

Air Permit Review

Permit Issue Date: PROPOSED

Region: Asheville Regional Office
County: Rutherford
NC Facility ID: 8100082
Inspector's Name: Mike Parkin
Date of Last Inspection: 04/22/2009
Compliance Code: 3 / Compliance - inspection

Facility Data			Permit Applicability (this application only)	
Applicant (Facility's Name): Trelleborg Coated Systems US, Inc - Grace Advanced Materials Facility Address: Trelleborg Coated Systems US, Inc - Grace Advanced Materials 714 Railroad Ave Rutherfordton, NC 28139 SIC: 3069 / Fabricated Rubber Products, Nec NAICS: 31332 / Fabric Coating Mills Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: 2D .1806 NSPS: NESHAP: Subpart OOOO PSD: PSD Avoidance: NC Toxics: 2D .1100 112(r): Other:	
Contact Data			Application Data	
Facility Contact	Authorized Contact	Technical Contact	Application Number: 8100082.06A Date Received: 03/31/2006 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 01954/T22 Existing Permit Issue Date: 03/9/2010 Existing Permit Expiration Date: 10/31/2014	
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Review Engineer: Jenny Kelvington Review Engineer's Signature: _____ Date: _____		Comments / Recommendations: Issue 01954/T23 Permit Issue Date: Permit Expiration Date:		

I. Purpose of Application

This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The initial Title V permit (Permit No. 01954T20) expired on December 31, 2006. Because the renewal application was received nine months prior to the permit expiration date, all terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied pursuant to 15A NCAC 2Q .0513(c). An expiration date of October 31, 2014 is listed in the current permit 01954T22 until the renewal decision is made.

As part of the permit renewal, Trelleborg has requested several sources be removed from the list of permitted sources because this equipment is no longer in use, no longer functions as permitted, or has been removed from the facility. The Asheville Regional Office (ARO) recommends keeping "inactive" sources on the permit or listing them as insignificant activities. For sources which has become insignificant pursuant to 15A NCAC 2Q .0503(8), ARO recommends adding to the list of insignificant activities. All sources no longer located at the facility will be deleted from the permit.

Based upon the facility's request and ARO's recommendations, the following sources will be listed on the permit as "inactive:" The equipment remains on site but not in use. Most of this equipment is associated with the vinyl coating operations which have been mothballed at the facility.

- **one natural gas-fired smoke dissipater (ID No. SD7; 10.0 million Btu/hr maximum heat input) installed on one natural gas/propane-fired spreader (ID No. 1; 5.0 million Btu/hr maximum heat input)**

- **one natural gas-fired smoke dissipater (ID No. SD3, 7.0 million Btu/hr maximum heat input) installed on one natural gas-fired spreader (ID No. 3; 4.5 million Btu/hr maximum heat input)**
- **one rubber mill (ID No. MILL1)**
- **one Bandbury mixer (ID No. BB1)**
- **one enclosed Ross mixer (ID No. RM5; vinyl mixer) equipped with bulk material handling system**

The following sources will be listed as “insignificant activities.” As presently configured, all criteria pollutants and all hazardous air pollutants potentially emitted from each source are less than 5 tons per year and 1000 pounds per year, respectively.

- **one natural gas-fired smoke dissipater (ID No. SD1; 7.0 million Btu/hr maximum heat input) installed on one natural gas-fired spreader (ID No. 2; 6.0 million Btu/hour maximum heat input);**
The coater on Spreader No. 2 has been removed but the dryer portion remains on-site but is not in use.
- **one natural gas/propane-fired smoke dissipater (7.0 million Btu/hr maximum heat input; ID No. SD6)**
This dissipater remains on the roof but no longer controls emissions from heater cure oven ID No. HC3 as currently permitted.
- **one rubber mill (ID No. MILL2)**
This mill remains onsite but is no longer controlled by a bagfilter or used to mix powders with rubber.
- **three rubber mills (ID Nos. MILL9 through MILL11)**
These mills remain onsite but are no longer controlled by a bagfilter or used to mix powders with rubber. They now supply calendar ID No. CAL2 with warm rubber and emit a small amount of VOCs.
- **one calender (ID No. CAL2) equipped with a dusting box**
This calendar is now controlled by a dust collector venting indoors instead of bagfilter ID No. BF2. It is a four head calendar used to mechanically press a rubber coating onto a fabric substrate and used to produce thin sheets of pure rubber. This activity emits a small amount of VOCs.

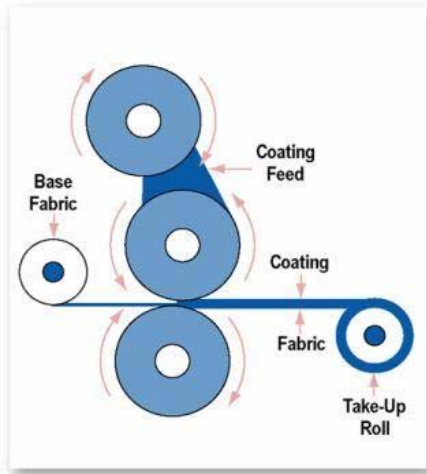
The following sources will be removed from the permit as they are no longer located at the plant site:

