

Facility Name: Scherer Steam – Electric Generating Plant

City: Juliette

County: Monroe

AIRS #: 04-13-207-00008

Application #: 18930

Date SIP Application Received: April 28, 2009

Date Title V Application Received: April 28, 2009

Permit No: 4911-207-0008-V-02-9

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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.

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. Comments are listed in Table 2 below.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
4911-207-0008-V-02-0	November 15, 2005	X	
4911-207-0008-V-02-1	December 12, 2006	X	
4911-207-0008-V-02-2	March 7, 2007	X	
4911-207-0008-V-02-3	September 17, 2008	X	
4911-207-0008-V-02-4	December 2, 2008	X	
4911-207-0008-V-02-5	March 12, 2009	X	
4911-207-0008-V-02-6	May 29, 2009	X	
4911-207-0008-V-02-7	November 16, 2009	X	
4911-207-0008-V-02-8	September 17, 2009	X	

Table 2: Comments on Specific Permits

Permit Number	Comments
4911-207-0008-V-02-0	Title V Renewal Permit with Effective Date of January 1, 2006
4911-207-0008-V-02-1	Removal of Condition 5.2.14 (which required a daily inspection of emission units without air pollution control devices). Modification of Condition 3.3.1(to add coal handling system as emission unit).
4911-207-0008-V-02-2	Incorporate changes made to Georgia Rules for Air Quality Control 391-3-1-.02(2)(jjj).
4911-207-0008-V-02-3	Allow the use of method ASTM D5142 or ASTM D3173 to analyze coal samples for moisture content and add compliance dates for Scherer according to the Georgia Multipollutant Rule 391-3-1-.02(sss).
4911-207-0008-V-02-4	Construct and operate Powdered Activated Carbon (PAC) injection with Baghouse to Steam Generating Units SG01, SG02, SG03, and SG04. Add Method D1552 to Condition 6.2.3. Add "State Only Enforceable" to Condition 8.17.2.
4911-207-0008-V-02-5	Update the Title IV Acid Rain Phase II NO _x Averaging Plan.
4911-207-0008-V-02-6	Update to the Georgia Multipollutant Rule 391-3-1-.02(2)(sss) as approved by the DNR Board on December 3, 2008
4911-207-0008-V-02-7	Replace the existing high pressure section of the steam turbine for Unit SG03 with a more efficient design.
4911-207-0008-V-02-8	Incorporate the requirements of 40 CFR 96 for Clean Air Interstate Rule (CAIR) for the SO ₂ and NO _x Annual Trading Programs

B. Regulatory Status

1. PSD/NSR/RACT

The facility is a major source under PSD because it has potential emissions of PM, SO₂, NO_x, VOC, and CO greater than 100 tpy (it is one of the 28 named source categories under PSD). The facility was originally constructed before the PSD regulations were effective.

2. Title V Major Source Status by Pollutant

Table 3: 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	✓	✓		
PM ₁₀	✓	✓		
SO ₂	✓	✓		
VOC	✓	✓		
NO _x	✓	✓		
CO	✓	✓		
TRS	N/A			
H ₂ S	N/A			
Individual HAP	✓	✓		
Total HAPs	✓	✓		

II. Proposed Modification

A. Description of Modification

To construct and operate flue gas desulfurization (scrubber) systems (APCD Nos. FGD1, FGD2, FGD3 and FGD4) and selective catalytic reduction systems (APCD Nos. SCR1, SCR2, SCR3, and SCR4) on steam generating units SG01, SG02, SG03, and SG04 in accordance with Georgia Rule (sss) requirements.

Reduce the frequency of particulate matter testing in Condition 4.2.1 due to changes in operation associated with the scrubber installations.

B. Emissions Change

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM	Yes	(709)	(709)
PM ₁₀	Yes	(499)	(499)
SO ₂	Yes	(18,841)	(18,841)
VOC	Yes	3	3
NO _x	Yes	(628)	(628)
CO	Yes	24	24
TRS	No	0	0
H ₂ S	No	0	0
Individual	Yes	0	0
Total HAPs	Yes	0	0

C. PSD/NSR Applicability

This facility is a major source under PSD because it has potential emissions of PM, SO₂, NO_x, VOC, and CO greater than 100 tpy (it is one of the 28 named source categories under PSD). Georgia Power submitted emissions calculations to show that the modification will not trigger NSR/PSD for any regulated NSR pollutant. Installation of the scrubber and selective catalytic system on Unit 3 will be done simultaneously with the replacement of existing high pressure section of the steam turbine for Unit SG03 with a more efficient design. Complete emissions calculations are detailed in the narrative for permit amendment 4911-207-0008-V-02-7.

III. Facility Wide Requirements

A. Emission and Operating Caps: None Applicable.

B. Applicable Rules and Regulations

Rules and Regulations Assessment – None Applicable.

