Facility Name: **Aladdin Mills – Antioch Road Plant**
City: Dalton
County: Whitfield
AIRS #: 04-13-313-00077

Application #: TV-16059
Date Application Received: February 23, 2005
Permit No: 2273-313-0077-V-02-0

Program	Review Engineers	Review Managers
SSPP	Nancy Johns	Michelle Keith
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Toxics	NA	NA

Introduction

This narrative is being provided to assist the reader in understanding the content of the attached draft Part 70 operating permit. Complex issues and unusual items are explained herein simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. and (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The primary purpose of this permit is to consolidate and identify existing state and federal air requirements applicable to **Aladdin Mills – Antioch Road Plant** and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. It initially describes the facility receiving the permit, 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 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. Facility Identification

1. Facility Name: Aladdin Mill – Antioch Road Plant

2. Parent/Holding Company Name: Mohawk Industries, Inc.

3. Previous and/or Other Name(s);

This facility was previously known as Mohawk Industries, Inc., Aladdin Mills Division – Antioch Road Plant

4. Facility Location;

2001 Antioch Road
Dalton, Georgia 30722 (Whitfield County)

5. Attainment, Non-attainment Area Location, or Contributing Area

Whitfield County is in attainment of the NAAQS for all criteria pollutants.

6. Class I Area Impacts

This facility is located within 100 km of the Cohutta Class I area.

B. Site Determination

There are no other facilities which could possibly be contiguous or adjacent and under common control.

C. Existing Permits

Table 1: List of Current Permits, Amendments, and Off-Permit Changes

Permit Number and/or Off-Permit Change	Date of Issuance/ Effectiveness	Purpose of Issuance
2273-313-0077-V-01-0	Sept. 26, 2000	Initial Title V
Off-Permit Change	Jan. 30, 2004	Installation of 2 natural gas fired non-contact rug dryers
Off Permit Change	April 5, 2004	Installation of screen filters on 6 dryers in TDC1 Group
Off-Permit Change	April 26, 2004	Modification of natural gas fired non-contact rug coater (LCR1), increase from 9MMBTU/hr to 21.7 MMBTU/hr
2273-313-0077-V-01-1	Oct. 13, 2005	502(b)(10)

D. Process Description

1. SIC Codes(s): 2273, 2299

The SIC Code(s) identified above were assigned by EPD's Air Protection Branch for purposes pursuant to the Georgia Air Quality Act and related administrative purposes only and are not intended to be used for any other purpose. Assignment of SIC Codes by EPD's Air Protection Branch for these purposes does not prohibit the facility from using these or different SIC Codes for other regulatory and non-regulatory purposes.

Should the reference(s) to SIC Code(s) in any narratives or narrative addendum previously issued for the Title V permit for this facility conflict with the revised language herein, the language herein shall control; provided, however, language in previously issued narratives that does not expressly reference SIC Code(s) shall not be affected.

2. Description of Product(s)

This facility primarily manufactures tufted carpet, scatter rugs, and bath mats.
This facility also extrudes nylon and polypropylene continuous filament fiber from purchased nylon and polypropylene resin pellets, and uses this fiber to manufacture carpet yarn.

3. Overall Facility Process Description

Extrusion and yarn manufacturing processes- Nylon or polypropylene resin pellets are heated by electric heating elements in the extruder until the thermoplastic resin becomes molten polymer. Pigment is added to polypropylene and a small percentage of nylon, with the pigment and molten polymer combining to form a colored polymer which is then "color extruded." The molten polymer is forced through small openings in a die and then immediately quenched so that it once again resumes a rigid, crystalline structure, thus forming a continuous filament. Each filament receives a metered amount of anti-static and lubricating chemicals. The desired number of individual continuous filaments are combined, draw-textured, air entangled and in some cases heat set to form what is referred to as bcf carpet yarn. The yarn is wound on tubes for transport to the tufting operation.

Carpet manufacturing process - Carpet yarn is tufted into a fabric substrate consisting of woven polypropylene ribbon (referred to as primary backing), and dyed on a continuous (open width) dyeing range. Polypropylene and a smaller percentage of nylon fiber is color extruded, and therefore does not require processing through the continuous dyeing range. Following the dyeing process (or the tufting process in the case of color extruded carpet), the goods are processed on one of two coater ranges. A latex coating is applied to the back of the dyed goods, acting as an adhesive to bind a second fabric substrate (referred to as secondary backing) to the back of the dyed goods. A natural gas fired oven serves to cure the latex adhesive and thus permanently bond the primary and secondary backings together. The carpet is sheared (to even the tips of the individual yarn tufts), the edges are trimmed, and individual rolls are cut to order and wrapped for shipment.