- **one natural gas/propane-fired hot air vulcanizer (ID No. HAV5; 5.0 million Btu/hr maximum heat input)**
- **two ribbon blenders (ID Nos. RB1 and RB2)**
- **one compound room (ID No. CR2)**

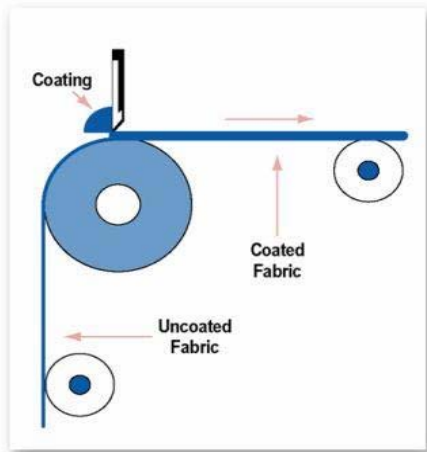
II. Facility Description¹

Trelleborg produces rubber coated fabrics. Several calendaring operations mechanically apply a rubber coating to fabric or form thin sheets of pure rubber. “In this form of coating, the rubber compound is formed into a film by the top two rolls and transferred to the fabric as it passes between the two lower rolls.” Rubber is also pressed in the calenders to reduce its thickness to allow better dispersion when solvent is added.

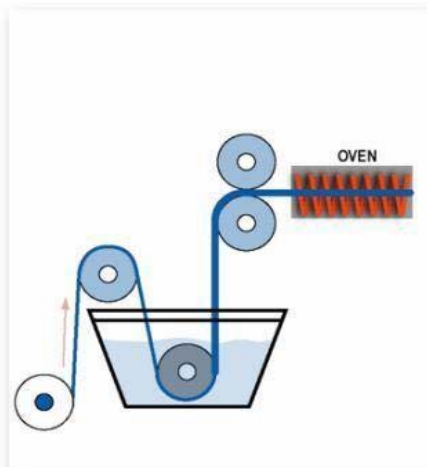
¹ *Note: The process diagrams and descriptions were obtained from Trelleborg’s website accessed 2/15/2010.*
<http://www.trelleborg.com/en/Engineered-Fabrics/Materials-and-Solutions/Capabilities/Coating-Methods/>



Rubber spreaders apply rubber dissolved primarily by toluene and methyl ethyl ketone (MEK). “In this operation, base fabric is passed beneath a stationary blade, then through a drying oven where solvent is driven off. One or more passes are used to build the coating to the desired thickness.”



The facility also coats fabric by saturation. “In this process, fabric is submerged in a dip tank and then passed between pad rollers to control the amount of coating.” This process is used primarily to pre-coat some fabrics prior to having additional rubber coating applied by a calendar.



VOC/HAP/TAP emissions from solvent mixing and coating operations are captured via carbon adsorption. Trelleborg is now producing most of the rubber-coated fabric using the calendering process. Use of the solvent coating spreaders has declined.

III. Compliance Status

Mr. Mike Parkin (ARO) inspected the facility on December 16, 2009. At the time of the inspection, the facility appeared to be meeting the requirements of Air Permit No. 01954T20 and the fabric coating MACT. Trelleborg has not received a Notice of Violation in the past five years. Continued compliance is expected.

IV. Proposed Changes/Permit Modifications

Changes to Trelleborg's current permit (Number **01954T21**) for renewal are summarized in the table below:

Page No.	Section	Description of Change(s)
Attachment II	Insignificant Activities	-reclassified seven emission sources and one control device as insignificant activities (I-2, I-CAL2, I-MILL2, I-MILL9, I-MILL10, I-MILL11, I-DWS and I-SD6) -added four existing insignificant activities to the list (I-RC1, I-RC2, I-RSM1, and I-BFR1)
Cover	-	-updated permit revision numbers and all dates -removed footnote regarding permit expiration date
All	Header	-updated permit revision number
3-4	1 (List of Emission Sources)	-grouped sources under specific processes or emission types -moved seven emission sources and one control device (2, CAL2, MILL2, MILL9, MILL10, MILL11, DWS, and SD6) to list of insignificant activities. -removed four emissions sources (HAV5, RB1, RB2, and CR2)
5	2.1.A	-combined Ross mixers and spreader 12 under Section 2.1.A -added reference to 15A NCAC 2D .0958, 2D .1806, 2D .1100, and 2D .1111 and 2Q .0317 in the table of standards and limitations
12	2.1.D	-combined Sections 2.1.E and 2.1.F into this section -eliminated inactive, insignificant, and removed sources (1, 2, 3, and HC3) -added reference to 15A NCAC 2D .0958, 2D .1806, and 2Q .0317 in the table of standards and limitations
13	2.1.D.3.d	-reduced VE observation frequency from daily to once a month.
14	2.1.E	-renumbered Section 2.1.G as 2.1.E -eliminated inactive, insignificant, and removed sources (MILL1, MILL2, MILL9-11, BB1, CAL2, RB1, RB2, RM5, and CR2)
15	2.1.E.2.c.	-reduced VE observation frequency from daily to once a month.
16	2.1.E.3	-added 15A NCAC 2D .1100 limit for arsenic emissions.
17	2.2.A.2	-added 15A NCAC 2D .1100 limits for methyl ethyl ketone and toluene emissions
17	2.2.A.3	-added odor prohibition and control requirements under 15A NCAC 2D .1806
18	2.2.A.4	-moved the PSD avoidance condition (15A NCAC 2Q .0317) to facility wide sources. -changed frequency of VOC emission calculations from daily to once a month. -changed reporting frequency from quarterly to twice a year.
18-20	2.2.B	-added multiple emissions sources section for web coating operations -added MACT Subpart OOOO requirements for HAP emissions from web coating operations.

