Facility Name: **Wansley Combined-Cycle Generating Plant**
City: Franklin
County: Heard
AIRS #: 04-13-149-00011

Application #: TV-40671
Date Application Received: December 14, 2016
Permit No: 4911-149-0011-V-02-0

Program	Review Engineers	Review Managers
SSPP	Jeng-Hon Su	Manny Patel
ISMU	John Towe	Dan McCain
SSCP	Pierre Sanon	Tammy Martiny
Toxics	N/A	N/A
Permitting Program Manager		Eric Cornwell

Introduction

This narrative is being provided to assist the reader in understanding the content of referenced operating permit. Complex issues and unusual items are explained here in simpler terms and/or greater detail than is sometimes possible in the actual permit. The permit is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. and (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The narrative is intended as an adjunct for the reviewer and to provide information only. It has no legal standing. Any revisions made to the permit in response to comments received during the public participation and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Facility Identification

1. Facility Name:

   Wansley Combined-Cycle Generating Plant

2. Parent/Holding Company Name

   Southern Power Company

3. Previous and/or Other Name(s)

   Previously part of the Wansley Steam-Electric Generating Plant Title V permit.

4. Facility Location

   3461 Hollingsworth Ferry Rd.
   Franklin, Heard County, Georgia

5. Attainment, Non-attainment Area Location, or Contributing Area

   Wansley Combined-Cycle Generating Plant (hereinafter "facility") is located in Heard County, which is in attainment for ozone but designated as a contributing county with enhanced monitoring and was formerly a $PM_{2.5}$ non-attainment area.

B. Site Determination

The Wansley Steam-Electric Generating Plant (AFS No. 149-00001), Southern Power - Wansley Combined-Cycle Generating Plant (AFS No. 149-00011), Oglethorpe Power Corporation – Chattahoochee Energy Facility (AFS No. 149-00006), and the Municipal Electric Authority of Georgia – Wansley Unit 9 (AFS No. 149-00007) are permitted separately. Collectively, they comprise the same Title V site. However, each separate owner/operator is only accountable, for compliance purposes, for the individual electrical generating units that they own or operate.

C. Existing Permits

Table 1 below lists all current Title V permits, all amendments, 502(b)(10) changes, and off-permit changes, issued to the facility, based on a comparative review of form A.6, Current Permits, of the Title V application and the "Permit" file(s) on the facility found in the Air Branch office.

Table 1: List of Current Permits, Amendments, and Off-Permit Changes

Permit Number and/or Off-Permit Change	Date of Issuance/ Effectiveness	Purpose of Issuance
4911-149-0011-V-01-0	June 19, 2012	Initial Title V Permit after splitting from the Wansley Steam-Electric Generating Plant Title V permit.
4911-149-0011-V-01-1	May 5, 2015	502(b)(10) Permit for upgrading the system software on the combustion turbines.
OPC	October 27, 2016	Upgrading the combustion turbines to GE 7FA.04 Advanced Gas Path (AGP) technology and controls to the Mark Vie platform.

D. Process Description

1. SIC Codes(s)

4911

The SIC Code(s) identified above were assigned by EPD's Air Protection Branch for purposes pursuant to the Georgia Air Quality Act and related administrative purposes only and are not intended to be used for any other purpose. Assignment of SIC Codes by EPD's Air Protection Branch for these purposes does not prohibit the facility from using these or different SIC Codes for other regulatory and non-regulatory purposes.

Should the reference(s) to SIC Code(s) in any narratives or narrative addendum previously issued for the Title V permit for this facility conflict with the revised language herein, the language herein shall control; provided, however, language in previously issued narratives that does not expressly reference SIC Code(s) shall not be affected.

2. Description of Product(s)

Wansley Combined-Cycle generating plant burns natural gas to generate electricity.

3. Overall Facility Process Description

Wansley Combined-Cycle generating plant includes two combustion turbine combined-cycle blocks. Each combined-cycle block includes two combustion turbines each with a supplementally fired heat recovery steam generator (HRSG). The combined-cycle blocks fire only natural gas.

4. Overall Process Flow Diagram

The facility provided a process flow diagram in their Title V permit application.

E. Regulatory Status

1. PSD/NSR

The facility is located in Heard County, which is in attainment for ozone but designated as a contributing county with enhanced monitoring. The combined site is one of the 28 PSD named source category (fossil fuel-fired steam electric plants of more than 250 million Btu/hr heat input). Since it has potential emissions of particulate matter (PM), sulfur dioxide (SO_2), nitrogen oxide (NOx), volatile organic compounds (VOC), and carbon monoxide (CO) greater than 100 tpy, it is a major source under PSD regulations.