Emission and Operating Standards – None Applicable.

C. Compliance Status

The facility is operating in compliance with all applicable air quality rules and regulations.

D. Operational Flexibility

There are no requests for operational flexibility associated with this modification.

E. Permit Conditions

None Applicable.

IV. Regulated Equipment Requirements**A. Brief Process Description**

A brief process description is specified in the narrative for Title V Permit No. 4911-207-0008-V-02-0. Please refer to this narrative.

B. Equipment List for the Process**C.**

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements / Standards	Corresponding Permit Conditions	ID No.	Description
SG01	Steam Generator Unit 1	40 CFR 60 Subpart D, 391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(jjj), 391-3-1-.02(2)(sss), Acid Rain	3.2.1, 3.2.2, 3.2.4, 3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5, 3.4.6, 3.4.7, 3.4.8, 3.4.9, 3.4.10, 3.4.13, 3.4.14 , Section 7.9, and Attachment D	SCR1 EP01 BH01 FGD1	Selective Catalytic Reduction ESP Baghouse with PAC Flue Gas Desulfurization
SG02	Steam Generator Unit 2	40 CFR 60 Subpart D, 391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(jjj), 391-3-1-.02(2)(sss), Acid Rain	See SG01	SCR2 EP02 BH02 FGD2	Selective Catalytic Reduction ESP Baghouse with PAC Flue Gas Desulfurization
SG03	Steam Generator Unit 3	40 CFR 60 Subpart D, 391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(jjj), 391-3-1-.02(2)(sss), Acid Rain	See SG01	SCR3 EP03 BH03 FGD3	Selective Catalytic Reduction ESP Baghouse with PAC Flue Gas Desulfurization
SG04	Steam Generator Unit 4	40 CFR 60 Subpart D, 391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(jjj), 391-3-1-.02(2)(sss), Acid Rain	See SG01	SCR4 EP04 BH04 FGD4	Selective Catalytic Reduction ESP Baghouse with PAC Flue Gas Desulfurization
SB01	Start-up Boiler Unit 1	391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	3.2.3, 3.4.1, 3.4.2, 3.4.3	none	n/a
SB02	Start-up Boiler Unit 2	391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	See SB01	none	n/a
CHS	Coal Handling System	40 CFR 60 Subpart Y, 391-3-1-.02(2)(n)	3.3.6, 3.4.4.a	none	n/a
AHS	Ash Handling System	391-3-1-.02(2)(n)	3.4.4.b, 3.4.5	none	n/a

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements / Standards	Corresponding Permit Conditions	ID No.	Description
MHS	Materials Handling System	391-3-1-02(2)(e) 391-3-1-.02(2)(n) 40 CFR 60 Subpart A 40 CFR 60 Subpart OOO	3.3.7, 3.4.4, 3.4.5, 3.4.12	none	n/a

* Generally Applicable Requirements contained in this permit may apply also to emission units listed above.

C. Equipment & Rule Applicability

Applicable Rules and Regulations

40 CFR 60 Subpart OOO, “New Source performance Standards for Nonmetallic Mineral Processing Plants”

Each affected facility in the Material Handling System (Emission Unit ID MHS) must comply with the applicable requirements upon startup.

Georgia Rules for Air Quality Control 391-3-1-.02(2)(n)

The Material Handling System (Emission Unit ID MHS) must comply with the opacity limit of 20 percent.

Rules and Regulations Assessment:

40 CFR Part 64 Compliance Assurance Monitoring applies to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all of the following criteria:

- (1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt;
- (2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
- (3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, “potential pre-control device emissions” shall have the same meaning as “potential to emit,” as defined in §64.1, except that emission reductions achieved by the applicable control device shall not be taken into account.

Steam Generating Units 1, 2, 3 and 4 (Emission Unit IDs SG01, SG02, SG03 and SG04) are subject to Rule (b) and (d) for visible emissions and particulate matter emissions. Georgia Power has indicated that emissions, including PM, can either be vented to the ESP and then the FGD scrubber or in the event of scrubber malfunction, emissions can be vented to the ESP only. Under

normal operation, the ESP would only be used to remove ash from the gypsum so that it meets quality standards for purchase. GA Power proposes to designate the FGD scrubber as the primary control device to achieve compliance with the PM standard. Since the potential pre-control device emissions of PM are greater than or equal to 100 TPY, SG01, SG02, SG03 and SG04 and the associated FGD Scrubber and ESP are subject to provisions of 40 CFR Part 64 for control of PM.

40 CFR 60 Subpart OOO applies to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. The Material Handling System meets the definition of a nonmetallic mineral processing plant.

Gypsum produced from the limestone scrubbing material will be removed from the scrubber, will undergo dewatering, and will be loaded into railcars. Since the limestone will be converted to gypsum, Georgia Rules for Air Quality Control 391-3-1-.02(2)(e) applies to the Material Handling System.