V. Permitted Sources, Emissions and Regulatory Review

- A. Four Ross mixers (ID Nos. RM1 through RM4) with one horizontal six-bed carbon adsorption unit (ID No. CD-SRS1), one vertical two-bed carbon adsorption unit (ID No. SRS2), and a cartridge-type filter (ID No. BF1) Spreader (ID No. 12) with horizontal six-bed carbon adsorption unit (ID No. CD-SRS1) and a vertical two-bed carbon adsorption unit (ID No. SRS2)**

The Ross Mixers blend rubber and solvent together to a uniform consistency. Spreader 12 is a knife over roll spreader which coats woven fabric with rubber or silicon. All of these sources emit VOCs and HAPs. The mixers also emit particulates.

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter ^a	$E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
volatile organic compounds ^{a,b}	(1) Operate and maintain a cover on each piece of coating mix preparation equipment (2) Operate and maintain a total enclosure around the coating operation. (3) Reduce VOC emissions to the atmosphere from the mixing and coating operations by at least 95 percent.	15A NCAC 2D .0524 (40 CFR 60, Subpart VVV)
volatile organic compounds ^{a,b}	VOC work practice standards – <i>See Section V.F.</i>	15A NCAC 2D .0958
volatile organic compounds	Facility wide emissions less than 250 tons per consecutive twelve (12) month period - <i>See Section V.F.</i>	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530)
hazardous air pollutants	0.12 pounds emitted after add-on control per pound of solids applied– <i>See Section V.G.</i>	15A NCAC 2D .1111 (40 CFR 63, Subpart OOOO)
total air pollutants ^{a,b}	State Enforceable Only – <i>See Section V.F.</i> Facility wide TAP limits for AAL compliance [Completion of last MACT modeling requirements pursuant to 15A NCAC 2Q .0705]	15A NCAC 2D .1100

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

This regulation limits particulate matter (PM) emissions from the four Ross Mixers based on the weight of the material processed according to the equation: $E = 4.10 \times P^{0.67}$, where E = allowable emission rate in lbs/hr and P = process weight in tons/hr, for P < 30 tons/hr. The mixers operate in a batch mode at a maximum process rate of 200 gallons per hour and achieve compliance with the particulate limit through cartridge-type filter control. The facility visually inspects the filter and ductwork to ensure proper operation. Continued compliance is expected.

2. 15A NCAC 2D .0524 “NEW SOURCE PERFORMANCE STANDARDS” 40 CFR Part 60 Subpart VVV

The four mixers and one spreader are subject to NSPS Subpart VVV “Standards of Performance for Polymeric Coating of Supporting Substrate Facilities.” This standard requires the facility to reduce volatile organic compound (VOC) emissions from affected sources by **95 percent**. Each mixer is covered and controlled in accordance with NSPS. VOC emissions occur when the mixers are being filled. Closed condenser coils located on top of each mixer collect solvent vapors back into the mixers. After mixing is complete, the batch empties into 55-gallon drums and is transported to the spreaders. The spreaders and mixers are enclosed to capture volatile emissions. Spreader No. 12 is located in a primary enclosure and also equipped with a secondary enclosure designed to lock out its emissions during silicon coating application. A computer system logs differential air pressure at three locations from outside to inside of the primary enclosure to ensure EPA

Method 204 total enclosure requirements are met. The primary enclosure is vented to carbon adsorption unit SRS1 or SRS2 for control. Emissions from the silicon coating do not require control and must be diverted to prevent damage to the carbon beds.

SRS1 (carbon beds 1 through 6) are equipped with one inlet continuous emissions monitor (CEM) and one outlet CEM for measuring hydrocarbon concentrations and determining adsorber efficiency. SRS2 (carbon beds 7 and 8) is equipped with one CEM which reads both inlet and outlet hydrocarbon concentrations. As required by NSPS, a series of point measurements are made by FID gas analyzers and averaged to calculate adsorber efficiency. Samples are taken every two minutes and 30 sample readings are kept in queue on the computer. A bed is set to be taken offline for the purge cycle when the outlet concentration reaches 75 ppm to 100 ppm. However, if a bed has spent a substantial amount of time online and has not reached the 75 ppm outlet concentration, it will be purged anyway. Outlet concentrations may exceed 75 ppm when one bed is waiting for the other bed to complete the purge cycle. Monthly calibrations of the analyzer are performed to ensure accurate readings. The facility maintains a log of daily average efficiency of the carbon beds, calibrations, maintenance and repairs, and CEM downtime. Mike Parkin noted in the December 2009 inspection report that the logs of daily efficiencies were complete and the latest recorded three day average efficiency was 98.2%. Continued compliance is expected.

