

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

Application #: TV-14019  
 Date SIP Application Received: September 24, 2002  
 Date Title V Application Received: September 24, 2002  
 Date of Draft Permit:  
 Permit No: 2273-313-0084-V-01-2

Program	Review Engineers	Review Managers
SSPP	Dan Abrams	James Capp
SSCP		James Eason
ISMP		Mike Fogle
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	✓	
2273-313-0084-V-01-1	Pending	✓	

Table 2: Comments on Specific Permits

Permit Number	Comments
2273-313-0084-V-01-0	Initial Title V Permit
2273-313-0084-V-01-1	Resolution of Initial Title V Permit Appeal

**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 <sub>10</sub>	✓	✓		
SO <sub>2</sub>	✓	✓		
VOC	✓	✓		
NO <sub>x</sub>	✓	✓		
CO	✓	✓		
TRS				
H <sub>2</sub> S				
Individual HAP	✓			✓
Total HAPs	✓			✓

## II. Proposed Modification

### A. Description of Modification

The proposed modification involves adding propane as a backup fuel to the following equipment processes: Beck Dryer (Source Code DR01), Latex Coater #1 (Source Code LC02), Latex Coater #2 (Source Code LC03), Kuster Dye Range (Source Code CD03), and Multi-tech Range (Source Code CD04). The modification is avoiding being subject to a PSD review for nitrogen oxide (NO<sub>x</sub>) because the facility is taking limits on propane combustion.

The Division is adding a condition regarding the use of any credible evidence or information for this Shaw Title V permit. This language comes from the Georgia Air Quality Rules and EPA Region 4 has asked that it be included in all Title V Permits.

### 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	1.2
PM <sub>10</sub>	Yes	0	1.2
SO <sub>2</sub>	Yes	0	-
VOC	Yes	0	0.6
NO <sub>x</sub>	Yes	0	38.0
CO	Yes	0	6.4
TRS	No		
H <sub>2</sub> S	No		
Individual HAP	No		
Total HAPs	No		

\* These increases represent the difference between past actual and future potential emissions from Process Group CD03, CD04, DR01, LC02, and LC03.

### C. PSD/NSR Applicability

The modification will be classified as a minor modification for PSD purposes.

**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

Plant #4 manufactures tufted carpet by tufting nylon, polyester or polypropylene yarn through a polypropylene primary backing, dyeing the carpet, applying a coating to the primary backing, applying a secondary backing when called for and shearing the finished carpet. Yarn is not produced at Plant 4. It is delivered to the plant, stored in the plant, and used when required. Plant 4 has 11 atmospheric dye becks, which are used on a limited basis (listed in application as a insignificant sources based on emission levels), two Kuster continuous dye ranges (source codes CD03 and CD04) for polyester and nylon carpets and one continuous dye range for scouring polypropylene carpets. After the carpet is dyed, a stain blocker is applied, then a scotch guard is applied. Finally, a latex backing is applied to the carpet; the carpet is sheared, rolled up, and marked for storage or delivery. The latex backing contains styrene and 1,3 butadiene. Lint from the shearing process is controlled by exhausting part of the lint laden air stream through a multiclone collector located outside and the other part of the line through a bag filter located inside the building. Steam required for the processes is provided by five boilers; two natural gas/No. 2 fuel oil fired boilers (source codes BL07 and BL08) and three coal fired boilers (source codes BL04, BL05 and BL06), which are equipped with multiclone ash collection with 94 % collection efficiency (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
CD03	Kuster Continuous Dye Line	GA Rule 391-3-1-02(2)(b)1 GA Rule 391-3-1-02(2)(e)1(ii) GA Rule 391-3-1-02(2)(g)2	3.2.8, 3.2.10, 3.4.5	None	None
CD04	Multi-tech Continuous Dye Line	GA Rule 391-3-1-02(2)(b)1 GA Rule 391-3-1-02(2)(e)1(ii) GA Rule 391-3-1-02(2)(g)2	3.2.8, 3.2.10, 3.4.5	None	None
DR01	Beck Dryer	GA Rule 391-3-1-02(2)(b)1 GA Rule 391-3-1-02(2)(e)1(ii) GA Rule 391-3-1-02(2)(g)2	3.2.8, 3.2.10, 3.4.5	None	None
LC02	Latex Coater	GA Rule 391-3-1-02(2)(b)1 GA Rule 391-3-1-02(2)(e)1(ii) GA Rule 391-3-1-02(2)(g)2	3.2.8, 3.2.10, 3.4.5	None	None
LC03	Latex Coater	GA Rule 391-3-1-02(2)(b)1 GA Rule 391-3-1-02(2)(e)1(ii) GA Rule 391-3-1-02(2)(g)2	3.2.8, 3.2.10, 3.4.5	None	None

##### C. Equipment & Rule Applicability

###### Emission and Operating Caps –

As a result of the modification, Process Groups CD03, CD04, DR01, LC02, and LC03 will have a propane limitation of 4,000,000 gallons during any twelve consecutive months and no natural gas consumption limit. Since there is no past actual data for this facility, the PSD threshold is an additional 40 tons of NO<sub>x</sub>. This equates to 4,000,000 gallons of propane.

The following table shows what process group is being modified and when each were constructed:

<b>Process Group</b>	<b>Year Installed</b>
Kuster Continuous Dye Line	1970
Multi-tech Continuous Dye Line	1977
Beck Dryer	1981
Latex Coater	1978
Latex Coater	1970

The ability to burn propane within these processes were added during the late 1980s, and is therefore, subject to the PSD regulations.

These Processes can also burn natural gas. Since natural gas did not have any limitations in the original permit there will be no limit on the amount of natural gas that these processes can burn.

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

The facility applicability toward any federal and state rules will not change as a result of this modification.

Process Groups CD03, CD04, DR01, LC02, and LC03 are subject to the following rules and regulations:

- Georgia Rule 391-3-1-.02(2)(b) – Visible Emissions
- Georgia Rule 391-3-1-.02(2)(e) – Particulate Emission from Manufacturing Processes
- Georgia Rule 391-3-1-.02(2)(g) – Sulfur Dioxide

#### **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**

Condition 3.2.8 adds the fuel propane to list of fuels that Process Groups CD03, CD04, DR01, LC02, and LC03 can burn.

Condition 3.2.10 is a new condition that limits the amount of propane that Process Groups CD03, CD04, DR01, LC02, and LC03 can burn to 4,000,000 gallons during any twelve consecutive months. This limits that amount of NO<sub>x</sub> emitted to 38 tons per twelve months.

Condition 3.4.5 limits the amount of sulfur contained within the propane to 2.5%, by weight.

Condition 8.23.1 was added regarding credible evidence.

**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 add an exceedance for when Process Groups CD03, CD04, DR01, LC02, and LC03 burn more than the allowable amount of propane burned.

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

Not Applicable

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

Condition 6.2.10 was added to require the Company to keep records of the amount of propane burned in Process Groups CD03, CD04, DR01, LC02, and LC03.

Condition 6.2.11 was added to require the Company to submit quarterly reports with the amount of propane burned in Process Groups CD03, CD04, DR01, LC02, and LC03.

**VIII. Specific Requirements**

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.

**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.