The facility went through a PSD review for NOx, SO_2, CO, VOC and PM/PM_{10} in November 2000 for the construction and operation of the combustion turbine combined-cycle blocks. Existing Conditions 3.3.3 through 3.3.14 of Title V Permit No. 4911-149-0011-V-01-0 contains all the BACT standards resulting from that PSD review.

The portion of Heard County, where the facility is located at, was formerly a $PM_{2.5}$ non-attainment area.

2. Title V Major Source Status by Pollutant

Table 2: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Yes	✓		
PM_{10}	Yes	✓		
$PM_{2.5}$	Yes	✓		
SO_2	Yes	✓		
VOC	Yes	✓		
NO_x	Yes	✓		
CO	Yes	✓		
TRS	N/A			
H_2S	N/A			
Total Greenhouse Gases	Yes	✓		
Individual HAP	Yes	✓		
Total HAPs	Yes	✓		

3. MACT Standards

   Since the combined site is major under title V of 1990 CAAA for single and combined HAP, the facility is subject to 40 CFR 63 Subpart YYYY – "National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines."

4. Program Applicability (AIRS Program Codes)

Program Code	Applicable (y/n)
Program Code 6 - PSD	Yes
Program Code 8 – Part 61 NESHAP	No
Program Code 9 - NSPS	Yes
Program Code M – Part 63 NESHAP	Yes
Program Code V – Title V	Yes

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Caps:

None applicable.

B. Applicable Rules and Regulations

None applicable.

C. Compliance Status

None applicable.

D. Permit Conditions

None applicable.

III. Regulated Equipment Requirements

A. Equipment List for the Process

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	**Description**	**Applicable Requirements/Standards**	**Corresponding Permit Conditions**	**ID No.**	**Description**
CT6A	Combustion Turbine Unit 6A	40 CFR 52.21 40 CFR 60 Subpart A 40 CFR 60 Subpart GG 40 CFR 63 Subpart A 40 CFR 63 Subpart YYYY Acid Rain 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(g)2.	3.3.1, 3.3.2, 3.3.3, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.12, 3.3.14, 3.3.15, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.2, 6.2.4, 6.2.5, 6.2.6, 6.2.8, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13	LC6A SC6A	Low NOx Burner SCR
DB6A	HRSG Duct Burner for Turbine 6A	40 CFR 52.21 40 CFR 60 Subpart A 40 CFR 60 Subpart Da Acid Rain 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)2.	3.3.1, 3.3.2, 3.3.4, 3.3.5, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.13, 3.3.14, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.3, 6.2.5, 6.2.6, 6.2.7, 6.2.8, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13	LD6A SC6A	Low NOx Burner SCR
CT6B	Combustion Turbine Unit 6B	40 CFR 52.21 40 CFR 60 Subpart A 40 CFR 60 Subpart GG 40 CFR 63 Subpart A 40 CFR 63 Subpart YYYY Acid Rain 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(g)2.	3.3.1, 3.3.2, 3.3.3, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.12, 3.3.14, 3.3.15, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.2, 6.2.4, 6.2.5, 6.2.6, 6.2.8, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13	LC6B SC6B	Low NOx Burner SCR
DB6B	HRSG Duct Burner for Turbine 6B	40 CFR 52.21 40 CFR 60 Subpart A 40 CFR 60 Subpart Da Acid Rain 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)2.	3.3.1, 3.3.2, 3.3.4, 3.3.5, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.13, 3.3.14, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.3, 6.2.5, 6.2.6, 6.2.7, 6.2.8, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13	LD6B SC6B	Low NOx Burner SCR
CT7A	Combustion Turbine Unit 7A	40 CFR 52.21 40 CFR 60 Subpart A 40 CFR 60 Subpart GG 40 CFR 63 Subpart A 40 CFR 63 Subpart YYYY Acid Rain 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(g)2.	3.3.1, 3.3.2, 3.3.3, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.12, 3.3.14, 3.3.15, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.2, 6.2.4, 6.2.5, 6.2.6, 6.2.8, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13	LC7A SC7A	Low NOx Burner SCR

