

**TITLE V MINOR MODIFICATION (without construction) APPLICATION REVIEW**

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Facility Name: **Shaw Industries, Inc. – Plant 23**

City: Dalton

County: Whitfield

AIRS #: 04-13-313-00074

Application #: 16376

Date SIP Application Received:

Date Title V Application Received: September 12, 2005

Permit No: 2273-313-0074-V-01-4

<b>Program</b>	<b>Review Engineers</b>	<b>Review Managers</b>
<b>SSPP</b>	Bert Pearce	Michelle Keith
<b>SSCP</b>	Megan Kinsey	James Eason
<b>ISMP</b>	[n/a]	[n/a]
<b>TOXICS</b>	[n/a]	[n/a]

**Introduction**

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft/proposed 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 proposed 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 EPA review process will be described in an addendum to this narrative

**I. Facility Description**

A. Existing Permits

**Table 1: List of Current Permits, as Amended**

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
2273-313-0074-V-01-0	April 27, 2000	✓	
2273-313-0074-V-01-1	October 17, 2002	✓	
2273-313-0074-V-01-2	October 21, 2003	✓	
2273-313-0074-V-01-3	October 27, 2004	✓	

**Table 2: Comments on Specific Permits**

Permit Number	Comments
2273-313-0074-V-01-0	Initial Title V permit
2273-313-0074-V-01-1	The reduction in the maximum allowable sulfur content of residual fuel oil burned in Boilers BL01, BL02, and BL03 from 2.5% to 1.8%.
2273-313-0074-V-01-2	Installation of 2 new burners on Source Code LC01 and conversion of 4 dryer zones from indirect steam heat to direct natural gas heat.
2273-313-0074-V-01-3	Construction and operation of a direct contact water heater (Source code: QW02) to provide hot water for the dyeing process (CD02).

B. Regulatory Status

1. PSD/NSR/RACT

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). The facility has taken limits on SO<sub>2</sub> emissions from its boilers to avoid PSD applicability.

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	n/a			
H <sub>2</sub> S	n/a			
Individual HAP	✓			
Total HAPs	✓			

**II. Proposed Modification**

A. Description of Modification

This modification is for the addition of propane as an allowable fuel for the Kemco high efficiency direct contact water heating system (Source ID: QW02). Propane is intended for use as a backup to natural gas, which is the only fuel allowed for QW02 under the existing permit. The heating system as initially installed was capable of burning propane, so no physical modification to the unit is needed. No case-by-case permit limits will be established or changed, and there will be no significant changes to monitoring, reporting, or record-keeping requirements. Therefore, this change qualifies as a minor modification.

**B. Emissions Change**

Table 4 shows the net actual and potential emissions increases from using propane as the fuel year-round for water heater QW02. Operation was assumed to be 8760 hours per year. Emissions are based on AP-42 emissions factors with the exception of sulfur dioxide. Sulfur dioxide emissions are based on a sulfur concentration in liquid propane of 123 ppm. The numbers shown in the table do not reflect the decrease in emissions associated with the reduction of natural gas usage when propane is burned in QW02.

**Table 4: Emissions Change Due to Modification**

<b>Pollutant</b>	<b>Is the Pollutant Emitted?</b>	<b>Net Actual Emissions Increase (Decrease) (tpy)</b>	<b>Net Potential Emissions Increase (Decrease) (tpy)</b>
PM	✓	1.0	1.0
PM <sub>10</sub>	✓	1.0	1.0
SO <sub>2</sub>	✓	1.7	1.7
VOC	✓	0.5	0.5
NO <sub>x</sub>	✓	31.9	31.9
CO	✓	5.4	5.4
TRS	n/a		
H <sub>2</sub> S	n/a		
Individual HAP	✓	0	0
Total HAPs	✓	0	0

**C. PSD/NSR Applicability**

The potential increases in emissions of all applicable pollutants due to the modification are below the respective PSD major modification significance levels. PSD review of the modification does not apply.

**III. Facility Wide Requirements**

None applicable.

**IV. Regulated Equipment Requirements**

A. Brief Process Description

The Kemco direct contact water heater provides hot water to one or more of the plant’s continuous dye ranges.

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
QW02	Kemco water heater	GA Rule 391-3-1-02(2)(b)1 GA Rule 391-3-1-02(2)(g)2	n/a	n/a	n/a

C. Equipment & Rule Applicability

- Emission and Operating Caps –

The hot water heater is being permitted to burn propane in addition to natural gas.

- Applicable Rules and Regulations -

Rules and Regulations Assessment: The hot water heater is subject to Georgia Rule (b)1 for visible emissions and to Georgia Rule (g)2 regarding the sulfur content of the fuel.

Emission and Operating Standards: Georgia Rule (b)1 limits visible emissions to from the water heater to 40 percent opacity. Georgia Rule (g)2 limits the sulfur content of any fuel burned in the water heater to no more than 2.5%, by weight. Propane combustion results in minimal visible emissions. In addition, the maximum propane content of the fuel is 123 ppm, which is much less than 2.5 %. Therefore, emissions from combustion of propane in the water heater are expected to be in compliance with the two rules.

D. Compliance Status

The Permittee has reported that the facility is in compliance.

E. Operational Flexibility

The facility has requested the flexibility to operate the water heater on propane as well as natural gas. One permit condition has been amended to implement this change (see below). No other additional rule(s), regulation(s), or operating limitations are required for the water heater

F. Permit Conditions

Permit Condition 3.2.3 has been amended to allow combustion of propane in QW02.

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

A. Individual Equipment:

Emissions from combustion of propane in the water heater are expected to be well below the compliance limits of applicable rules. Therefore no monitoring is required.

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

Not applicable.

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

A. Individual Equipment:

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

Not applicable.

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

Not applicable.

**VII. Specific Requirements**

A. Operational Flexibility

In this modification the facility has requested the flexibility to operate the water heater on propane as well as natural gas. Permit Condition 3.2.3 has been amended to allow combustion of propane in QW02.

B. Alternative Requirements

Not applicable.

C. Insignificant Activities

Not applicable.

D. Temporary Sources

Not applicable.

E. Short-Term Activities

Not applicable.

F. Compliance Schedule/Progress Reports

Not applicable.

G. Emissions Trading

Not applicable.

H. Acid Rain Requirements

Not applicable.

I. Prevention of Accidental Releases

Not applicable.

J. Stratospheric Ozone Protection Requirements

No change,

K. Pollution Prevention

Not applicable.

L. Specific Conditions

Not applicable.

**Addendum to Narrative**

The 45-day EPA review started on November 14, 2005, and ended on December 29, 2005. Comments were not received by the Division.