



STATEMENT OF BASIS

Page 1 of 6

BAQ Engineering Services Division
 2600 Bull Street, Columbia, SC 29201
 Phone: 803-898-4123 Fax: 803-898-4079

Company Name: Milliken & Company – Gilliland Plant
Permit Number: TV-1520-0021

Permit Writer: Jo Anna Cunningham
Date: June 23, 2009

DATE APPLICATION RECEIVED: October 3, 2008

DATE OF LAST INSPECTION: July 22, 2008 - No violations of permit requirements or applicable regulations were observed during this inspection

FACILITY DESCRIPTION

Milliken & Company – Gilliland Plant is primarily a fabric formation textile manufacturing facility which produces synthetic knitted and non-woven industrial fabrics from cotton, polyester, rayon and worstelton fibers. The plant is divided into three areas: knit, non-woven, and extruded.

FACILITY CONTACT

Ben Williams, Senior Environmental Chemist, (864) 503-1757; e-mail: ben.williams@milliken.com

PROJECT DESCRIPTION

This project is the renewal of the Title V operating permit.

PROCESS DESCRIPTION

The Stabilon process takes yarn and applies an adhesive to it, then crosses the yarn to form an open web, like an open scrim. It is not woven, but sticks together after going over steam cans.

CHANGES SINCE LAST OP ISSUANCE		
Date	Change Type	Description
06/14/05	Administrative Amendment	Condition 4.B.6 reflects current emissions inventory language.
06/12/2007	Administrative Amendment	Attachment A has been updated to include new air toxic emissions resulting from the use of a new chemical in the non-woven process. New air toxic emissions are as follows: Acrylic Acid, Methylene Chloride, Toluene, and 1,3 Dichloro-1-propene.
02/2009	Construction Permit 1520-0021-CK	Issued to allow the modification of the following existing insignificant sources: Stabilon Machine 15 (S015) and Stabilon Machine 32 (S032). The modification to Machine 15 consists of replacing the old components with new ones. S015 will now have the ability to run heavier styles and chemistries. The modification to Machine 32 consists of adding additional drying sections. S032 will now have the ability to operate faster.
02/02/2009	Minor Modification	Stabilon Machines S019, S02, S021, S022, S025, and S028 were formerly permitted sources included in Unit ID 03-Non-Wovens. The Potential to Emit (PTE) for these machines has decreased due to a decrease in the potential VOC emissions. The potential VOC emissions decreased because the VOC content of the adhesive utilized in the process changed (decreased). Each stabilon machine is independent and a stand alone source. These machines each, meet the criteria as insignificant activities (Criteria < 5 TPY; TAPs < 1000 lb/yr).

SOURCE TEST REQUIREMENTS

Not applicable - the boiler burns a clean burning virgin fuel (the boiler is a 16.737 million Btu/hr Cleaver Brooks Model CB200-30 natural gas/propane fired boiler).



STATEMENT OF BASIS

Page 2 of 6

BAQ Engineering Services Division
 2600 Bull Street, Columbia, SC 29201
 Phone: 803-898-4123 Fax: 803-898-4079

Company Name: Milliken & Company – Gilliland Plant
Permit Number: TV-1520-0021

Permit Writer: Jo Anna Cunningham
Date: June 23, 2009

SPECIAL CONDITIONS, MONITORING, LIMITS

VOC and HAP limits

Currently there is a BACT/LAER Avoidance limit in place. Facility-wide VOCs shall be less than 146 tpy. Due to a change in the VOC content of the adhesive used in the non-woven process (Unit ID 03) the potential to emit (PTE) of VOCs is less than 100. However, for operational flexibility purposes, the facility has requested to keep the facility wide limit in place.

EMISSIONS

UNCONTROLLED POTENTIAL EMISSIONS				
ID	Pollutant	lb/hr	TPY	Method for Estimating Emissions
01-Boiler	PM/PM ₁₀ /PM _{2.5}	0.23	1.0074	AP-42, 5 th ed., Table 1.
01	SO ₂	0.030	0.1314	“ “
01	NO _x	3.49	15.29	“ “
01	CO	0.59	2.59	
01	VOCs	0.124	0.544	
02-Cooking Kettles	VOCs (total)	2.12	9.29	Material Balance
02-Cooking Kettles	Methanol (total)	2.12	9.29	“ “
03-s015	VOCs	0.7662	3.356	Material Balance
03-s015	Methyl Methacrylate	0.0931	0.408	“ “
03-s015	Acrylamide	0.0017	0.0075	“ “
03-s015	Formaldehyde	0.1396	0.6115	“ “
03-s015	Styrene	0.3724	1.632	“ “
03-s015	Acrylic Acid	0.1119	0.4902	“ “
03-s015	Methylene Chloride	0.0009	0.004	“ “
03-s015	Toluene	0.0031	0.0136	“ “
03-s015	1,3 Dichloro-1-Propene	0.0009	0.004	“ “
				“ “
03-s032	VOCs	1.781	7.80	“ “