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	**Description**	**Applicable Requirements/Standards**	**Corresponding Permit Conditions**	**ID No.**	**Description**
DB7A	HRSG Duct Burner for Turbine 7A	40 CFR 52.21 40 CFR 60 Subpart A 40 CFR 60 Subpart Da Acid Rain 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)2.	3.3.1, 3.3.2, 3.3.4, 3.3.5, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.13, 3.3.14, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.3, 6.2.5, 6.2.6, 6.2.7, 6.2.8, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13	LD7A SC7A	Low NOx Burner SCR
CT7B	Combustion Turbine Unit 7B	40 CFR 52.21 40 CFR 60 Subpart A 40 CFR 60 Subpart GG 40 CFR 63 Subpart A 40 CFR 63 Subpart YYYY Acid Rain 391-3-1-.02(2)(b)1. 391-3-1-.02(2)(g)2.	3.3.1, 3.3.2, 3.3.3, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.12, 3.3.14, 3.3.15, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.2, 6.2.4, 6.2.5, 6.2.6, 6.2.8, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13	LC7B SC7B	Low NOx Burner SCR
DB7B	HRSG Duct Burner for Turbine 7B	40 CFR 52.21 40 CFR 60 Subpart A 40 CFR 60 Subpart Da Acid Rain 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)2.	3.3.1, 3.3.2, 3.3.4, 3.3.5, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.3.11, 3.3.13, 3.3.14, 4.2.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 6.1.7, 6.2.1, 6.2.3, 6.2.5, 6.2.6, 6.2.7, 6.2.8, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13	LD7B SC7B	Low NOx Burner SCR

* Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards and corresponding permit conditions are intended as a compliance tool and may not be definitive.

** HRSG = Heat Recovery Steam Generator

B. Equipment & Rule Applicability

Emission and Operating Caps:

The emission and operating caps in Section 3.3 of the permit are all related to the Prevention of Significant Deterioration (PSD), New Source Performance Standards (NSPS), and National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations. They are explained in details in the following section.

Rules and Regulations Assessment:

The 2000 PSD Review and Resulting BACT Limits

On November 6, 2000, the facility received Permit Amendment No. 4911-149-0001-V-01-2 [based on Application No. 11857 (SIP) dated November 29, 1999; No. 11828 (Phase II Acid Rain) dated November 12, 1999; and No. TV-12224 dated April 26, 2000] for the construction and operation of two natural gas-fired only combined-cycle blocks which will generate a total of approximately 2,280 megawatts (MWs) of electric power. For a complete discussion please

refer back to this amendment and narrative. The following is a summary of the resulting BACT determination for NOx, CO, VOC, SO_2, and PM/PM_{10}.

NOx

EPD has determined that the proposal to use a dry low NOx (DLN) combustor in the turbine and a DLN burner in the duct burner with SCR as post-combustion control for the turbine and duct burner while burning natural gas meets the requirements of best available control technology (BACT). The General Electric (GE) DLN combustor used is a two-stage lean premixed combustor design for use with natural gas. The NOx BACT emission limit is set at 3.5 ppmvd (corrected to 15% oxygen) at the stack exit for each CT/HRSG system. The averaging period is on a rolling 30-day basis.

NOx emissions from each combined-cycle block are capped to not equal or exceed 208.14 tons (i.e., 416.28 tons of NOx from the two blocks). No limit is required on heat input since the BACT analysis was at 8,760 hours per year.

Sulfur Dioxide

The Division has determined that Georgia Power's proposal to only fire natural gas in the CT/HRSG systems meets the requirements of BACT for SO_2.

Carbon Monoxide and Volatile Organic Compounds

The Division has determined that Georgia Power's proposal to use proper combustion design meets the requirements of BACT. CO and VOC emissions have to be balanced against NOx emissions. At the proposed BACT emissions levels for NOx, the CO and VOC emissions will be limited to the following at the combined stack exit:

CO = 0.061 lb/MMBtu, 29.5 ppm@15% oxygen, 138.7 lb/hr
VOC = 0.008 lb/MMBtu, 6.2 ppmvd (as methane) @ 15% oxygen, 17.0 lb/hr

Particulate Matter

The use of clean burning fuels, such as natural gas, was determined to meet the requirements of BACT by the EPD for Georgia Power Jackson County Combustion Turbine Project and the Heard County Power Project (Dynegy). With all of this in mind, the Division has determined that the burning of clean fuels in the combustion turbines meets the requirements of BACT. PM emissions, and thus PM_{10} emissions, will be limited to the BACT PM limits proposed by the company.