B. Two natural gas/propane/No. 2 fuel oil-fired boilers (ID Nos. B2 and B3)

These sources include one natural gas/propane/No. 2 fuel oil-fired Cleaver Brooks boiler (14.7 million Btu per hour maximum heat input; **ID No. B2**) manufactured in 1959 and one natural gas/propane/No. 2 fuel oil-fired Superior boiler (13.8 million Btu per hour maximum heat input; **ID No. B3**) manufactured in 1970. They provide hot water and steam for the facilities processes. The maximum steam pressure for each boiler is 150 PSI. The facility has no fuel oil storage tanks; therefore, it is unlikely that any boilers will ever fire on No. 2 fuel oil.

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	0.39 pounds per million Btu heat input	15A NCAC 2D .0503
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
visible emissions	40 percent opacity	15A NCAC 2D .0521
hazardous air pollutants	Best Combustion Practices	15A NCAC 2D .1109 (CAA 40 CFR 112j)

Regulatory Review

- 1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
Emissions of particulate matter from the combustion of natural gas, propane, and No. 2 fuel oil that are discharged from these two boilers into the atmosphere shall not exceed **0.39 pounds per million Btu heat input**. No monitoring/ recordkeeping/ reporting is required for particulate emissions from the firing of natural gas, propane, and No. 2 fuel oil as these fuels result in low particulate emissions. Compliance is indicated for this condition.
- 2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
Emissions of sulfur dioxide from these boilers shall not exceed 2.3 pounds per million Btu heat input. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from natural gas, propane and No. 2 fuel oil as these fuels result in low sulfur dioxide emissions. Compliance is indicated for this condition.
- 3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**
Visible emissions from the boilers shall not be more than **40 percent opacity** when averaged over a six-minute period. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas, propane, or No. 2 fuel oil as these fuels result in low VE emissions. Compliance is expected.
- 4. 15A NCAC 2D .1109: CAA 112(j); CASE-BY-CASE MACT for Boilers and Process Heaters**

The Permittee shall use best combustion practices when operating the affected sources (**ID Nos. B2 and B3**). The initial compliance date for this work practice standard and the associated monitoring/recordkeeping/reporting requirements is **March 9, 2013**. Compliance is expected.

C. Natural gas/propane/No. 2 Fuel oil-fired hot oil heater (ID No. H1) and natural gas/propane/No. 2 fuel oil-fired boiler (ID No. B5)

These sources include one natural gas/propane/No. 2 fuel oil-fired Hurst boiler (14.7 million Btu per hour maximum heat input; **ID No. B5**) which provide process steam and hot water to various operations and one natural gas/propane/No. 2 fuel oil-fired hot oil boiler (12.5 million Btu per hour maximum heat input; **ID No. H1**) which provides hot oil to the dryer on Spreader No. 12. The maximum heat input rate for H1, previously listed as 10 million Btu per hour, has been corrected in the renewal permit.

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	(ID No. H1 only) 0.37 pounds per million Btu heat input (ID No. B5 only) 0.39 pounds per million Btu heat input	15A NCAC 2D .0503
visible emissions	20 percent opacity	15A NCAC 2D .0521
sulfur dioxide	(Firing No. 2 fuel oil only) No. 2 fuel oil sulfur content shall not exceed 0.5 percent by weight. (Firing natural gas or propane only) 2.3 pounds per million Btu heat input	15A NCAC 2D .0524 (40 CFR 60, Subpart Dc) 15A NCAC 2D .0516
hazardous air pollutants	Best Combustion Practices	15A NCAC 2D .1109 (CAA 40 CFR 112j)

Regulatory Review

- 1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
Emissions of particulate matter from the combustion of natural gas, propane, and No. 2 fuel oil that are discharged from boiler B5 and hot oil heater H1 into the atmosphere shall not exceed **0.39 and 0.37 pounds per million Btu heat input**, respectively. No monitoring/ recordkeeping/ reporting is required for particulate emissions from the firing of natural gas, propane, and No. 2 fuel oil as these fuels result in low particulate emissions. Compliance is indicated for this condition.
- 2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
Emissions of sulfur dioxide from the firing of natural gas and propane in these combustion sources shall not exceed **2.3 pounds per million Btu heat input**. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from natural gas and propane as these fuels result in low sulfur dioxide emissions. Compliance is indicated for this condition.
- 3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**
Visible emissions from these combustion sources shall not be more than **20 percent opacity** when averaged over a six-minute period. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas, propane, or No. 2 fuel oil as these fuels result in low VE emissions. Compliance is expected.
- 4. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS, 40 CFR 60 SUBPART Dc**
40 CFR Part 60, Subpart Dc applies to boilers that are constructed, modified, or reconstructed after June 9, 1989 and have a maximum design heat input capacity ≥ 10 MMBtu/hr and < 100 MMBtu/hr. Both boilers are subject to NSPS and the associated fuel oil certification requirements. The maximum sulfur content of any fuel oil received and fired in the Subpart Dc-affected boilers shall not exceed **0.5 percent by weight**. To demonstrate compliance with this standard, the Permittee is required to retain copies of each fuel supplier certification, including the sulfur content of the oil (in percent by weight) and maintain records of the amounts of each fuel combusted during each month. As of the most recent inspection in December 2009, boiler B5 was not yet installed and boiler H1 had no

oil line and had not yet burned No. 2 fuel oil. Because the facility has no fuel oil storage tanks; it is likely that these boilers will never fire on No. 2 fuel oil and not become subject to the fuel supplier certification requirements. Compliance is expected.

