Facility Name: **Milliken & Company – Live Oak/Milstar Complex**
City: LaGrange
County: Troup
AIRS #: 04-13-285-00032

Application #: TV- 42007
Date Application Received: November 3, 2016
Permit No: 2273-285-0032-V-04-0

Program	Review Engineers	Review Managers
SSPP	William Fleming	Manny Patel
ISMP	Anna Gray	Dan McCain
SSCP	Deirdre Edwards	Tammy Martiny
Toxics	N/A	Michael Odom
Permitting Program Manager		Eric Cornwell

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 here in 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 **Milliken & Company – Like Oak/Milstar Complex** 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:

Milliken & Company – Live Oak/Milstar Complex

2. Parent/Holding Company Name

Milliken & Company

3. Previous and/or Other Name(s)

Milliken & Company – Live Oak Complex

4. Facility Location

300 Lukken Industrial Drive, West
LaGrange, Georgia 30240 (Troup County)

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

The facility is located in Troup County, which is considered an attainment area for all criteria pollutants.

B. Site Determination

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

C. Existing Permits

Table 1 below lists all current Title V permits, all amendments, 502(b)(10) changes, and off-permit changes, issued to the facility, based on a comparative review of form A.6, Current Permits, of the Title V application and the "Permit" file(s) on the facility found in the Air Branch office.

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
2273-285-0032-V-03-0	August 7, 2012	Title V Renewal
Off-Permit Change	July 29, 2014	Change to the chemistry of the polyurethane foam
Off-Permit Change	March 29, 2016	Change to the chemistry of the polyurethane foam
Off-Permit Change	December 15, 2016	Relocation of an existing hot melt coater
Off-Permit Change	August 7, 2017	Addition of let-off and take-up equipment to Range R900

D. Process Description

1. SIC Codes(s)

2273 – Carpets and Rugs

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)

The facility produces broadloom carpet, carpet tiles, panels, and area rugs.

3. Overall Facility Process Description

The Live Oak/Milstar Complex consists of preparation, dyeing, coating and finishing operations that produce broadloom carpet, rugs, and modular carpet tile products.

Broadloom carpet and rugs are prepared, dyed, washed and dried on one of the two Broadloom Dye Ranges (AI01). Broadloom carpet and rugs may then be coated and finished on Broadloom Finishing Range (EAA). This material is then batched or cut into customer sized units.

Tile products are coated, backed, and cut to size on the Carpet Tile Formation Range (LAA and MAA). Tile may then be dyed, washed, dried, and finished on one of the three Tile Pattern Ranges (AK01).

Mixing and compounding for the Broadloom, rug and tile coating process is done with Coating Mix Preparation Equipment (RAA).

Steam for the facility is produced by four boilers (VAA, VBA, VCA, and VDA).

Other operations not specifically listed above but included as Insignificant Activities, Generic Emissions Grouping or Short Term activities that either support one or more of the above processes or are minor carpet finishing processes.

4. Overall Process Flow Diagram

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

E. Regulatory Status

1. PSD/NSR

The facility was potentially a "major" source under PSD/NSR regulations, but has taken a 249 tpy SO_2 limit for boiler VAA, VBA, VCA, and VDA to remain as a "minor" source and avoid a PSD/NSR review.

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				✓
PM_{10}				✓
SO_2		✓		
VOC		✓		
NO_x		✓		
CO				✓
TRS				✓
H_2S				✓
Individual HAP				✓
Total HAPs				✓

3. MACT Standards

The facility is not subject to MACT OOOO, "National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles". The facility is an area source for HAPs and therefore not subject to this standard.

The facility is subject to MACT JJJJJJ, "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources". This standard was promulgated on March, 21, 2011 and applies to area sources that have boilers that burn coal, biomass, or oil. Boilers VAA, VBA, VCA, and VDA currently have the option to burn either No. 6 or No. 2 fuel oil, therefore these boilers will be subject to this standard. The boilers are subject to the work practice standards and energy assessment requirement. The facility submitted notification of compliance status for the boilers subject to tune-ups and energy assessment on July 18, 2014.