Summary

Emission Standards: The 2000 PSD review has illustrated the analysis performed to assess the appropriate BACT for the proposed CT/HRSG systems. The results are summarized in the following table:

Pollutant	BACT - CT Exit	BACT - DB Exit	Combined or Stack Exit (Permit Limit)	Averaging Period
NOx	DLN Combustor	Low-NOx Burner	Controlled by SCR 3.5 ppmvd @ 15% O_2 208.14 tpy / block	30-day rolling average annual limit
CO	Efficient Combustion 0.034 lb/MMBtu 66.2 lb/hr	Efficient Combustion 0.216 lb/MMBtu 72.5 lb/hr	0.061 lb/MMBtu	Based on applicable test method. 3-hour average
VOC	Efficient Combustion 0.002 lb/MMBtu 3.9 lb/hr	Efficient Combustion 0.039 lb/MMBtu 13.1 lb/hr	0.008 lb/MMBtu as methane	Based on applicable test method. 3-hour average
SO_2	Fire natural gas only	Fire natural gas only 0.0006 lb/MMBtu	Fire natural gas only	N/A
PM/PM_{10}	Fire natural gas only Efficient Combustion 0.009 lb/MMBtu 17.6 lb/hr 10% opacity	Fire natural gas only Efficient Combustion 0.007 lb/MMBtu 2.4 lb/hr 10% opacity	0.010 lb/MMBtu 3-hour average 10% opacity 6-minute average	Based on applicable test method.

The above BACT limits were included in existing Conditions 3.3.2 through 3.3.14 of Title V Permit No. 4911-149-0011-V-01-0 when the two combined-cycle blocks were pulled from Title V Permit No. 4911-149-0001-V-02-0 and its amendments. The BACT limits are now included in Conditions 3.3.2 through 3.3.14 of the proposed Title V renewal permit.

Federal Regulation Standards

Combustion Turbines CT6A, CT6B, CT7A, and CT7B

40 CFR 60 Subpart GG – "Standards of Performance for Stationary Gas Turbines"

The combustion turbines are subject to 40 CFR 60 Subpart GG. NSPS GG is an applicable requirement for each CT because each CT has a nameplate capacity greater than 10 MMBtu/hr, and they are constructed (in 11/2001) after October 3, 1977.

The allowable NOx emission rate is specified by the following formula in 40 CFR 60.332(a)(1) because each CT has a heat input rating greater than 100 MMBtu/hr:

$$STD = 0.0075 (14.4/Y) + F$$

Where : STD = allowable NOx emissions (% volume @ 15% O_2, dry)
Y = Heat rate in kilojoules per watt hour
F = fuel bound nitrogen allowance

Note: The facility previously reported a value of 10.00 kJ/W-hr for "Y" and 0 for "F" yielding an allowable NOx emission rate of 108 ppmvd corrected to 15% oxygen, dry basis. However, actual values of Y and F may vary depending on both the fuel and the actual operation of the turbine. Note that the NOx BACT limit for each turbine, 3.5 ppmvd at 15% O_2, is more stringent than the NSPS Subpart GG NOx emission limit.

The allowable fuel sulfur content is 0.8 percent by weight in accordance with 40 CFR 60.333(b). Since natural gas contain less than 0.8% sulfur, the SO_2 BACT limit for the turbines, which is burning only natural gas in the turbines, is more stringent that the NSPS Subpart GG SO_2 emission limit.

Note that the combustion turbines burns only natural gas and are not equipped with any steam or water injection for NOx control. Per 40 CFR 60.334(c), the facility may use a NOx continuous emission monitoring system (CEMS) to demonstrate compliance with the NSPS Subpart GG NOx emission limit. In order to demonstrate compliance with the NOx BACT limit, the facility is already required by Condition 5.2.1a. to operate a NOx CEMS.

Since the combustion turbines are not equipped with any steam or water injection, any citations of 40 CFR 60.334(a) and (b) are being removed from the proposed Title V renewal permit.

40 CFR 60.334(h)(2) requires that the facility to monitor fuel nitrogen content. Note that Condition 6.2.4 includes an EPA waiver for this requirement.

For the NSPS Subpart GG SO_2 emission limit, 40 CFR 60.334(h)(1) and (4) include the fuel sulfur content monitoring requirements. The facility is allowed, per Condition 6.2.2, to submit the fuel supplier's certificate/analysis for demonstrating compliance.

40 CFR 63 Subpart YYYY – "National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines"

The combustion turbines are also subject to 40 CFR 63 Subpart YYYY, per 40 CFR 63.6085(a) and (b), because the turbines are located a major source (the combined site) of single and combined HAP emissions. Per 40 CFR 63.6090(a)(1), all of the four turbines are existing affected sources. According to 40 CFR 63.6090(b)(4), existing stationary combustion turbines in all subcategories do not have to meet the requirements of this subpart and of subpart A of this part. Therefore, the combustion turbines are subject to the rule but are not subject to any requirements.