5. 15A NCAC 2D .1109: CAA 112(j); CASE-BY-CASE MACT for Boilers and Process Heaters

The Permittee shall use best combustion practices when operating the affected sources (**ID Nos. H1 and B5**). The initial compliance date for this work practice standard and the associated monitoring/recordkeeping/reporting requirements is **March 9, 2013**. Compliance is expected.

D. Two natural gas/propane-fired hot air vulcanizers (ID Nos. HAV1 and HAV2)

One natural gas/propane-fired heater cure oven (ID No. HC4) with natural gas/propane-fired smoke dissipator (ID No. SD4)

One natural gas/propane-fired hot air vulcanizer (ID No. HAV4)

These sources include three natural gas/propane-fired hot air vulcanizers (5.0 million Btu per hour maximum heat input, each; **ID Nos. HAV1, HAV2, and HAV4**) and one heater cure oven (5.0 million Btu per hour maximum heat input; **ID No. HC4**) equipped with one natural gas/propane-fired smoke dissipator (7.0 million Btu per hour maximum heat input; **ID No. SD4**). Coated fabric is cured in the heater cure oven and vulcanizers to complete cross-linking, making a permanent bond between the coating and fabric. The primary difference between the heater cure oven and the vulcanizers is that fabric is draped using a frame when it is put into a heater cure oven and fabric is in rolls when it is put into a vulcanizer. No HAP emissions other than those from the combustion of natural gas or propane occur from these sources.

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	(For P ≤ 30 tons/hr) $E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
visible emissions	20 percent opacity for sources (ID Nos. HC4, and HAV4)	15A NCAC 2D .0521
	40 percent opacity for sources (ID Nos. HAV1, and HAV2)	
volatile organic compounds	VOC work practice standards– <i>See Section V.F.</i>	15A NCAC 2D. 0958
volatile organic compounds	Facility wide emissions less than 250 tons per consecutive twelve (12) month period – <i>See Section V.F.</i>	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530)

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

This regulation limits particulate matter (PM) emissions based according to the weight of the material processed according to the equation: $E = 4.10 \times P^{0.67}$, where E = allowable emission rate in lbs/hr and P = process weight in tons/hr, for P < 30 tons/hr. Particulate emissions have consistently remained well below the allowable rates. Continued compliance is expected.

2. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

Emissions of sulfur dioxide from the firing of natural gas and propane in these combustion sources shall not exceed 2.3 pounds per million Btu heat input. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from natural gas and propane as these fuels result in low sulfur dioxide emissions. Compliance is indicated for this condition.

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS.

Visible emissions from hot air vulcanizers (**ID Nos. HAV1 and HAV2**) shall not be more than **40 percent opacity** when averaged over a six-minute period. Visible emissions from emission sources (**ID Nos. HAV4 and HC4**) shall not be more than **20 percent opacity** when averaged over a six-minute period. To assure compliance with these standards, the facility has been observing visible emissions from each of these sources on a daily basis and has consistently remained in compliance. At the time of the most recent DAQ inspection, no visible emissions were observed from the two sources in operation (HAV1 and HAV2). Additionally, no visible emissions have been observed by the Permittee from the heat cure oven and vulcanizers during the past 12 months. With this permit renewal, the VE monitoring frequency will be reduced from daily to once per month. Continued compliance with the opacity limit is expected.

E. Six rubber mills (ID Nos. MILL3 through MILL8) with a cartridge-type bagfilter (ID No. BF1; 24,440 ft² filter surface area)

Rubber pelletizer (ID No. RP1) with a cartridge-type bagfilter (ID No. BF1; 24,440 ft² filter surface area)

Three dusters (ID Nos. D1 through D3) with a cartridge type bagfilter (ID No. BF2; 37,440 ft² filter surface area)

Compound room (ID Nos. CR1) with a cartridge type bagfilter (ID No. BF2; 37,440 ft² filter surface area)

The pelletizer chops rubber into small pieces to enable more complete mixing when solvent is added. The rubber mills blend base rubber material with fillers, extending oils, pigments, curatives, and antioxidants. The use of the rubber mills has declined significantly since the initial Title V permit was issued. In late 2007 the facility began to purchase premixed rubber compounds already containing additives² such as antimony trioxide and zinc oxide powders. This operational change has allowed emission sources (**ID Nos. BB1 and MILL1**) to be removed from service.

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521
arsenic	Affected Emission Point: Bagfilter ID No. BF2 State Enforceable Only 0.278 pounds per year	15A NCAC 2D .1100

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

This regulation limits particulate matter (PM) emissions based according to the weight of the material processed according to the equation: $E = 4.10 \times P^{0.67}$, where E = allowable emission rate in lbs/hr and P = process weight in tons/hr, for P < 30 tons/hr. Compliance is achieved with the proper operation of the two bagfilters.

Bagfilter emissions have decreased due to reduced particulate throughput and less sources being controlled by these devices. For 2009, particulate emissions from all of the above sources were only 0.029 tons. ARO anticipates particulate emissions to continue to decrease due to removal of additional particulate sources and the venting of several operations indoors.

2. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

This regulation limits visible emissions from the above sources to no more than 20 percent opacity. Bagfilter **BF1** was observed in operation during the most recent inspection with no visible emissions from its exhaust. The pressure drop was 0.8 inches of water and the set point for the pulse jet cleaning system was 2 inches of water. Bagfilter **BF2** was not in operation during the last inspection but has been observed operating with pressure drops ranging from 0.8 to 5.4 inches of water. Like bagfilter **BF1**, **BF2's** pulse jet cleaning system operates only when the pressure drop exceeds 2 inches. The bags last 2 to 5 years. As bags age the pressure drop increases and the pulse jet system operates on a more continuous basis until bags are replaced. Just prior to bag replacement, some

² The metal powder additives contain arsenic.

visible emissions may occur. Bagfilter **BF2** had problems with visible dust emissions a number of years ago. Corrective measures, like doubling the gaskets, have improved its operation. Both bagfilters have operated for the past 12 months with no visible emissions. Continued compliance is expected. Therefore, the VE monitoring frequency will be reduced from daily to monthly.

State Enforceable Only

3. TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING REQUIREMENT

Pursuant to 15A NCAC 2D .1100 "Control of Toxic Air Pollutants", and in accordance with the application for an air toxic compliance demonstration approved March 25, 2009, arsenic emissions from bagfilter (**ID No. BF2**) shall not exceed the following modeled limit:

Toxic Air Pollutant	Emission Limit
arsenic	0.278 pounds per year

The modeled rate reflects arsenic emissions from the worst case product mix. The maximum impact to air quality at the allowed emission rate is 91% of the annual acceptable ambient level (AAL). Compliance is expected.

F. Facility Wide Emission Sources

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
volatile organic compounds	VOC work practice standards	15A NCAC 2D .0958
toxic air pollutants	State Enforceable Only Facility wide TAP limits for AAL compliance [Completion of last MACT modeling requirements pursuant to 15A NCAC 2Q .0705]	15A NCAC 2D .1100
odors	State-enforceable only Odorous emissions must be controlled.	15A NCAC 2D .1806
volatile organic compounds	less than 250 tons per consecutive twelve (12) month period	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530)

1. 15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS

This condition requires work practices to be followed when using VOCs and the immediate implementation of corrective measures when these practices are not followed, monthly visual inspections of all operations and processes utilizing VOCs during normal operations, recordkeeping, and semi-annual reporting. Trelleborg performs weekly inspections of VOC use and records inspection findings on two check sheets including one covering tanks and one for the various VOC processes. Trelleborg appears to be following all applicable work practices. Continued compliance is expected.

State Enforceable Only

2. TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING REQUIREMENT

Pursuant to 15A NCAC 2D .1100 "Control of Toxic Air Pollutants" and in accordance with the application for an air toxic compliance demonstration, approved March 25, 2009, the modeled emission rates in the following table, which are based on a facility wide worst case-single source modeling scenario, shall not be exceeded.

Toxic Air Pollutant	Facility Wide Emission Limit
methyl ethyl ketone	137.9 pounds per hour 3309 pounds per day
toluene	137.9 pounds per hour 3309 pounds per day

The modeled rates reflect the worst case emission rates for methyl ethyl ketone (MEK) and toluene. Their maximum 1-hour impact is no more than 11% of the AAL and their maximum 24-hour impact is no more than 56% of the AAL. The Fabric Coatings MACT limits toluene/other HAP emissions to no more than 0.12 pounds per pound of solids applied and facility wide TAP emissions to below the above limits. Therefore, the monitoring and recordkeeping conducted for MACT compliance, as specified in Section V.G.1 below, ensures compliance.

State-Only Requirement

3. 15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary. There have been no substantiated complaints and no offensive odors have been detected during facility inspections during the past five years. Continued compliance is expected.

15A NCAC 2Q .0317: AVOIDANCE CONDITIONS

4. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

To avoid PSD, the permit currently limits VOC emissions from facility wide emission sources to less than 250 tons per year and requires daily calculation of VOC emissions from all VOC emission sources at the facility. The main sources of VOC emissions are the mix room and the spreaders, which are controlled by carbon adsorption. To track VOC emissions, the material delivered via drums from the mix room to the spreaders is weighed before and after use to quantify VOC loss and the carbon absorbers are continuously monitored to determine control efficiencies. In addition, solvent transfer meter readings for pump ID No. 2004 (MEK line) and pump ID No. 2005 (toluene line) are logged. Data is entered into a spreadsheet daily. The pounds of each product mixed, the yards of each product run on the spreaders, and the efficiencies of the solvent recovery system are recorded.

The available emissions inventories (2000-2008) report annual VOC emissions at rates ranging from 5.6 to 14.5 tons per year as shown below:

Year	VOC'S (tpy)
2000	13.2
2001	14.5
2002	13.0
2003	10.6
2004	10.5
2005	12.4
2006	9.5
2007	5.6
2008	11.0

Because actual emissions have remained well below the permit limit, daily monitoring and quarterly reporting will no longer be required for PSD avoidance. The monitoring frequency will be reduced to once per month and reporting will change to twice a year. Continued compliance is expected.

