

Facility Name: **Shaw Industries, Inc. – Plant 4**
 City: Dalton
 County: Whitfield
 AIRS #: 04-13-313-00084

Application #: TV-14286
 Date SIP Application Received: April 17, 2002
 Date Title V Application Received: April 17, 2002
 Date of Draft Permit: February 13, 2003
 Permit No: 2273-313-0084-V-01-1

Program	Review Engineers	Review Managers
SSPP	James Capp	James Capp
SSCP		James Eason
ISMP		Larry Webber
Toxics	NA	NA

Introduction

This narrative is being provided to assist the reader in understanding the content of the attached SIP permit to construct and/or draft/proposed operating permit amendment. Complex issues and unusual items are explained herein simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit amendment is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act Amendments of 1990. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Chapter I of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The primary purpose of this permit amendment is to identify state and federal air requirements applicable to the modification/construction to be performed at Shaw Industries, Inc. – Plant 4 and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit amendment and is presented in the same general order as the permit amendment. It initially describes the facility receiving the permit amendment, the applicable requirements and their significance, and the methods for determining compliance with those applicable requirements. This 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 amendment 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. Existing Permits**

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
2273-313-0084-V-01-0	March 18, 2002	✓	

Table 2: Comments on Specific Permits

Permit Number	Comments
2273-313-0084-V-01-0	Initial Title V Permit

B. Regulatory Status**1. PSD/NSR**

This facility is a major source under PSD because it has potential to emit (PTE) of PSD regulated pollutants greater than 250 tpy (it is not one of the 28 named source categories under PSD).

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				
H ₂ S				
Individual HAP	✓			✓
Total HAPs	✓			✓

II. Proposed Modification

A. Description of Modification

The initial Title V permit for Plant 4 was issued on March 18, 2002. On April 17, 2002, Shaw Industries appealed the permit on a number of issues. After discussions with the company, EPD agreed to make the following changes to the permit.

EPD agreed to modify the PSD avoidance conditions related to SO₂ emissions from the coal-fired boilers. The original permit limited the sulfur content of the coal and coal usage for the purpose of limiting SO₂ emissions below 250 tpy. The revised permit will directly limit SO₂ emissions below 250 tpy from the boilers and prescribe a method for calculating those emissions.

EPD agreed to revise the coal sulfur content limit from 0.8% to 1.0% since SO₂ emissions will be limited directly for PSD avoidance purposes and to be consistent with the short term coal sulfur limit of 1.0% that was in the facility's SIP permit.

EPD agreed, in light of the PSD avoidance conditions for SO₂ emissions on the coal-fired boilers, that the 450,000 gal/yr limit on No. 2 fuel oil usage in BL07 and BL08 (which limited SO₂ emissions below 40 tpy) was no longer necessary. Instead, the permit will limit No. 2 fuel oil usage in BL07 and BL08 to 7,000,000 gal/yr (which limits SO₂ emissions below 250 tpy).

EPD agreed to remove 7.7.1 from the permit since Shaw has completely satisfied the requirements in Consent Order No. EPD-AQC-1877.

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	0	0
PM ₁₀	Yes	0	0
SO ₂	Yes	0	0
VOC	Yes	0	0
NO _x	Yes	0	0
CO	Yes	0	0
TRS	No		
H ₂ S	No		
Individual HAP	Yes	0	0
Total HAPs	Yes	0	0

C. PSD/NSR Applicability

This permit modification involves only administrative changes. It does not involve any physical or operational changes that could be subject to PSD review.

III. Facility Wide Requirements**A. Emission and Operating Caps:**

Not Applicable

B. Applicable Rules and Regulations

Not Applicable

C. Compliance Status

Not Applicable

D. Operational Flexibility

Not Applicable

E. Permit Conditions

Not Applicable

IV. Regulated Equipment Requirements

A. Brief Process Description

Process steam required for the equipment is provided by five boilers; two natural gas/No. 2 fuel oil fired boilers (source codes BL07 and BL08) each rated at 59 mmBtu/hr and installed in 1973 and three coal fired boilers (source codes BL04, BL05 and BL06) each rated at 37.5 mmBtu/hr and installed in 1984. The coal-fired boilers are equipped with multiclones for control of particulate matter (source codes PC01-03).

B. 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
BL04	Coal boiler #1	Rule 391-3-1-.02(2)(d)2(ii) Rule 391-3-1-.02(2)(d)3 Rule 391-3-1-.02(2)(g)2	3.2.4, 3.2.7, 3.2.9, 3.4.1, 3.4.2	PC01	Multiclone
BL05	Coal boiler #2	Rule 391-3-1-.02(2)(d)2(ii) Rule 391-3-1-.02(2)(d)3 Rule 391-3-1-.02(2)(g)2	3.2.4, 3.2.7, 3.2.9, 3.4.1, 3.4.2	PC02	Multiclone
BL06	Coal boiler #3	Rule 391-3-1-.02(2)(d)2(ii) Rule 391-3-1-.02(2)(d)3 Rule 391-3-1-.02(2)(g)2	3.2.4, 3.2.7, 3.2.9, 3.4.1, 3.4.2	PC03	Multiclone
BL07	Gas boiler #1	Rule 391-3-1-.02(2)(d)2(ii) Rule 391-3-1-.02(2)(d)3 Rule 391-3-1-.02(2)(g)2	3.2.3, 3.2.5, 3.2.6, 3.4.1, 3.4.2	None	None
BL08	Gas boiler #2	Rule 391-3-1-.02(2)(d)2(ii) Rule 391-3-1-.02(2)(d)3 Rule 391-3-1-.02(2)(g)2	3.2.3, 3.2.5, 3.2.6, 3.4.1, 3.4.2	None	None