Duct Burners DB6A, DB6B, DB7A, and DB7B

40 CFR 60 Subpart Da – "Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978"

Since each of Duct Burners DB6A, DB6B, DB7A, and DB7B has a capacity more than 250 MMBtu/hr, and was constructed (in 4/2001) after September 18, 1978, per 40 CFR 60.40Da(a), they are subject to 40 CFR 60 Subpart Da. Note that the regulation was amended several times in 2012 through 2014; some of the applicable requirements have been modified.

The first major change is that the duct burners are no longer subject to the NSPS Subpart Da PM and visible emission limits. Since the duct burners fire exclusively on natural gas, 40 CFR 60.42Da(b)(2) exempts them from the opacity standard, and 40 CFR 60.42Da(f)(1) exempts them from the PM emission limits.

The duct burners are still subject to the SO_2 emission limit specified in 40 CFR 60.43Da(b)(2) and NOx emission limit specified in 40 CFR 60.44Da(d)(1). 40 CFR 60.43Da(g) and 40 CFR 60.44Da(d)(1) specify that the NOx and SO_2 emission limits are based on 30 day rolling average. Note that the facility is required to burn only natural gas in the duct burners, and U.S. EPA AP-42 SO_2 emission factor for natural gas combustion, 0.0006 lb/MMBtu, is much less than the NSPS Subpart Da SO_2 emission limit, 0.20 lb/MMBtu. The NOx BACT limit is also more stringent than the NSPS Subpart Da NOx emission limit.

Since the duct burners fire exclusively on natural gas, the facility is not subject to the emission monitoring provision specified in 40 CFR 60.49Da(b).

The second major change is that 40 CFR 60.49Da(o) exempts duct burners that are subject to the NOx emission limit specified in 40 CFR 60.44Da(d)(1) from the NOx CEMS/wattmeter/steam flow measurement/exhaust flow measurement requirements.

Due to the above changes, all references to the applicable NSPS Subpart Da sections in the citation blocks of Conditions 3.3.9, 3.3.11, 4.2.1, 5.2.1a., 5.2.3, 5.2.4, 6.2.1, 6.2.7, 6.2.8, and 6.2.10 through 6.2.12 have been removed by the proposed Title V renewal permit.

40 CFR 63 Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters"

Since the combined site is major under Title V of 1990 CAAA for single and combined HAP emissions, the duct burners could potentially be subject to 40 CFR 63 Subpart DDDDD. However, duct burners meet the definition of a waste heat boiler, which is excluded from the definition of a boiler. Since duct burners are not boilers, they are not subject to 40 CFR 63 Subpart DDDDD.

GA State Rule Standards

Combustion Turbines CT6A, CT6B, CT7A, and CT7B

The combustion turbines are subject to the visible emission limit (40 percent opacity) specified in Georgia Air Quality Control Rule 391-3-1-.02(2)(b) "Visible Emissions," and the fuel sulfur content limit specified in Georgia Air Quality Control Rule 391-3-1-.02(2)(g) "Sulfur Dioxide." Note that the GA Rule (b) visible emission limit is subsumed by the PM BACT limit (10 percent opacity), while the GA Rule (g) fuel sulfur content limit is subsumed by the fuel requirement specified in Condition 3.3.4. Since the turbines fire exclusively on natural gas, and natural gas is considered a clean fuel, compliance with both GA Rule (b) and (g) limits is expected.

Duct Burners DB6A, DB6B, DB7A, and DB7B

The duct burners are subject to Georgia Air Quality Control Rule 391-3-1-.02(2)(d) "Fuel Burning Equipment." Since they were constructed after 1972, Georgia Rule 391-3-1-.02(2)(d)3. limits the opacity of the emissions from the duct burners to twenty (20) percent. Also, the allowable PM emission rates from the duct burners are specified by Georgia Rule 391-3-1-.02(2)(d)2.(iii), as follows:

P = 0.10 lb/MMBtu

The GA Rule (d) PM and visible emission limits are subsumed by the PM BACT limits in Conditions 3.3.9 and 3.3.11. Since the duct burners fire exclusively on natural gas, and natural gas is considered a clean fuel, compliance with both limits are expected.

The duct burners are also subject to the fuel sulfur content limit specified in GA Rule (g). Since the duct burners fire exclusively on natural gas, and natural gas is considered a clean fuel, compliance with GA Rule (g) 3-percent fuel sulfur content limit is expected.

C. Permit Conditions

Condition 3.3.1a. subjects the duct burners (ID Nos. DB6A, DB6B, DB7A, and DB7B) to 40 CFR 60 Subpart A and Subpart Da.

Condition 3.3.1b. subjects the combustion turbines (ID Nos. CT6A, CT6B, CT7A, and CT7B) to 40 CFR 60 Subpart A and Subpart GG.