Rug manufacturing process description - Carpet yarn is tufted into a substrate consisting of woven polypropylene ribbon (referred to as primary backing). A latex coating is applied to the back of scatter rugs, and both a latex (adhesive) coating and a rubber backing are applied to the bath rugs on the respective scatter rug/bath rug coater ranges. A natural gas fired oven cures the latex coating/adhesive on both coater ranges. The goods are cut to size, sewn if necessary, and batch dyed in the beck dyeing operation. Process heat for beck dyeing is provided by steam from one of the four boilers permitted for operation at the facility. Following the dyeing process, the goods are dried using natural gas fired tumble dryers. Polypropylene and a small percentage of nylon fiber is color extruded and therefore does not require processing in the dyeing and subsequent drying processes just described. Some goods require an additional sewing operation before final packaging.

4. Overall Process Flow Diagram

The facility provided a process flow diagram in their Title V permit application.

E. Regulatory Status

1. PSD/NSR

This facility is an existing major stationary source as defined under PSD/NSR regulations, with potential emissions of both SO_2 and NO_x above the applicable threshold.

The Permittee has taken limits to remain as a "minor" source to avoid PSD/NSR review.

Fuel oil fired in boilers BL01, BL02, BL03, and BL04 shall be distillate fuel oil and shall not contain more than 0.5 percent sulfur by weight.

The maximum design input capacity of BL01 and BL02 prevents the boilers from burning distillate fuel in quantities that would cause emissions of NO_x to exceed 250 tons during any 12 consecutive month period.

The maximum design input capacity for BL03 and BL04 sufficiently limits fuel oil consumption which effectively limits potential emissions of NO_x and SO_2 to be less than 250 tons during any 12 consecutive month period in order to avoid triggering PSD review.

Condition Nos. 3.2.1, 3.2.2 and 3.3.2 in the Permit cover the above information for PSD avoidance.

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	Yes			✔
PM_{10}	Yes			✔
SO_2	Yes	✔		
VOC	Yes	✔		
NO_x	Yes	✔		
CO	Yes	✔		
TRS	NA			
H_2S	NA			
Individual HAP	Yes			✔
Total HAPs	Yes			✔

3. MACT Standards

This facility is not a major source for HAPs, therefore, no current or proposed MACT standards apply.

4. Program Applicability (AIRS Program Codes)

Program Code	Applicable (y/n)
Program Code 6 - PSD	No
Program Code 8 – Part 61 NESHAP	No
Program Code 9 - NSPS	Yes
Program Code M – Part 63 NESHAP	No
Program Code V – Title V	Yes

Regulatory Analysis

II. 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 currently being operated in compliance with all applicable air quality rules and regulations.

D. Operational Flexibility

See Section VII.A. of this narrative.

E. Permit Conditions

None applicable.

III. Regulated Equipment Requirements

A. Brief Process Description

Please refer to narratives prepared for initial Title V permit.

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
BL01	Cleaver Brooks Model #GNS-200 Boiler rated at 72.0 MMBTU/hr fired with natural gas and No. 2 fuel oil	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 40CFR60 Subpart Dc	3.2.2, 3.3.1, 3.3.2, 3.4.1, 3.4.2, 5.2.1, 6.2.10, 6.1.7, 6.2.1, 6.2.2, 6.2.4		none
BL02	Cleaver Brooks Model #GNS-200 Boiler rated at 72.0 MMBTU/hr fired with natural gas and No. 2 fuel oil	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 40CFR60 Subpart Dc	3.2.2, 3.3.1, 3.3.2, 3.4.1, 3.4.2, 5.2.1, 6.2.10, 6.1.7, 6.2.1, 6.2.2, 6.2.4	none	none
BL03	Continental Model #F152B600C-7389-6G436A Boiler rated at 24.138 MMBTU/hr fired with natural gas and No. 2 fuel oil	391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	3.2.1, 3.4.1, 3.4.2, 6.1.7, 6.2.1, 6.2.2, 6.2.3	none	none
BL04	Cleaver Brooks Model #CB400-600 Boiler rated at 25.106 MMBTU/hr fired with natural gas and No. 2 fuel oil	391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	3.2.1, 3.4.1, 3.4.2, 6.1.7, 6.2.1, 6.2.2, 6.2.3	none	none
CD01	Continuous Carpet Dye Range #1- 30.8 MMBTU/hr natural gas and propane fired dryer	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 391-3-1-.02(2)(g)	3.2.3, 3.4.3, 3.4.4	none	none