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	No
Program Code M – Part 63 NESHAP	Yes
Program Code V – Title V	Yes

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Caps:

None applicable.

B. Applicable Rules and Regulations

None applicable.

C. Compliance Status

The facility does not currently have any noncompliance issues.

D. Permit Conditions

None applicable.

III. Regulated Equipment Requirements

A. 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**
VAA	Low Pressure Boiler #1	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 40 CFR 63 Subpart JJJJJJ	3.2.1, 3.3.1, 3.4.2, 3.4.3, 3.4.5, 4.2.1, 5.2.1, 5.2.2, 6.2.1 through 6.2.7	N/A	N/A
VBA	Low Pressure Boiler #2	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 40 CFR 63 Subpart JJJJJJ	3.2.1, 3.3.1, 3.4.2, 3.4.3, 3.4.5, 4.2.1, 5.2.1, 5.2.2, 6.2.1 through 6.2.7	N/A	N/A
VCA	High Pressure Boiler #1	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 40 CFR 63 Subpart JJJJJJ	3.2.1, 3.3.1, 3.4.2, 3.4.3, 3.4.5, 4.2.1, 6.2.1 through 6.2.7	N/A	N/A
VDA	High Pressure Boiler #2	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 40 CFR 63 Subpart JJJJJJ	3.2.1, 3.3.1, 3.4.2, 3.4.3, 3.4.5, 4.2.1, 6.2.1 through 6.2.7	N/A	N/A
EAA	Broadloom Finishing Range 101	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.2.2, 3.2.3, 3.4.1, 3.4.4, 6.2.8 through 6.2.12	N/A	N/A
LAA	Carpet Backing Formation Range 702 and 703	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.2.2, 3.2.3, 3.4.1, 3.4.4, 6.2.8 through 6.2.12	N/A	N/A
MAA	Carpet Backing Formation Range 704	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.2.2, 3.2.3, 3.4.1, 3.4.4, 6.2.8 through 6.2.12	N/A	N/A
RAA	Mixer Group	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.2.2, 3.2.3, 3.4.1, 3.4.4, 6.2.8 through 6.2.12	N/A	N/A

B. Equipment & Rule Applicability

Emission and Operating Caps:

Milliken has a previously accepted facility-wide SO_2 emission limit of 250 tons during any twelve consecutive months. Sulfur dioxide emissions will be limited for PSD avoidance purposes by limiting SO emissions from boilers VAA, VBA, VCA, and VDA combined, to 249 tons during any consecutive 12-month period of fuel oil combustion.

Milliken determined that the coatings used on the range EAA are *waterborne coatings* whose VOC content does not exceed 9 percent by weight of the volatile fraction. Hence, the range EAA is not subject to NSPS VVV based on the NSPS VVV exemption.

Milliken has also determined that all coatings used on ranges LAA and MAA, and prepared by RAA are exempt from NSPS VVV.

Milliken has a previously accepted 100 ton per year limit on VOC emissions for the coating lines EAA, LAA, MAA, and RAA combined to avoid Georgia Rule 391-3-1-.02(2)(x) "VOC Emissions from Fabric and Vinyl Coating".

Rules and Regulations Assessment:

Boilers
The boilers are subject to Georgia Rule 391-3-1-.02(2)(d)2 for fuel-burning equipment since they were constructed after January 1, 1972. Also, the opacity limit from each boiler is expressed by Georgia Rule 391-3-1-.02(2)(d)3.

The boilers are subject to Georgia Rule 391-3-1-.02(2)(g)2 for sulfur dioxide to limit the sulfur content in all fuels burned.

Boilers VCA and VDA are not subject to NSPS Dc because each has a heat input capacity of less than 10 MMBtu/hr even though they were constructed after June 9, 1989.

Boilers VAA, VBA, VCA, and VDA are subject to MACT 6J.

Ranges
Each range (Emission Unit ID Nos. EAA, LAA, and MAA) is subject to Georgia Rule 391-3-1-.02(2)(b) for visible emissions.