Condition 3.3.2 defines the common stacks for the combustion turbines and duct burners.

Condition 3.3.3 limits the combustion turbines to fire only natural gas.

Condition 3.3.4 limits the duct burners to fire only natural gas. The citation indicates that 40 CFR 60.42Da(b)(2) exempts them from the opacity standard, and 40 CFR 60.42Da(f)(1) exempts them from the PM emission limits.

Condition 3.3.5 defines the NOx BACT 12-month rolling period emission limit per combined cycle block. Block one includes CT6A/DB6A and CT6B/DB6B, Block two includes CT7A/DB7A and CT7B/DB7B.

Condition 3.3.6 specifies a combustion turbine operational limitation for purposes of reasonably assuring compliance with the CO BACT emission limit.

Condition 3.3.7 defines the NOx BACT 30-day rolling average emission limit from the combustion turbines and duct burners.

Condition 3.3.8 defines the CO BACT emission limit from the combustion turbines and duct burners.

Condition 3.3.9 defines BACT for PM/PM_{10} emissions from the combustion turbines and duct burners.

Condition 3.3.10 defines BACT for VOC emissions from the combustion turbines and duct burners.

Condition 3.3.11 defines BACT for visible emissions (opacity) from the combustion turbines and duct burners.

Condition 3.3.12 defines BACT control technology to be employed for NOx on the combustion turbines.

Condition 3.3.13 defines BACT control technology to be employed for NOx on the duct burners.

Condition 3.3.14 defines BACT control technology to be employed for NOx on the combined combustion turbine and duct burner stacks.

Condition 3.3.15 subjects the combustion turbines (ID Nos. CT6A, CT6B, CT7A, and CT7B) to 40 CFR 63 Subpart A and Subpart YYYY.

IV. Testing Requirements (with Associated Record Keeping and Reporting)

A. General Testing Requirements

The permit includes a requirement that the Permittee conduct performance testing on any specified emission unit when directed by the Division. Additionally, a written notification of any performance test(s) is required 30 days (or sixty (60) days for tests required by 40 CFR Part 63) prior to the date of the test(s) and a test plan is required to be submitted with the test notification. Test methods and procedures for determining compliance with applicable emission limitations are listed and test results are required to be submitted to the Division within 60 days of completion of the testing.

B. Specific Testing Requirements

Condition 4.2.1 determines compliance with the NOx emission limitation in Condition 3.3.7 by calculating the arithmetic average of all emission rates for NOx for the 30 successive turbine operating days.

The facility, per Title V Permit Amendment No. 4911-149-0001-V-01-2, conducted initial performance testing on July 10 and 11, 2002 for NOx (at four load points), CO (at base load and 50%), VOC (base load), PM (base load), and opacity, and demonstrated compliance with the associated BACT limits. Note that the original PSD permit did not require additional testing beyond the initial testing.

Since the turbines and duct burners fire exclusively on natural gas, and the initial performance testing demonstrated compliance with a good margin, CO, VOC, PM, and opacity are expected to be below the associated BACT limits. No additional testing is required.

The combined cycle blocks are equipped with NOx CEMS for a continuous compliance determination method and as long as the facility maintains the CEMS as stated in the permit, no additional testing is required.

V. Monitoring Requirements

A. General Monitoring Requirements

Condition 5.1.1 requires that all continuous monitoring systems required by the Division be operated continuously except during monitoring system breakdowns and repairs. Monitoring system response during quality assurance activities is required to be measured and recorded. Maintenance or repair is required to be conducted in an expeditious manner.

B. Specific Monitoring Requirements

Condition 5.2.1 requires the installation and operation of a NOx CEMS at each combustion turbine and duct burner combined stack. The NOx CEMS is used to demonstrate compliance with the NOx BACT limit in Condition 3.3.7.

Condition 5.2.2 requires the facility to monitor and record the fuel consumption being fired in the combustion turbines and in each duct burner.

5.2.3 establishes the minimum data requirement and data reduction for the NOx CEMS required by Condition 5.2.1a.

Condition 5.2.4 defines the methods and procedures to supplement the Continuous Monitoring System data for the combustion turbines (ID Nos. CT6A, CT6B, CT7A, and CT7B) and duct burners (ID Nos. DB6A, DB6B, DB7A, and DB7B).