G. Four Ross mixers (ID Nos. RM1 through RM4), spreader (ID No. 12), six rubber spreaders (ID Nos. 4 through 9), Baker Perkins mixer (ID No. BP1), seven vertical churns (ID Nos. VC1 through VC7), three Cowels mixers (ID Nos. CM1 through CM3, each with one horizontal six-bed carbon adsorption unit (ID No. CD-SRS1) and one vertical two-bed carbon adsorption unit (ID No. SRS2)

Spreader No. 4 is a saturator type coater, the fabric runs through a dip trough. The remainder of the spreaders use knife over roll coating applicators. Spreader No. 4 is used to pre-coat some fabrics prior to having additional rubber coating applied by the calendaring operations. The Baker Perkins mixer and the churns blend rubber and solvent to a uniform consistency.

Regulated Pollutant	Limits/Standards	Applicable Regulation
hazardous air pollutants	0.12 pounds emitted after add-on control per pound of solids applied	15A NCAC 2D .1111 (40 CFR 63, Subpart OOOO)

**1. 15A NCAC 2D .1111 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
40 CFR Part 63 Subpart OOOO “NATIONAL EMISSIONS STANDARD FOR HAZARDOUS AIR POLLUTANTS: PRINTING, COATING, AND DYEING OF FABRICS AND OTHER TEXTILES”**

The fabric coating MACT, Subpart OOOO applies to the facility’s existing web coating operations. Trelleborg has chosen to comply with this MACT using the emission limit with add-on controls option which limits HAP emissions to 0.12 lbs HAP per lbs of solid coating applied to the fabric. To measure the HAP emission rate, the facility uses FID gas analyzers to determine the inlet and outlet concentrations for the carbon adsorption systems. A spreadsheet is used to track all HAP emissions and solids applied in order to document compliance. Data column headers in the spreadsheet are:

- Date
- Product #
- Pounds used
- Location used
- Converted wt
- Dry wt
- Code wt
- HAP-TAP applicable
- % in compound
- % solids
- Pounds HAP
- Pounds solids
- Non SRS
- SRS daily efficiency
- HAP pounds emitted
- Lbs HAP emissions/lbs solids applied.

To ensure HAP emissions are captured for control, the facility utilizes differential pressure transmitters to monitor and record that the rooms are kept at a negative pressure.

Trelleborg was required to comply with the MACT by May 29, 2006 and has reported their MACT compliance status in a quarterly report since January 2006. All MACT compliance status reports have shown HAP emissions well below the 0.12 lbs HAP emitted per lb solids applied limit. The 12-month rolling average for the period ending December 2009 was 0.0152 lbs HAP emitted per lb solids applied. The highest one month HAP emission rate occurred in June 2008 at 0.033 lbs HAP emitted per lb solids applied. Compliance is clearly demonstrated.

For the renewal, the following specific MACT requirements for web coating operations using the emission limit with add-on controls option are added to the permit.

**1. 15A NCAC 2D .1111 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
40 CFR Part 63 Subpart OOOO “NATIONAL EMISSIONS STANDARD FOR HAZARDOUS AIR POLLUTANTS: PRINTING, COATING, AND DYEING OF FABRICS AND OTHER TEXTILES”**

Applicability

- a. The web coating operations shall comply with all requirements of 15A NCAC 2D .1111 “Maximum Achievable Control Technology” and 40 CFR Part 63 Subpart OOOO “National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles”[40 CFR § 63.4280].

Definitions [40 CFR § 63.4371]

- b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR § 63.4371 shall apply.

Regulated Materials [40 CFR § 63.4282]

- c. This Subpart requires the Permittee to limit organic hazardous air pollutant (HAP) emissions. Organic HAP shall have the meaning as defined in 40 CFR § 63.4371 and 40 CFR § 63.4282(a).

40 CFR Part 63 Subpart A “General Provisions”

- d. The Permittee shall comply with the requirements of 40 CFR § 63 Subpart A “General Provisions” according to the applicability of Subpart A to such sources, as identified in Table 3 of 40 CFR Part 63, Subpart OOOO.

Summary of Emission Limits [40 CFR 63.4300(a)(3)]

- e. For web coating operations, the Permittee shall demonstrate continuous compliance with all applicable requirements of 15A NCAC 2D .1111 "Maximum Achievable Control Technology" and 40 CFR Part 63 Subpart OOOO "National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles" as an existing source. The Permittee has chosen the option of limiting organic HAP emissions with add-on controls as allowed in Table 1 to 40 CFR § 63 Subpart OOOO for existing affected sources in the Printing, Coating and Dye of Fabrics and Other Textiles Source Category. [40 CFR § 63.4290]
- i. The Permittee shall limit organic HAP emissions to the atmosphere to no more than 0.12 pounds of organic HAP per pound of solids applied in the web coating operations.
 - ii. The Permittee shall comply with the startup, shutdown, and malfunction plan at all times the above emission limit is exceeded.
 - iii. The Permittee shall be in compliance with the operating limits of emission capture systems and control devices for the web coating operations as required by 40 CFR § 63.4292 for all averaging times.
 - iv. The Permittee shall be in compliance with the work practice standards in 40 CFR § 63.4293 at all times.