Each range (Emission Unit ID Nos. EAA, LAA, and MAA) is subject to Georgia Rule 391-3-1-.02(2)(e) for particulate emissions from manufacturing processes. Since these dryers apply heat energy directly, they are not subject to Georgia Rule 391-3-1-.02(2)(d), but to Georgia Rule (e).

Ranges LAA and MAA are not subject to 40 CFR 60 Subpart VVV, Standards of Performance for Polymeric Coating of Supporting Substrates Facilities. The Division has determined that the facility is no longer subject to NSPS VVV since no coatings contain solvents which are intentionally volatilized off.

The finished carpet produced by Milliken has four layers: latex, hot melt, polyurethane, and felt. The latex coating is not applicable to NSPS VVV since it meets the definition of waterborne as defined in 40 CFR 60.741, "waterborne coating means a coating which contains more than 5 weight percent water in its volatile fraction." The MSDS provided by the facility show that the latex coating contains over 5% by weight water.

The hot melt coating is not applicable to NSPS VVV since it meets the exemption requirements in 40 CFR 60.740(d)(2), "coating mix preparation equipment or coating operation during those times they are used to prepare or apply waterborne coatings so long as the VOC content of the coating does not exceed 9 percent by weight of the volatile fraction." Milliken tested four samples of the hot melt on May 12, 1997. Analytical Services, Inc. conducted EPA Method 24 testing and determined the VOC content was below the detection limit of 0.02%.

The polyurethane coating is not applicable to NSPS VVV since the volatile organic compound is a reactant, not a solvent. The EPA determined on March 20, 2001 that NSPS VVV is not applicable to pultrusion facilities because the solvents are not intentionally volatilized out. In Subpart VVV Applicability to Pultrusion Facilities (Control Number 0300037) the EPA determined that in the pultrusion process the VOC (styrene) is a reactant, not a solvent. The styrene predominatly becomes an integral part of the final product. Polyurethane chemistry follows this same logic. The reactants isocyanate and polyol react to form polyurethane where most of the reactants are found in the final product and not emitted. Therefore the Division has determined that the polyurethane coating is not subject to NSPS VVV.

The ranges are not subject to Georgia Rule 391-3-1-.02(2)(x) which limits VOC emissions from Fabric and Vinyl Coating because potential VOC emissions from these coating operations at the facility combined are less than 100 tons per year.

Mixing Group
The mixing group is subject to Georgia Rule 391-3-1-.02(2)(b) to limit opacity.

Mixing Group RAA is subject to Georgia Rule 391-3-1-.02(2)(e) for particulate emissions from manufacturing processes.

The mixing group is not subject to Georgia Rule 391-3-1-.02(2)(ccc), VOC emissions from bulk mixing tanks, since VOC emissions from the tanks do not exceed 100 tons per year.

The mixing group is not subject to NSPS VVV. Since the ranges LAA and MAA are no longer subject to NSPS VVV, the mixer for the ranges is also not subject.

C. Permit Conditions

Condition 3.2.1 limits SO_2 emissions from boilers VAA, VBA, VCA, and VDA combined, for PSD Avoidance purposes.

Condition 3.2.2 defines the VOC and water content specifications for coatings used in EAA, LAA, MAA, and RAA for NSPS VVV avoidance purposes.

Condition No. 3.2.3 limits the VOC emissions from EAA, LAA, MAA, and RAA, combined, to 100 tons during any 13 consecutive periods to avoid Georgia Rule (x).

New Condition 3.3.1 subjects the facility to the requirements of 40 CFR 63 Subpart 6J.

Condition 3.4.1 defines the allowable opacity limit from all significant emission units, excluding the boilers as defined by Georgia Rule (b).

Condition 3.4.2 defines the allowable PM emission rate from each boiler in accordance with Georgia Rule (d).

Condition 3.4.3 defines the allowable opacity limit from the boilers in accordance with Georgia Rule (d).

Condition 3.4.4 defines the allowable PM emission rate from each range in accordance with Georgia Rule (e).

Condition 3.4.5 defines the maximum fuel oil sulfur content by weight, in accordance with Georgia Rule (g).

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 (or sixty (60) days for tests required by 40 CFR Part 63) 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

The permit includes a requirement that the Permittee conduct tune ups on the boilers according to 40 CFR 63.11223 on a biennial basis no more than 25 months after the previous tune up.