C. Compliance Assurance Monitoring (CAM)

An emission unit is subject to the provisions of 40 CFR 64, "Compliance Assurance Monitoring" because:

- It is located at a major source that is required to obtain a Title V Permit. [§64.2(a)]
- It is subject to an emission limitation or standard for the applicable pollutant (PM). [§64.2(a)(1)]
- The facility uses a control device to achieve compliance. [§64.2(a)(2)]
- Potential pre-controlled emissions of the applicable pollutant (particulate matter) from such emission unit are at least 100 percent of major source threshold. [§64.2(a)(3)]

The combustion turbines (ID Nos. CT6A, CT6B, CT7A, and CT7B) and duct burners (ID Nos. DB6A, DB6B, DB7A, and DB7B) are controlled by the selective catalytic reduction (SCR) to control NOx emissions in order to comply with the NOx BACT limit. They are potentially subject to 40 CFR 64. However, NOx emissions from the combustion turbines and duct burners, via the SCR, are monitored continuously by the NOx CEMS. According to 40 CFR 64.2(b)(1)(vi), they are exempt from the 40 CFR 64 requirements because of the use of a NOx CEMS.

VI. Record Keeping and Reporting Requirements

A. General Record Keeping and Reporting Requirements

The Permit contains general requirements for the maintenance of all records for a period of five years following the date of entry and requires the prompt reporting of all information related to deviations from the applicable requirements. Records, including identification of any excess emissions, exceedances, or excursions from the applicable monitoring triggers, the cause of such occurrence, and the corrective action taken, are required to be kept by the Permittee and reporting is required on a quarterly basis.

B. Specific Record Keeping and Reporting Requirements

Condition 6.1.7 contains the definitions of the following excess emissions and exceedances:

- Subparagraph a.i. defines an excess emission of NOx as defined in 40 CFR 60.334(j)(1)(iii)(A) for each combustion turbine.

- Subparagraph b.i. defines an exceedance as any thirty (30) day rolling average NOx emission rate which exceeds 3.5 ppmvd, corrected to 15 percent oxygen. This is in regards to the short term NOx BACT limit placed on the combustion turbines (ID Nos. CT6A, CT6B, CT7A, and CT7B) and duct burners (ID Nos. DB6A, DB6B, DB7A, and DB7B).

- Subparagraph b.ii. defines an exceedance as any twelve month total NOx emissions (tons) from the combustion turbine and duct burner stacks specified, in Condition 3.3.2, on a combined basis, which exceeds 208.14 tons. This is in regards to the long term NOx BACT limit placed on the combustion turbines and duct burners.

- Subparagraph b.iii. defines an exceedance as time any fuel other than natural gas is fired in the combustion turbines and duct burners.

- Subparagraph c.i. defines an excursion as as any hour period during which the average megawatt output of a combustion turbine is less than 85 MW.

- Subparagraph c.ii. defines an excursion as any semiannual analysis indicating that the natural gas fired in the combustion turbines contains more than 0.01% sulfur.

Condition 6.2.1 defines the procedures used to determine the NOx mass emission rate (lb/hr) for each of the combustion turbine and duct burner combine stack. This data is then used to determine the 12-month rolling total of NOx emissions, in accordance with Condition 6.2.9 and show compliance with the long term NOx BACT limit in Condition 3.3.5.

Condition 6.2.2 includes the reporting requirements for demonstrating compliance with the NSPS Subpart GG fuel sulfur content limit for the combustion turbines.

Condition 6.2.3 includes the reporting requirements for demonstrating compliance with the NSPS Subpart Da SO_2 emission limit.

Condition 6.2.4 waives the NSPS Subpart GG fuel nitrogen content monitoring requirement.

Condition 6.2.5 requires that the facility determine and record the electrical output (in MWs) for each combined combustion turbine and heat recovery steam generator for each hour of operation. The MWs are compared to the MWs at 75% load in order to reasonably assure compliance with the CO BACT emission limit.

Condition 6.2.6 implements the PSD record keeping requirements for natural gas consumption by the combustion turbines and duct burners.

Condition 6.2.7 includes the reporting requirements for demonstrating compliance with the SO_2 BACT limit. The reports can also be used to demonstrate compliance with the NSPS Subpart Da SO_2 emission limit.

Condition 6.2.8 includes the reporting requirements for the NOx CEMS. The items required in Condition 6.2.8 are necessary to ensure that the NOx CEMS provide sufficient and valid data for demonstrating compliance with the NOx BACT limit.

Condition 6.2.9 defines reporting requirements for 12-month total NOx emission rates from the combustion turbine and duct burner combined stacks, and this condition is used in conjunction with Condition 6.2.1.

Condition 6.2.10 requires that the facility report any changes made in operation of the SCR for any periods when NOx CEMS data is not available. Basically, the facility needs to demonstrate whether the operation of the SCR remains the same as its operation both before and after the data unavailable period.