Testing [15A NCAC 2D .1111]

- f. If emissions testing is required, the Permittee shall comply with the general requirements for performance tests contained in 40 CFR § 63.4360. If the results of this testing are above the limit given in Section 2.2 B.1.e.i above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D 1111.

Monitoring [15A NCAC 2Q .0508(f)]

- g. The Permittee shall install, operate, and maintain a continuous parameter monitoring system (CPMS) for each carbon adsorption system (**ID Nos. CD-SRS1 and SRS2**), which measures the exiting organic HAP emission rate, in accordance with 40 CFR § 63.4364.
- h. The Permittee shall operate, monitor, and maintain the emission capture system in accordance with 40 CFR § 63.4361 and the DAQ approved monitoring plan. The monitoring shall ensure the capture system bypass line for spreader (**ID No. 12**) is in a closed position at all times organic HAP containing materials are used.
- i. The Permittee shall follow and maintain a written startup, shutdown, and malfunction plan, including the plans for corrective actions in the event of a malfunction of the emission capture system or a carbon adsorption system, according to the provisions in §63.6(e)(3).
- j. The Permittee shall demonstrate that, based on the amount of solids applied in the web coating operations, the effectiveness of the organic HAP emission capture system, and the controlled organic HAP emission rate, the organic HAP emission rate for the web coating operation is less than or equal to the emission limit in Section 2.2 B.1.e.i above, calculated as a rolling 12-month average emission rate. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the emission limit is exceeded.
- k. The Permittee shall demonstrate that all emission capture systems and control devices for the web coating operations meet the operating limits required in §63.4292 and meet the work practice standards required in §63.4293. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if an operating limit is exceeded or if a required work practice standard is not followed.

Recordkeeping [15A NCAC 2Q .0508(f)]

- l. The Permittee shall collect and keep a record of all data and information, as applicable in 40 CFR § 63.4312.
- m. The records shall be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1). Where appropriate, the records may be maintained as electronic spreadsheets or as a database.
- n. As specified in 40 CFR § 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
- o. The Permittee shall keep each record on site for at least two (2) years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). The Permittee may keep the records off site for the remaining three (3) years.[40 CFR § 63.4312 and 40 CFR § 63.4313]
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the above records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- p. The Permittee shall submit semiannual compliance reports for web coating operations according to the requirements of paragraphs (a)(1) through (a)(4) of 40 CFR § 63.4311. These compliance reports shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and postmarked on or before July 30 of each calendar year for the preceding six-month period between January and June. Each report shall include a summary of all monitoring and recordkeeping activities and clearly identify all instances of deviations from the requirements of this permit.
- q. If a deviation from the emission limitation, including any period when emissions bypassed the add-on control device and were diverted to the atmosphere, occurs during the reporting period, the Permittee shall include all applicable information specified in CFR § 63.4311 (a)(7) in the semiannual compliance report.
- r. The Permittee shall submit a summary report of monitoring and recordkeeping activities, clearly identifying all instances of deviations from the requirements of this permit with the semiannual reports.

VI. NSPS, NESHAPS, PSD, 112(r), CAM, Air Toxics

NSPS

The Permittee is subject to two New Source Performance Standards (NSPS) requirements. NSPS Subpart Dc “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units” applies to the existing hot oil heater and the new boiler. Rubber Spreader No. 12 and Ross Mixers Nos. 1 through 4 are subject to NSPS Subpart VVV “Standards of Performance for Polymeric Coating of Supporting Substrates Facilities”

NESHAPS/MACT

All coating operations at this facility are subject to National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR 63 Subpart OOOO “Printing, Coating and Dyeing of Fabrics and Other Textiles.” This standard requires the use of complaint coatings or HAP emissions control and became effective May 29, 2006. The facility has chosen to comply following the “Emission Rate with Add-On Controls” option in the MACT. The organic HAP emission rate, calculated as a 12-month rolling average, for coating, printing, thinners, and cleaning materials (including emission capture and control efficiency) must not exceed the HAP limit of 0.12 pounds per pound of solids applied. The most recent (January 2010) compliance report shows the maximum 12-month average coating application was less than 0.02 pounds HAP emitted per pounds of solids applied in 2009. Continued compliance is expected.

PSD

The Permittee is a minor PSD source with a sitewide VOC limit of less than 250 ton per year.

112(r)

The facility is not currently subject to Section 112(r) of the Clean Air Act as it does not store any of the regulated substances in quantities above the thresholds in the Rule.

CAM – 40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility, that have pre-controlled emissions above the major source threshold, use a control device to meet an applicable standard, and are not subject to emission limitations or standards proposed after November 15, 1990. Although potential uncontrolled VOC emissions from the coating operations are above the major source threshold, CAM does **not** apply since the Fabric Coating MACT applies.

Air Toxics

The permit establishes site wide emission limits for arsenic, methyl ethyl ketone, and toluene at the modeled facility wide potential emission rates for these toxic air pollutants.

VII. Public Notice/EPA and Affected State(s) Review

Pursuant to 15A NCAC 2Q .0521, a notice of the DRAFT Title V Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. The Western NC Regional Air Quality Agency and the State of South Carolina are affected areas within 50 miles of the facility.

VIII. Conclusions, Comments, and Recommendations

The ARO was provided a draft permit/permit review to review on March 4, 2010. Mr. Mike Parkin, ARO, recommends permit issuance.