Company Name: Milliken & Company – Gilliland Plant
Permit Number: TV-1520-0021

Permit Writer: Jo Anna Cunningham
Date: June 23, 2009

UNCONTROLLED POTENTIAL EMISSIONS				
ID	Pollutant	lb/hr	TPY	Method for Estimating Emissions
03-s032	Acrylamide	0.0058	0.025	“ “
03-s032	Formaldehyde	0.2437	1.067	“ “
03-s032	Styrene	0.439	1.92	“ “
03-s032	Methyl Methacrylate	0.1466	0.6421	“ “
03-s032	Acrylic Acid	0.0295	0.1292	“ “
03-s032	Methylene Chloride	0.0002	0.001	“ “
03-s032	Toluene	0.0008	0.004	“ “
03-s032	1,3 Dichloro-1-Propene	0.0002	0.001	“ “
03-s032	Diethylene Glycol Monobutyl Ether	0.02926	0.1282	“ “
03-s032	Ethylene Oxide	6.50159E-05	0.0003	“ “

Note 1: There are no control devices for any of the processes therefore uncontrolled and controlled emissions are equivalent.

Note 2: The cooking kettles (Unit ID 02) are fueled by stem which is provided by the existing boiler. The fuel source for the non-woven stabilon machines (Unit ID 03), are hot cans, which are heated by steam from the existing boiler.

Note 3: Stabilon machines S002 through S014 do not emit any regulated pollutants.

SAMPLE STABILON VOC CALCULATION:

WEIGHT PRODUCT (LBS/YD) X % CHEMICAL ADD-ON X (1 / % SOLIDS) = TOTAL ADHESIVE USED WET (LBS / YD)

TOTAL ADHESIVE USED WET (LBS/YD) X % HAP X SPEED (FT/MIN) X 60 (MIN/HR) X 1/3 (YD/FT) =
 TOTAL EMISSION RATE (LBS/HR)

FACILITY WIDE EMISSIONS		
Pollutant	Uncontrolled Emissions	Controlled Emissions
	TPY	TPY
VOCs	32.17	N/A
Methanol	9.286	N/A
PM	1.0074	N/A
SO ₂	0.1314	N/A



STATEMENT OF BASIS

Page 4 of 6

BAQ Engineering Services Division
 2600 Bull Street, Columbia, SC 29201
 Phone: 803-898-4123 Fax: 803-898-4079

Company Name: Milliken & Company – Gilliland Plant
Permit Number: TV-1520-0021

Permit Writer: Jo Anna Cunningham
Date: June 23, 2009

FACILITY WIDE EMISSIONS		
Pollutant	Uncontrolled Emissions	Controlled Emissions
	TPY	TPY
NOx	15.286	N/A
CO	2.5842	N/A
Methyl Methacrylate	2.23	N/A
Acrylamide	0.07	N/A
Formaldehyde	3.97	N/A
Styrene	6.54	N/A
Acrylic Acid	0.75	N/A
Methylene Chloride	0.006	N/A
Toluene	0.021	N/A
1,3 Dichloro-1-Propene	0.006	N/A
Diethylene Glycol Monobutyl Ether	0.1282	N/A
Ethylene Oxide	0.0003	N/A
VOCs	32.17	N/A
Total HAPs	23.00	N/A

Note: Clarification on the decrease in the facility-wide potential to emit (less than major source thresholds):
 The facility wide PTE decreased because the individual PTE of various stabilon machines (Unit ID 03 – Non Wovens) decreased, which was as a direct result of the VOC content of the adhesive (which is utilized in the process) changed (decreased).

The facility-wide emissions for the Gilliland Plant are less than Title V threshold limits however, for operational flexibility; the facility has requested to retain their Title V operating permit.

PROJECT REGULATORY APPLICABILITY REVIEW			
Regulation	Applicable		Comments
	Yes	No	
South Carolina Regulation 61-62.1 through 62.99: Air Pollution Regulations (PROJECT ONLY)			
Section II(E): Synthetic Minor		X	This facility's potential to emit is less than synthetic minor threshold limits.
Section II(G): Conditional Major		X	The facility's potential to emit (PTE) is less than 100. However, for operational flexibility purposes, the facility has requested to renew the current Title V operating permit.
Standard 1: Fuel Burning Operations	X		Boiler B001 is subject to the Standard 1 - Opacity, SO2, and PM limits.
Standard 2: Ambient Air Quality Standards	X		This facility has demonstrated compliance through modeling; see modeling summary dated October 16, 2008 and February 10, 2009. No operational restriction has been established to ensure compliance with the modeled emission rates.
Standard 3: Waste Combustion/Reduction (state only)		X	This process does not contain waste combustion or reduction sources.
Standard 3.1: HMI Waste Incinerators		X	No medical waste incineration.
Standard 4: Emissions from Process Industries	X		The Standard 4 Opacity and PM limit are applicable, to the Non-Wovens (ID 03) and the Cooking Kettles (ID 02). However, these processes do not emit particulate matter. Therefore compliance with the PM limit is certain to be maintained. Therefore, only the Standard 4 opacity limit will be included in the permit. Note: Each non-woven machine is independent and a stand alone source.