Condition 6.2.11 includes the reporting requirements related to monitoring system performance evaluations, calibration checks and other periodic auditing methodologies; data collection methods; minimum data requirements; and compliance demonstration for the NOx BACT limit in Condition 3.3.7.

Condition 6.2.12 states that the facility may submit, via electronic media, any report required by Part 6.0 of this permit.

VII. Specific Requirements

A. Operational Flexibility

Other than the standard conditions (7.1.1, 7.2.1, and 7.2.2), operational flexibility provisions have not been incorporated into this Title V Permit. The applicant did not include any alternative operating scenarios in their Title V Application or request any specific operational flexibility conditions.

B. Alternative Requirements

None applicable.

C. Insignificant Activities

Refer to http://gatv.georgiaair.org/GATV/default.asp for the Online Title V Application.

Refer to the following forms in the Title V permit application:

- Form D.1 (Insignificant Activities Checklist)
- Form D.2 (Generic Emissions Groups)
- Form D.3 (Generic Fuel Burning Equipment)
- Form D.6 (Insignificant Activities Based on Emission Levels of the Title V permit application)

D. Temporary Sources

None applicable.

E. Short-Term Activities

Wansley Combined-Cycle stated that they have the following short-term activities: sand blasting for maintenance purposes and and asbestos removal in accordance with Georgia Rule 391-3-1-.02(9)(b)7. See Form C.4 of the electronic Title V application for a more complete description.

Other than asbestos removal, which is subject to Georgia Rule 391-3-1-.02(9)(b)7, the sand blasting operation is not subject to any state or federal air quality requirements other than the general provisions of the Georgia Rules for Air Quality Control. The general provisions and the requirement to keep records of the frequency and duration of these activities has been included in Section 7.6 of the permit.

F. Compliance Schedule/Progress Reports

None applicable.

G. Emissions Trading

This facility is not involved in any emission trading programs besides being part of the Acid Rain Program. This facility is currently operating under a federally enforceable emissions cap. Nothing in this permit shall prohibit this facility from participation in an emissions trading or economic incentives program provided that the permit is amended to include permit terms that ensure that the emissions trades are quantifiable and enforceable.

H. Acid Rain Requirements

The facility is subject to acid rain requirements. Title IV conditions are included in the permit. The facility attached an updated acid rain application that was signed on December 13, 2016 for the period from January 1, 2018 through December 31, 2022. Section 7.9 of the proposed Title V renewal permit has been updated accordingly.

I. Stratospheric Ozone Protection Requirements

The standard permit condition pursuant to 40 CFR 82 Subpart F has been included in the Title V Permit. These Title VI requirements apply to all air conditioning and refrigeration units containing ozone-depleting substances regardless of the size of the unit or of the source. According to Applications No. TV-40671, the facility operates equipment that is subject to Title VI of the 1990 Clean Air Act Amendments.

J. Pollution Prevention

None applicable.

K. Specific Conditions

None applicable.

L. Cross State Air Pollution Rule (CSAPR) Requirements

The Clean Air Interstate Rule (CAIR) has been replaced by the Cross State Air Pollution Rule (CSAPR) [40 CFR Part 97] per the Federal Implementation Plan (FIP) and is no longer in effect. Please find additional details about the promulgation of CSPAR at the following EPA website.

https://www3.epa.gov/crossstaterule/faqs.html

CSAPR replaces a 2005 rule known as the Clean Air Interstate Rule (CAIR). A December 2008 court decision kept the requirements of CAIR in place temporarily, but directed EPA to issue a new rule to implement the Clean Air Act requirements concerning the transport of air pollution across state boundaries. This Cross-State Air Pollution Rule is designed to implement these Clean Air Act requirements and respond to the court's concerns. The CSAPR takes effect January 1, 2015; CAIR was implemented through the 2014 compliance periods, and then replaced by the CSAPR.

Permit Condition 7.15.1 identifies the units subject to CSAPR and the applicable CSAPR Programs.

Permit Condition 7.15.2 outlines the Annual NOx, SO2 and Ozone Season NOx Emissions Requirements.

Permit Condition 7.15.3 outlines the monitoring, reporting and recordkeeping requirements associated with CSAPR.

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.

Template Condition 8.14.1 was updated in September 2011 to change the default submittal deadline for Annual Compliance Certifications to February 28.

Template Condition Section 8.27 was updated in August 2014 to include more detailed, clear requirements for emergency generator engines currently exempt from SIP permitting and considered insignificant sources in the Title V permit.

Template Condition Section 8.28 was updated in August 2014 to more clearly define the applicability of the Boiler MACT or GACT for major or minor sources of HAP.