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

Condition 5.2.1 requires the facility to perform visible emissions checks when the boilers are fired with number 2 or 6 fuel oil, daily to reasonably assure compliance with Rule (d) PM limitations.

Condition 5.2.2 requires the facility to notify the Division and install and operate a monitoring system to measure and record the oxygen concentration (%) at the furnace exit of the applicable boiler when a VE check cannot be performed for more than 5 times per quarter for two consecutive quarters.

C. Compliance Assurance Monitoring (CAM)

The facility uses no control devices for the boilers or range or mix lines, hence CAM is not applicable.

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 [quarterly or semiannual] basis.

Template Conditions 6.1.3 and 6.1.4 were updated in September 2011 to allow ~60 days to submit periodic reports. Alternative reporting deadlines are allowed per 40 CFR 70.6, 40 CFR 60.19(f) and 40 CFR 63.10(a).

B. Specific Record Keeping and Reporting Requirements

Milliken requested the flexibility to maintain records on a 4-calendar week basis instead of a calendar month basis. A 4-calendar week basis corresponds to internal corporate requirements. Therefore, a 12 month rolling basis is converted to a 13 consecutive period basis. A period is defined as a 4-calendar week basis. The Title V permit specifies semiannual reporting. For purposes of this Title V permit, a semiannual period corresponds to approximately 6.5 periods, not 6 months.

Condition No. 6.2.1 requires the facility to obtain a statement from the fuel supplier that all distillate fuel oil shipments meet the specifications for No. 2 fuel oil.

Condition No. 6.2.2 requires the facility to maintain fuel supplier certifications for each shipment of fuel oil.

Condition No. 6.2.3 requires the facility to submit the fuel oil certifications for each fuel oil shipment with their semi-annual reports.

Condition No. 6.2.4 requires the facility to record the amount of fuel oil combusted in each boiler during each period.

Condition No. 6.2.5 states how the facility must calculate the sulfur content of the fuel in the tanks after each new shipment of fuel oil.

Condition No. 6.2.6 requires the facility to calculate sulfur dioxide emissions for each period.

Condition No. 6.2.7 requires the facility to calculate the 13 consecutive period total of sulfur dioxide emissions.

Condition No. 6.2.8 requires the facility to keep usage records of all materials that contain VOCs.

Condition No. 6.2.9 requires the facility to calculate the VOC emissions for each period.

Condition No. 6.2.10 requires the facility to notify the Division if any of their records indicate exceedance of the VOC limits.

Condition No. 6.2.11 requires the facility to notify the Division if any noncompliant polymeric coatings are used in EAA, LAA, MAA, or RAA.

New Condition No. 6.2.12 requires the facility to notify the Division if any changes are made to the polyurethane chemistry.

VII. Specific Requirements

A. Operational Flexibility

None Applicable.

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

None Applicable.

E. Short-Term Activities

The facility has air compressors on site that require annual maintenance. During these periods of maintenance, the facility rents diesel compressors to maintain plant operations. Previously, the facility submitted OPC letters for each instance of renting the diesel compressors for on-site maintenance. Condition 7.6.1 requires the facility to keep records of duration and frequency each time diesel compressors are brought on site during annual maintenance of the air compressors.

F. Compliance Schedule/Progress Reports

None Applicable.

G. Emissions Trading

None Applicable.

H. Acid Rain Requirements

None Applicable.

I. Stratospheric Ozone Protection Requirements

None Applicable.

J. Pollution Prevention

None Applicable.

K. Specific Conditions

None Applicable.

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.

Template Condition 8.14.1 was updated in September 2011 to change the default submittal deadline for Annual Compliance Certifications to February 28.

Template Condition Section 8.27 was updated in August 2014 to include more detailed, clear requirements for emergency generator engines currently exempt from SIP permitting and considered insignificant sources in the Title V permit.

Template Condition Section 8.28 was updated in August 2014 to more clearly define the applicability of the Boiler MACT or GACT for major or minor sources of HAP.

Addendum to Narrative