Company Name: Milliken & Company – Gilliland Plant
Permit Number: TV-1520-0021

Permit Writer: Jo Anna Cunningham
Date: June 23, 2009

PROJECT REGULATORY APPLICABILITY REVIEW

Regulation	Applicable		Comments
	Yes	No	
Standard 5: Volatile Organic Compounds		X	None of the processes, which are regulated by the regulation, apply.
Standard 5.1: BACT/LAER For VOC (state only)		X	The net increase of actual VOCs since 1979 is less than 100 tons, therefore BACT/LAER is and has not been triggered, and the facility is not subject BACT/LAER at this time.
Standard 5.2: Control of Oxides of Nitrogen		X	The fuel burning source was constructed prior to the effective date, June 25, 2004, of this regulation,
Standard 7: Prevention of Significant Deterioration		X	The facility's PTE for any pollutant is less than 250 TPY; therefore the facility is not major for PSD.
Standard 7(c): Ambient Air Increments	X		This facility has demonstrated compliance through modeling for the PSD Class II increments; see modeling summary dated October 16, 2008 and February 10, 2009.
Standard 7.1: Standards for Non Attainment Areas		X	This facility is located in an area which is in attainment.
Standard 8: Toxic Air Pollutants (state only)	X		This facility has demonstrated compliance through modeling for all TAPs; see modeling summary dated October 16, 2008 and February 10, 2009,
Regulation 61-62.6: Control of Fugitive Particulate Matter	X		The fugitive PM (Dust) emissions are controlled in a manner that should not produce undesirable levels of PM (Dust) emissions.
Regulation 61-62.60: SC Designated Facility Plan and NSPS		X	Not applicable to this process
Regulation 61-62.61: NESHAP		X	This process does not emit the pollutants subject to this standard (asbestos, benzene, beryllium, coke oven emissions, arsenic, mercury, radio nuclide, radon, or vinyl chloride).
Regulation 61-62.63: NESHAP For Source Categories		X	Not applicable to this facility.
Regulation 61-62.68: Chemical Accident Prevention		X	This facility does not store or use any chemicals which exceed the 112(r) threshold quantity; Formaldehyde (solution) < 15,000 lbs, Ethylene Oxide < 10,000 lbs. Per information submitted, the Gilliland Plant currently stores on-site 50.18 lbs of formaldehyde, and ethylene oxide is not stored on-site. Thus both of these chemicals are less than the 112(r) thresholds.
Regulation 61-62.70: Title V	X		The facility's potential to emit (PTE) is less than 100. However, for operational flexibility purposes, the facility has requested to renew the current Title V operating permit.
Regulation 61-62.72: Acid Rain		X	Not Applicable
Regulation 61-62.96: Nitrogen Oxides (NO _x) Budget Trading Program		X	Not Applicable
Regulation 61-62.99: Nitrogen Oxides (NO _x) Budget Program Requirements for Stationary Sources Not In the Trading Program		X	Not Applicable
Federal Regulations (PROJECT ONLY)			
NSPS (Part 60) Subpart(s)		X	Not applicable to this process
NESHAP (Part 61) Subpart(s)		X	Not applicable to this process
MACT (Part 63) Subpart(s)		X	Not applicable to this facility because the Milliken - Gilliland Plant is not major for HAPs and because the Gilliland plant does not have sources which would be categorized as affected sources by the Textile MACT.



STATEMENT OF BASIS

Page 6 of 6

BAQ Engineering Services Division
 2600 Bull Street, Columbia, SC 29201
 Phone: 803-898-4123 Fax: 803-898-4079

Company Name: Milliken & Company – Gilliland Plant
Permit Number: TV-1520-0021

Permit Writer: Jo Anna Cunningham
Date: June 23, 2009

PROJECT REGULATORY APPLICABILITY REVIEW

Regulation	Applicable		Comments
	Yes	No	
Area Source Standards (Part 63) Subpart(s)		X	There are no area source MACTs, proposed or promulgated, for the processes at the Milliken – Gilliland Plant.
Compliance Assurance Monitoring (CAM) (Part 64)		X	There are no sources at this facility which require CAM because there are no control devices for any of the processes.

Questions & Answers

The Original Title V has a Standard 4 PM limit for Unit IDs 02 -Cooking Kettles and 03-Stabilon Machines. Based on the TV renewal application, Unit ID's 02 and 03 do not emit particulate matter.

Q1: Is it correct, that emissions units (ID 02 and ID 03) do not emit particulate matter ?

A: That is correct. Unit ID's 02 and 03 do not emit particulate matter.

Q2: Provide detailed clarification of how each of the Stabilon Machines are capable of independent, viable operation.

A: Each Stabilon machine runs independently of each other, and are all capable of making their own products. None of the Stabilon Machines exclusively depend on another Stabilon machine to make the finished product.

Q3: Once the yarn exists each of the Stabilon machines, is that the end of the process ?

A: All Stabilon machines run independent of each other and once the yarn exits the machine, it is the end of the process. For a small portion of our products, we do take product that has been run on one machine and put through another machine before it is finished. However, all of the machines are capable of making their own independent product in which once the yarn exits the machine, it is sent to the customer.

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.