Georgia Rules for Air Quality Control 391-3-1-.02(2)(n) applies to all sources of fugitive dust emissions.

D. Compliance Status

The facility is operating in compliance with all applicable air quality rules and regulations.

E. Operational Flexibility

The facility has requested the flexibility to vent emissions from SG01, SG02, SG03 and SG04 to the ESP and then to the FGD scrubber or to vent directly to ESP.

F. Permit Conditions

Condition Nos. 3.2.5 and 3.2.6 were deleted because Georgia Rule (sss) has been adopted into EPD's SIP.

Condition No. 3.3.7 will be added to provide emission standards for compliance with 40 CFR Part 60 Subpart OOO.

Condition Nos. 3.4.4 and 3.4.5 will be modified to include the Rule (n) requirements for the Material handling System (MHS)

New Condition 3.4.12 subjects the material handling system to Georgia Rule (e) PM limit.

New Condition Nos. 3.4.13 and 3.4.14 contain the updated Georgia Rule (sss) conditions.

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

- A. Individual Equipment: No new or modified testing requirements for individual equipment.
- B. Equipment Groups (all subject to the same test requirements):

Modified Condition 4.2.1(a) is changing the frequency for particulate testing due to the changes in operation of the steam generating units associated with the scrubber installations. This testing requirement applies to the scrubber bypass stacks (ST01, ST02, ST03, and ST04). The modified condition changes the existing testing requirements to require a test after 8760 operating hours or 5 years for the unit, whichever comes first.

The facility is required under Georgia Rule (sss) to install additional pollution control equipment. Historically, compliance with the particulate matter standard has easily been achieved with the electrostatic precipitators alone. Therefore, with the additional particulate matter control equipment and the CAM Plan, the Division is relaxing the testing requirement to once per permit term, or upon request.

New Condition 4.2.1(b) requires a particulate matter test on steam generating units 1, 2, 3, and 4 on the scrubber stacks (ST05, ST06, ST07, and ST08). The tests are required once during each permit cycle or as requested by the Division.

Condition No. 4.2.2 will be added to require an initial performance test in accordance with 40 CFR 60.8 and 40 CFR 60.675 within 60 days after achieving maximum production and no later than 180 days after initial startup of the Material Handling System (Emission Unit ID MHS) to determine compliance with Condition No. 3.3.7.

Condition No. 4.2.3 will be added to require a repeat test requirement every 5 years in accordance with 40 CFR 60.8 and 40 CFR 60.675 for on going compliance for the Material Handling System (Emission Unit ID MHS) and NSPS Subpart OOO.

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

- A. Individual Equipment: No new or modified monitoring requirements for individual equipment.
- B. Equipment Groups (all subject to the same monitoring requirements):

Modified Conditions 5.2.1(a) and (b) include the scrubber bypass stacks (ST01, ST02, ST03, and ST04) and scrubber stacks (ST05, ST06, ST07, and ST08).

Condition No. 5.2.17 is being added to require visual inspection of all emission points in the Material Handling System (Emission Unit ID MHS) to note the occurrence of any visible emissions and any mechanical failures or malfunction resulting in an increase in emissions.

Condition No. 5.2.18 is being added requiring an updated CAM plan for the steam generating units SG01, SG02, SG03 and SG04 within 180 days of startup of FGD3.

CAM and associated record keeping and reporting for all of the steam generating units (Emission Unit IDs SG01, SG02, SG03, SG04) will added to the renewal permit for the ESP and the FGD scrubber.

VII. Other Record Keeping and Reporting Requirements

Condition No. 6.1.7.c.vii was added to define an excursion for visible emissions determined during the daily visible emissions checks required by Condition 5.2.17.

Condition Nos. 6.2.14 has been added to require the record keeping and reporting provisions of §60.676.

VIII. Specific Requirements

A. Operational Flexibility

There are no requests for operational flexibility associated with this modification.

B. Alternative Requirements

There are no alternative requirements associated with this modification.

C. Insignificant Activities

There are no insignificant activities associated with this modification.

D. Temporary Sources

There are no temporary sources associated with this modification.

E. Short-Term Activities

There are no short-term activities associated with this modification.

F. Compliance Schedule/Progress Reports

The facility is operating in compliance with all applicable air quality rules and regulations.

G. Emissions Trading

There are no emissions trading associated with this modification.

H. Acid Rain Requirements

There are no acid rain requirements associated with this modification.

I. Prevention of Accidental Releases

This permit modification does not affect the applicability of Prevention of Accidental Releases requirements to this facility.

J. Stratospheric Ozone Protection Requirements

This permit modification does not affect the applicability of Stratospheric Ozone Protection requirements to this facility.

K. Pollution Prevention

This permit modification does not affect the applicability of Pollution Prevention requirements to this facility.

L. Specific Conditions

There are no specific conditions associated with this permit modification.