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Facility Name: **Bowen Steam-Electric Generating Plant**

City: Cartersville

County: Bartow

AIRS #: 04-13-015-00011

Application #: 43951

Date SIP Application Received: December 2, 2016

Date Title V Application Received: December 2, 2016

Permit No: 4911-015-0011-V-03-C

<b>Program</b>	<b>Review Engineers</b>	<b>Review Managers</b>
<b>SSPP</b>	Cynthia Dorrough	James Eason
<b>SSCP</b>	Pierre Sanon	Tammy Martiny
<b>ISMU</b>	John Towe	Dan McCain
<b>TOXICS</b>	N/A	N/A
<b>Permitting Program Manager</b>		Eric Cornwell

## Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

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## I. Facility Description

### A. Existing Permits

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments
4911-015-0011-V-03-0	6/1/2012	Title V Renewal
4911-015-0011-V-03-1	3/1/2013	Acid Rain Application
4911-015-0011-V-03-2	3/4/2014	Incorporation of the Activated Carbon Injection (ACI) and Alkali Sorbent Injection (ALK) systems for Units 1 and 2, and update to CO and VOC calculation method for post project reporting.
4911-015-0011-V-03-3	3/12/2014	Incorporation of Division approved compliance deadline extension for Plant Bowen Units 3 and 4 for the Mercury and Air Toxics Standards (MATS) Rule - 40 CFR Part 63 Subpart UUUUU.
4911-015-0011-V-03-4	4/16/2015	Incorporation of Division approved compliance deadline extension for Plant Bowen Unit 1 for the Mercury and Air Toxics Standards (MATS) Rule - 40 CFR Part 63 Subpart UUUUU.
4911-015-0011-V-03-5	5/11/2015	Incorporation of Division approved compliance deadline extension for Plant Bowen Units 1 and 2 for the Mercury and Air Toxics Standards (MATS) Rule, 40 CFR Part 63 Subpart UUUUU.
4911-015-0011-V-03-6	9/2/2015	The alignment of State and Federal testing requirements and use mercury emissions as an indicator of control device performance under Multipollutant Rule (sss).
4911-015-0011-V-03-7	11/12/2015	Correction of typographical error in Condition 6.1.7

Permit/Amendment Number	Date of Issuance	Comments
4911-015-0011-V-03-8	4/20/2016	The Acid Rain Application effective January 1, 2016 and updated Phase II NOx Averaging Plan for the 2016 calendar year.
4911-015-0011-V-03-9	1/4/2017	The operation of the Powdered Activated Carbon (PAC) injection system with Baghouse on Units SG03 and SG04.
4911-015-0011-V-03-A	7/6/2016	The addition of a new start-up boiler (Emission Unit ID: SB03) rated at 471 MMBtu/hr.
4911-015-0011-V-03-B	6/13/2017	Updated Phase II NOx Averaging Plan

## B. Regulatory Status

### 1. PSD/NSR/RACT

The facility is major under PSD and is one of the 28 named source categories.

### 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	Y	✓		
PM <sub>10</sub>	Y	✓		
PM <sub>2.5</sub>	Y	✓		
SO <sub>2</sub>	Y	✓		
VOC	Y	✓		
NO <sub>x</sub>	Y	✓		
CO	Y	✓		
TRS	N/A			✓
H <sub>2</sub> S	N/A			✓
Individual HAP	Y	✓		
Total HAPs	Y	✓		

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## **II. Proposed Modification**

### **A. Description of Modification**

Georgia Power requests the addition and modification of the following permit conditions for the steam generating units (Emission Unit IDs SG01, SG02, SG03, and SG04) at Plant Bowen, in order to specify the compliance requirements of 40 CFR 63 Subpart UUUUU, National Emissions Standards for Hazardous Air Pollutants (NESHAP): Coal- and Oil-Fired Electric Utility Steam Generating Units, otherwise known as the Mercury and Air Toxics Standards (MATS).

### **B. Emissions Change**

There are no emission changes associated with this modification.

### **C. PSD/NSR Applicability**

This modification does not include physical changes or changes in the method of operation of the facility; PSD/NSR is not applicable.