Emission Units			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description		Applicable Requirements / Standards	Corresponding Permit Conditions	ID No.	Description
LC01	Latex Coater #1 Process Group		391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(x)	3.2.3, 3.4.3, 3.4.4, 3.4.5, 3.4.6, 6.1.7, 6.2.5, 6.2.6, 6.2.7, 6.2.8	NA	
	CCA1	coating applicator			none	none
	CCO1	13.5 MMBTU/hr natural gas and propane fired curing oven			none	none
LC02	Latex Coater #2 Process Group		391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(x)	3.2.3, 3.4.3, 3.4.4, 3.4.5, 3.4.6, 6.1.7, 6.2.5, 6.2.6, 6.2.7, 6.2.8	none	none
	CCA2	Coating Applicator				
	CCO2	11.9 MMBTU/hr natural gas and propane fired curing oven				
LCR1	Latex Coater Range #1 for Bath Rug Process Group		391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(x)	3.2.3, 3.4.3, 3.4.4, 3.4.5, 3.4.6, 6.1.7, 6.2.7, 6.2.8	none	none
	RCA1	Coating Applicator				
	RCO1	21.7 MMBTU/hr natural gas and propane fired curing oven				
TDC1	Tumble Dryer Equipment Group #1		391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 391-3-1-.02(2)(g)	3.2.3, 3.4.3, 3.4.4, 6.1.7		
	TD01	1.6 MMBtu/hr natural gas dryer				
	TD02	1.6 MMBtu/hr natural gas dryer				
	TD03	1.6 MMBtu/hr natural gas dryer				
	TD04	1.6 MMBtu/hr natural gas dryer				
	TD05	1.6 MMBtu/hr natural gas dryer				
	TD06	1.6 MMBtu/hr natural gas dryer				

Emission Units			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description		Applicable Requirements / Standards	Corresponding Permit Conditions	ID No.	Description
TDF1	Tumble Dryer Equipment Group #2		391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 391-3-1-.02(2)(g)	3.2.3, 3.4.3, 3.4.4, 6.1.7	NA	
	TD07	2.7 MMBtu/hr natural gas dryer				
	TD08	2.7 MMBtu/hr natural gas dryer				
	TD09	2.7 MMBtu/hr natural gas dryer				
	TD10	2.7 MMBtu/hr natural gas dryer				
	TD11	2.7 MMBtu/hr natural gas dryer				
	TD12	2.7 MMBtu/hr natural gas dryer				
	TD13	2.7 MMBtu/hr natural gas dryer				

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

* Generally applicable requirements contained in this permit may also apply to emission units listed above.

C. Equipment & Rule Applicability

Please refer to narratives prepared for initial Title V permit.

D. Compliance Status

The facility is currently being operated in compliance with all other applicable air quality rules and regulations.

E. Operational Flexibility

No requested flexibility in the renewal application.

F. Permit Conditions

1. The Emission Units table (3.1) has several changes from the original Title V permit. Listed below are those changes.

LC01 (Latex Coater # 1 Process Group)
CLS1 (7 head lint sheer) removed since it is not an external emission source
LSF1 (13 bag filter) removed since it is not an external emission source

LCR1 (Latex Coater Range #1 for Bath Rug Process Group)
RCO1 – changed from 9.0 MMBTU/hr natural gas and propane fired curing oven
To 21.7 MMBTU/hr natural gas and propane fired curing oven

LCR2 (Latex Coater Range #2 for Scatter Rug Process)
Decommissioned – Therefore, removed from Table

STO1 (32,000 gallon Fuel Oil Storage Tank #1)
Moved to Insignificant Activity Table because it is less than 40,000 gallon baseline

STO2 (32,000 gallon Fuel Oil Storage Tank #2)
Moved to Insignificant Activity Table because it is less than 40,000 gallon baseline

TDC1 (Tumbler Dryer Equipment Group #1)
DC01 (Cyclone) – Decommissioned. Therefore removed from Table.

TDF1 (Tumble Dryer Equipment Group #2)
DC07-DC13 (Screen Filters) – Removed. Not an external emission source.

2. In Conditions 3.4.3, 3.4.4, and 3.4.5 all references to LCR2 have been removed because LCR2 has been decommissioned.

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

A. General Testing Requirements

The permit includes a requirement that the Permittee conduct performance testing on any specified emission unit when directed by the Division. Additionally, a written notification of any performance test(s) is required 30 days prior to the date of the test(s) and a test plan is required to be submitted with the test notification. Test methods and procedures for determining compliance with applicable emission limitations are listed and test results are required to be submitted to the Division within 60 days of completion of the testing.

B. Specific Testing Requirements

1. Individual Equipment

None applicable.

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

None applicable.

V. Monitoring Requirements

A. General Monitoring Requirements

Condition 5.1.1 requires that all continuous monitoring systems required by the Division be operated continuously except during monitoring system breakdowns and repairs. Monitoring system response during quality assurance activities is required to be measured and recorded. Maintenance or repair is required to be conducted in an expeditious manner.

B. Specific Monitoring Requirements

1. Individual Equipment

Please refer to narratives written for initial Title V permit.