C. Equipment & Rule Applicability

Emission and Operating Caps –

Condition 3.2.2 had limited the coal usage at the facility to 16,320 tons per year. And Condition 3.2.4 limited the sulfur content of the coal to 0.8%. These two conditions, in combination, limited the potential SO₂ emissions from the coal-fired boilers below 250 tpy. EPD agreed to delete these two requirements and replace them with a new condition (Condition 3.2.9) that directly limits SO₂ emissions below 250 tpy of SO₂ emissions. The 0.8% sulfur limit in Condition 3.2.4 has been replaced with a 1.0% sulfur limit which is consistent with Plant 4's limit in their SIP permit that applied to each shipment of coal.

Condition 3.2.3 had limited the No. 2 fuel oil consumption in boilers BL07 and BL08 to 450,000 gallons per year. After doing some research into the history of the situation it became apparent that once the coal-fired boilers were properly limited below 250 tpy of SO₂ that BL07 and BL08 no longer needed the stringent fuel oil usage limit, but rather, just needed to be limited below 250 tpy for SO₂ themselves. So, Condition 3.2.3 has been revised to limit the fuel oil usage in BL07 and BL08 (combined) to 7,000,000 gallons per year. Since BL07 and BL08 primarily burn natural gas it is unlikely that any actual increase in fuel oil use will occur in these units.

$$7,000,000 \text{ gal/yr} * 71 \text{ lb/1000 gal} * 1 \text{ ton/2000 lb} = 248.5 \text{ tpy SO}_2$$

Applicable Rules and Regulations – Not applicable for this permit modification.

D. Compliance Status

The Division files do not indicate any compliance issues at the facility.

E. Operational Flexibility

None requested by the facility.

F. Permit Conditions

Discussed above.

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

A. Individual Equipment

Not Applicable

B. Equipment Groups

Not Applicable

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)**A. Individual Equipment:**

Condition 6.1.7 has been modified to incorporate the changes described in Section IV into the requirement for reporting deviations.

Paragraph (b)(i) has been modified to define an exceedence as any shipment of coal that has a sulfur content greater than 1.0% instead of 0.8%.

Paragraph (b)(iii) has been modified to define an exceedences as burning more than 7,000,000 gallons of fuel oil in boilers BL07 and BL08 during any 12 consecutive month period instead of 450,000 gallons.

Paragraph (b)(iv) has been deleted. It formerly defined an exceedence for coal usage.

Paragraph (b)(vi) has been added to define an exceedences as emitting 250 tpy or more of SO₂ from the coal-fired boilers.

B. Equipment Groups (all subject to the same monitoring requirements):

Not Applicable

VII. Other Record Keeping and Reporting Requirements

Condition 6.2.2 required the company obtain a sulfur analysis of each shipment of coal and was used to verify compliance with the 0.8% coal sulfur limit in Condition 3.2.4. Condition 6.2.2 has been deleted and replaced by three new conditions, 6.2.8, 6.2.9, and 6.2.10. Condition 6.2.8 requires a sulfur analysis of each shipment of coal and is very similar to Condition 6.2.2. Conditions 6.2.9 and 6.2.10 require the facility to quantify each shipment of coal and to calculate the amount of SO₂ emissions that result from the combustion of that coal in the coal-fired boilers. The coal storage capacity at Shaw Plant 4 is very small. They can only store enough coal to last them for a few weeks. So, estimating sulfur dioxide emissions based on the amount of coal received will be an accurate way of verifying compliance with the 250 tpy SO₂ limit in Condition 3.2.9. For facilities with large coal storage capabilities, this would not be an accurate method for estimating sulfur dioxide emissions.

Conditions 6.2.6 and 6.2.7 have also been modified to convert these record keeping and reporting conditions from regulating strictly tons of coal usage to sulfur dioxide emissions resulting from coal combustion.

VIII. Other Specific Requirements and General Provisions.

Condition 7.7.1 has been deleted from the permit since Shaw has completely satisfied the requirements in Consent Order No. EPD-AQC-1877.

None of the General Provisions (Part 8.0) of the permit have been modified as result of this permitting action.

Addendum to Narrative

The comment period ended on April 6, 2003 (effectively, April 7, 2003) and no comments were received from the company, the public, or EPA. Therefore, the permit will not be changed.