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## IV. Regulated Equipment Requirements

### A. Brief Process Description

Plant Bowen burns fossil fuel to generate electricity. This facility includes four steam electric generating units, which primarily burn coal and a simple cycle combustion turbine that burns primarily No. 2 fuel oil. During normal operation, the Steam Generating Units (SG01, SG02, SG03 and SG04) use flue gas desulfurization (FGD) scrubbers and exhaust through a separate liner of one of the two wet 675-foot stack.

### B. Equipment List for the Process

There are no modifications to the equipment list associated with this modification.

### C. Equipment & Rule Applicability

#### **Emission and Operating Caps –**

The EGUs are subject to the following emission limits in accordance with 40 CFR 63.9991 because they are coal-fired units that do not combust low rank virgin coal.

Pollutant	Limit
PM	0.030 lb/MMBtu heat input or 0.30 lb/MWh gross output.
HCl	0.0020 lb/MMBtu heat input or 0.020 lb/MWh gross output.
Hg	1.2 lb/TBtu heat input or 0.013 lb/GWh gross output.
SO <sub>2</sub> *	0.20 lb/MMBtu heat input or 1.5 lb/MWh gross output.

\*as an alternative to the HCl limit

#### **Applicable Rules and Regulations -**

#### **40 CFR Part 63, Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants (NESHAP): Coal- and Oil-Fired Electric Utility Steam Generating Units**

This subpart establishes emission limits and work practice standards for coal and oil fired combustion units of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale, otherwise known as an electricity generating unit (EGU). Steam Generating Units SG01-SG04 are classified as EGUs under the definition outlined in 63.10042, therefore they are subject to the applicable portions of the rule.

40 CFR 63.10009 allows for emissions averaging across the EGUs at the site to comply with the emissions limits. The emissions averaging can be used with data from CEMS or a combination of data from CEMS and performance testing. The averaging time for emissions averaging for pollutants is 30 days (rolling daily) of group boiler operating days or 90 days (rolling daily) of group boiler operating days for the alternative Hg limit in accordance with 40 CFR 63.10009. 40 CFR 63.10009 also includes equations used to calculate the 30-day group boiler operating period.

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#### D. Permit Conditions

Permit Condition 3.3.8 was added to outline the MATS emission limits that apply to SG01, SG02, SG03, and SG04.

Permit Condition 3.3.9 was added for the option to use emissions averaging to comply with MATS emission limits.

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**V. Testing Requirements (with Associated Record Keeping and Reporting)**

Permit Condition 4.1.3 was modified to include test methods and calculation procedures for the pollutants which demonstrate compliance with the MATS limits listed in Condition 3.3.8 through stack testing.

Permit Condition 4.2.1 was modified to replace the current 5-year PM stack test requirements with the quarterly PM stack testing requirements for MATS.

New Permit Condition 4.2.4 added the quarterly HCl stack testing requirements for MATS.

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**VI. Monitoring Requirements (with Associated Record Keeping and Reporting)**

Permit Condition 5.2.1 was modified to add the mercury CEMS for SG01, SG02, SG03, and SG04 to the Specific Monitoring Requirement section and to add the SO<sub>2</sub> CEMS requirement to allow data to be expressed on a gross output basis.

Permit Condition 5.2.21 was modified to streamline the mercury monitoring requirement from Condition 5.2.1.

Permit Condition 5.2.23 was added to describe the monitor operation requirements of MATS.

Permit Condition 5.2.24 was added to address the boiler tune-up requirement for SG01, SG02, SG03, and SG04 from the MATS rule.



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## **VII. Other Record Keeping and Reporting Requirements**

Permit Condition 6.1.7 was modified to add the requirement to report any excess emissions from the MATS emissions limits for mercury and SO<sub>2</sub>, if the alternative limit is used, for SG01, SG02, SG03, and SG04. The condition was also modified to incorporate the excursion reporting requirements to streamline the MATS mercury monitor.

Permit Condition 6.2.24 was modified to incorporate a reference to the MATS rule into existing Condition 6.2.24, which specifies NESHAP recordkeeping requirements.

Permit Condition 6.2.25 was added to outline the work practice standard requirements during periods of startup and shutdown as specified in the MATS rule.

Permit Condition 6.2.26 was added to specify the following recordkeeping requirements under MATS for SG01, SG02, SG03, and SG04.

Permit Condition 6.2.27 was added to outline MATS compliance reporting requirements for SG01, SG02, SG03 and SG04.