- The lint collection system and 13 bag filter LSF1 have no external emissions. All lint is captured in bags inside plant and there are no vents, pipes or any other way for this to emit to the atmosphere. This is a maintenance issue. Therefore, Condition No. 5.2.2 in the Initial Title V permit has been omitted from this renewal to reflect that change.

- Screen filters DF07-DF13 do not emit anything into the atmosphere. No monitoring will be needed for those pieces of equipment. Therefore, Condition No. 5.2.3 in the Initial Title V permit has been omitted from this renewal to reflect that change.

- Cyclone DC01 has been removed. Therefore, Condition No. 5.2.4 in the Initial Title V permit has been omitted from this renewal to reflect that change.

- Previous Condition 5.3.2 was removed because it referenced Conditions 5.2.2, 5.2.3 and 5.2.4 which have been removed from the Permit.

- Previous Condition 5.3.1 has been moved to 6.2.10 to be correctly placed under Record Keeping and Reporting Requirements.

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

Please refer to narratives written for initial Title V permit.

C. Compliance Assurance Monitoring (CAM)

Not Applicable. There are no control devices associated with the permitted emission sources.

VI. Record Keeping and Reporting Requirements

A. General Record Keeping and Reporting Requirements

The Permit contains general requirements for the maintenance of all records for a period of five years following the date of entry and requires the prompt reporting of all information related to deviations from the applicable requirements. Records, including identification of any excess emissions, exceedances, or excursions from the applicable monitoring triggers, the cause of such occurrence, and the corrective action taken, are required to be kept by the Permittee and reporting is required on a semiannual basis.

B. Specific Record Keeping and Reporting Requirements

Please refer to narratives written for initial Title V Permit.

- In Conditions 6.1.7.b.iv all references to LCR2 have been removed because LCR2 has been decommissioned.
- Previous Condition 6.1.7.c.i., ii, and iii have been deleted because they referenced the bag filters and screen filters (neither group has emissions to the outside air) and the decommissioned cyclone (DC01).
- Condition 6.1.7.c.i. (excursions) replaced with: None required to be reported in accordance with Condition 6.1.4.
- Previous Condition 6.2.9 has been deleted. This condition referenced the two fuel storage tanks STO1 and STO2 which have been moved to the Insignificant Activities List. Each tank is less than 40,000 gallons.
- Previous Condition 6.2.10 has been moved to 6.2.9.

VII. Specific Requirements

A. Operational Flexibility

This permit includes the standard conditions allowing section 502(b)(10) changes and off-permit changes.

Similarly, Aladdin requested flexibility with respect to fuel oil consumption limits for boilers BL01 and BL02. Fuel oil consumption had been restricted in these boilers for purposes of PSD avoidance. The established limit restricted fuel oil usage to a set volume, and did not allow increased usage under any circumstances. A condition for limiting distillate fuel oil consumption by Boilers BL01 and BL02, was developed that will allow Aladdin the requested flexibility with respect to fuel oil consumption, while also restricting potential emissions of NO_x and SO_2 from the 1993-1997 plant expansion project below the PSD threshold. The condition allows for increased usage when fuel oil is used with a sulfur content below 0.5% weight. The maximum design input capacity of Boilers BL01 and BL02 prevents the boilers from burning distillate fuel oil in quantities that would cause emission of NO_x from the 1993-1997 plant expansion project to exceed 250 tons during any 12 consecutive month period.

B. Alternative Requirements

- None applicable.

C. Insignificant Activities

Refer to http://airpermit.dnr.state.ga.us/GATV/default.asp for the Online Title V Application.

Refer to the following forms in the Title V permit application:
- Form D.1 (Insignificant Activities Checklist)
- Form D.2 (Generic Emissions Groups)
- Form D.3 (Generic Fuel Burning Equipment)
- Form D.6 (Insignificant Activities Based on Emission Levels of the Title V permit application)

D. Temporary Sources

The facility has requested approval for the use of a rental boiler. The heat input of the rental boiler is 75 MMBTU/hr. Applicable standards include, depending on construction year, 391-3-1-.02(32)(d), 391-3-.02(2)(g) and 40 CFR 60 Subpart Dc. The conditions pertaining to these rules and regulations have been added to Section 7.5 of the permit.

E. Short-Term Activities

- None applicable.

F. Compliance Schedule/Progress Reports

- Based on all presently available information, the facility is in compliance with all Air Quality Regulations. No compliance schedule or progress reports are necessary.

G. Emissions Trading

- Not applicable.

H. Acid Rain Requirements

- Not applicable.

I. Stratospheric Ozone Protection Requirements

Aladdin has indicated that this facility is subject to 40 CFR Part 82 Subpart F Recycling and Emissions Reduction requirements under Title VI.

J. Pollution Prevention

- Not applicable.

K. Specific Conditions

- None

VIII. General Provisions

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 30-day public review period started on September 20, 2006 and ended on October 20, 2006. No comments were received.