same property but are not under common legal control.

15A NCAC 2Q .0102(c)(2)(B)(ii) states that *"fuel combustion equipment, except for internal combustion engines, firing exclusively natural gas or liquefied petroleum gas or a mixture of these fuels with a heat input rating less than 65 million Btu per hour (Internal combustion engines are required to be permitted under 15A NCAC 02Q .0300 unless they qualify for another exemption under this Paragraph)..."*

Therefore, this Office has determined that an Air Quality Permit is Not required for the natural gas-fired heaters located at Progress Energy Lee Plant. It should be noted that this exemption from the permitting requirement does not exempt Piedmont Natural Gas from complying with applicable emission control standards.

Furthermore, should you decide to modify the process such that the result is an increase of emissions of air pollutants including toxic air pollutants, an Air Quality Permit may be required and Piedmont Natural Gas should submit a permit application to this Office prior to such actions.

It should also be noted that future Regulations including Federal Maximum Achievable Control Technology (MACT) for hazardous air pollutant (HAP) may be promulgated and adopted by the Division which apply to this type of manufacturing facility. If so, Piedmont Natural Gas may be required to apply for an Air Quality Permit for this equipment at that date.

This exemption from the permitting requirement is based upon your statement that equipment has been and will be operated under the threshold levels as outlined in the Regulation. Please be advised that the operation of any air pollution emission sources which results in emissions in excess of the threshold levels without an Air Quality Permit is a violation of 15A NCAC 2Q.0101, "Required Air Quality Permits." If this facility is required to obtain an Air Quality Permit for this equipment in the future because of required emissions, each day of operation of the emission sources without an Air Quality Permit represents a separate violation. Such violations may be subject to enforcement action, including a civil penalty of up to $25,000 per violation and/or injunctive relief, pursuant to NCGS 143-215.114A.

If you have any questions, with reference to the above matter, please do not hesitate to contact Robert Bright at (252) 948-3829.

Sincerely,

Robert P. Fisher
Regional Air Quality Supervisor

cc: Washington Regional Office

Shepherd, Lorinda

From: Ceron, Heather
Sent: Monday, July 14, 2014 3:57 PM
To: Shepherd, Lorinda
Subject: RE: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

From: Shepherd, Lorinda
Sent: Monday, July 14, 2014 3:54 PM
To: Ceron, Heather
Subject: FW: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

Can you take a look at this letter? NC sent it in reply to the conversation we had last week about excluding heaters from their existing title V permit. It isn't the same facility, but all the players are the same.

Thanks,
Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
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(404) 562-8435

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See attached. Please let me know if this is sufficient. Thanks, Jeff

Jefferson (Jeff) T. Twisdale, E.I.T.
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Gil Vinzani, P. E.
Environmental Engineer
Piedmont Natural Gas
150 Fayetteville St. Suite 570
Raleigh, NC 27601
(919) 899-6081 Office
(919) 623-5701 Mobile

Shepherd, Lorinda

From: Ceron, Heather
Sent: Monday, July 14, 2014 3:57 PM
To: Shepherd, Lorinda
Subject: RE: Proposed Permit for Duke Energy - Richmond County - Piedmont Natural Gas Heaters, AQ Permit No. 08759T15

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Lori Shepherd
Environmental Scientist
Air Permits Section
EPA Region 4
61 Forsyth Street
Atlanta, GA 30303
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Jefferson (Jeff) T. Twisdale, E.I.T.
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Subject: Richmond County Heaters, AQ Permit No. 08759T15

Jeff:
This is in response to your request for information regarding six heaters owned by Piedmont Natural Gas (PNG) which are listed as sources in the subject permit held by Duke Energy Progress, Inc. (Reference sources ES-16, ES-17, ES-18, ES-21, ES-22, and ES-23). PNG independently owns, operates, and maintains these heaters. There is no contract with Duke Energy regarding their operation or maintenance.

PNG has no objections to the removal of these sources from the subject permit. As we discussed, they should be exempted from permitting by PNG under 15A NCAC 2Q .0102 (c) (2). This is consistent with our conversation on June 10 and the determination made for this same situation at Duke's Wayne County combustion turbine site (see the attached letter).

Please let me know if you have any questions or wish to discuss further.

Gil Vinzani, P. E.
Environmental Engineer
Piedmont Natural Gas
150 Fayetteville St. Suite 570
Raleigh, NC 27601
(919) 899-6081 Office
(919) 623-5701 Mobile

Ceron, Heather

From: Ceron, Heather
Sent: Monday, December 02, 2013 1:38 PM
To: Thaker, Rahul
Cc: Evans, John; Vandervaart, Donald; Shepherd, Lorinda; Porter, Andrew
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

We did not target this one for review so we do not have any comments to provide.

From: Thaker, Rahul [mailto:rahul.thaker@ncdenr.gov]
Sent: Monday, December 02, 2013 9:56 AM
To: Ceron, Heather
Cc: Evans, John; Vandervaart, Donald
Subject: RE: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Heather:

The 45-day review period for EPA ends today (12/2/2013). The facility is asking DAQ on whether there is any comment from EPA on this Title V permit revision. Please see my previous email (11/22/13) copied below on this matter.

Let us know soon.

Thanks.

Rahul

Rahul P. Thaker, P.E., QEP
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From: Thaker, Rahul
Sent: Friday, November 22, 2013 11:17 AM
To: Ceron.Heather@epamail.epa.gov
Cc: Evans, John; Vandervaart, Donald
Subject: Duke Energy Progress Richmond County Combustion Turbine Facility: Application No. 7700070.12B

Hello Heather:

We have received EPA comments on the draft Title V permit and preliminary determination, approving the PSD project. Specifically, we have received EPA letters dated November 6 and 13, 2013. These letters include comments pertaining to the PSD program. We are asking you if EPA has any additional comments with respect to the Title V program standpoint?

Let us know.

Thanks.

Rahul

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