Facility Name: **The Goodyear Tire & Rubber Company**
City: Social Circle
County: Walton
AIRS #: 04-13-29700036 Application #: 43846

Date SIP Application Received: July 17, 2017
Date Title V Application Received: July 17, 2017
Permit No: 3011-297-0036-V-08-2

Program	Review Engineers	Review Managers
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TOXICS	N/A	N/A
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Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Existing Permits

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Description
3011-297-0036-V-08-0	January 16, 2015	Title V Renewal permit
3011-297-0036-V-08-1	December 15, 2015	The installation of eleven new ring tread presses

B. Regulatory Status

1. PSD/NSR/RACT

This facility is classified as a major source of air emissions according to the new source review (NSR) prevention of significant deterioration of air quality (PSD) regulations. The facility is major for volatile organic compounds because the potential to emit (PTE) VOC is greater than the PSD major source threshold of 250 tons per year (ton/yr).

Note: The manufacture of rubber treads is not one of the 28 named categories whose major source threshold is 100 ton/yr.

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			✓
$PM_{2.5}$	Yes			✓
SO_2	Yes			✓
VOC	Yes	✓		
NO_x	Yes			✓
CO	Yes			✓
TRS	N/A			
H_2S	N/A			
Individual HAP	Yes	✓		

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
Total HAPs	Yes	✓		

II. Proposed Modification

A. Description of Modification

The facility is switching from solvent-based to water-based cement. A substantial fraction of the facility's VOC emission rate is due to solvent-based cement, resulting in the use of the Thermal Oxidizer (TO01) or the Regenerative Thermal Oxidizer (RTO2) to mitigate VOC emission. The VOC emission rate from water-based cement, is in contrast, very small and does not need TO01 or RTO2 to mitigate VOC emission. While water-based cement is clearly a better environmental alternative with respect to VOC emissions, product quality and safety are the facility's predominant concerns with respect to the long-term success of the water-based cement application. The facility anticipates a long-term phase-out of the existing solvent-based cementing operation and requires flexibility to operate using either the water-based or the solvent-based cements.

The facility plans to begin the conversion to the water-based cement application process after a trial of the cement in 2017. The facility will route emissions from the use of the water-based cement through the TO01 or the RTO2 until each cementer has been converted to water-based cementing.

B. Emissions Change

Note that in addition to emissions from the cementing process itself, the facility has quantified emissions from usage of a jamming solvent and splicing. Jamming solvent is used only on the Ring Tread Cementer No. 1, and emissions are conservatively calculated based on the material density and a VOC content of 100 percent. Solvent-based cement is used for splicing operations, and VOC emissions are quantified from material VOC content and the solvent-based cement usage. Note that a cement roll cleaner is used during the solvent-based cementing operations; however, the roll cleaner is not necessary during the water-based cementing operations.

Water-Base Cementing Emissions

Process	Uncontrolled VOC Emissions		
	(lb/hr)	(lb/yr)	(ton/yr)
Flat Tread Cementing[1]	0.16	1,422	0.71
Ring Tread Cementing[2]	0.02	215	0.11
Jamming Solvent[3]	0.57	5,029	2.51
Total Flat Tread Cementer No. 1 Emissions[4]	0.07	620	0.31
Total Flat Tread Cementer No. 2 Emissions[4]	0.09	802	0.40
Total Ring Tread Cementer No. 1 Emissions[5]	0.06	5,244	2.62
Total Cementer Releases	0.76	6,666	3.33

Worst-Case (solvent-Based) Cementing Emissions

Process	Controlled VOC Emissions		
	(lb/hr)	(lb/yr)	(ton/yr)
Flat Tread Cementing	35.98	315,210	158
Ring Tread Cementing	11.46	100,406	50.20
Total Flat Tread Cementer No. 1 Emissions	15.89	139,214	69.61
Total Flat Tread Cementer No. 2 Emissions	20.09	175,996	88.00
Total Ring Tread Cementer No. 1 Emissions	11.46	100,406	50.20
Total Cementer Releases	47.44	415,615	208

Table 3: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM	No		
PM_{10}	No		
$PM_{2.5}$	No		
SO_2	No		
VOC	Yes	(204.67)	(204.67)
NO_x	No		
CO	No		
TRS	N/A		
H_2S	N/A		
Individual HAP	No		
Total HAPs	No		

[1] Flat tread cement emissions from use of water-based cement. Cement emissions = Operating rate of Flat Tread Cementers * Flat Tread Cement Emission Rate * 8,760 hours per year. All emissions are uncontrolled.
[2] Ring tread cement emissions from use of water-based cement. Operating rate of Ring Tread Cementer * Ring Tread Cement Emission Rate * 8,760 hours per year. All emissions are uncontrolled.
[3] Jamming solvent used is Kanjine. Emissions = Chemical Speciation * Operating Rate of Ring Tread Cementer * Jamming Solvent Emission Rate * 8,760 hours per year. All emissions are uncontrolled.
[4] Total emissions are the portion of the total flat tread cementing emissions apportioned to each cementer (based on operating rates).
[5] Total emissions are the sum of the ring tread cementing emissions and the jamming solvent emissions.

C. PSD/NSR Applicability

PSD is not triggered as the facility-wide VOC emission rate will decrease by 204.67 tons per year.

III. Facility Wide Requirements

A. Emission and Operating Caps

Not applicable.

B. Applicable Rules and Regulations

Not applicable.

C. Compliance Status

The facility has not indicated any non-compliance.

D. Operational Flexibility

None requested.

E. Permit Conditions

None.

IV. Regulated Equipment Requirements

A. Brief Process Description

This modification involves the Flat Tread Cementer Nos. 1 and 2 (Emission Unit ID Nos. CL01 and CL02) and the Ring Tread Cementer No. 1 (Emission Unit ID No. CL03). Cementing operation involves the application of adhesive cement to the backs of tire tread rubber, which is subsequently used in the retread of truck tires. The facility is transitioning from solvent-based to water-based cements, resulting in a decrease of VOC emissions.

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 Nos.**	**Description**
CL01	Flat Tread Cementer No. 1	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt) 40 CFR 63, Subpart A 40 CFR 63 Subpart XXXX	3.3.1, 3.3.2 - 3.3.5, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.5.2, 5.2.1, 6.1.7b.i-iii, 6.1.7c.i-ii, 6.1.7d.i, and 6.2.5-6.2.12	TO01 or RTO2**	Thermal Oxidizer No. 1 or Regenerative Thermal Oxidizer No. 2
CL02	Flat Tread Cementer No. 2	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt) 40 CFR 63, Subpart A 40 CFR 63 Subpart XXXX	3.3.1, 3.3.2 - 3.3.5, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.5.2, 5.2.1, 6.1.7b.i-iii, 6.1.7c.i-ii, 6.1.7d.i, and 6.2.5-6.2.12	TO01 or RTO2**	Thermal Oxidizer No. 1 or Regenerative Thermal Oxidizer No. 2
CL03	Ring Tread Cementer No. 1	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt) 40 CFR 52.21 – PSD 40 CFR 63, Subpart A 40 CFR 63 Subpart XXXX	3.3.1, 3.3.2 - 3.3.5, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.5.2, 5.2.1, 6.1.7b.i-iii, 6.1.7c.i, 6.1.7d.i, 6.2.4, and 6.2.5-6.2.12	RTO2**	Regenerative Thermal Oxidizer No. 2

* Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards and corresponding permit conditions are intended as a compliance tool and may not be definitive.

** T001 and RT02 are only required to be operated on the Flat Tread Cementer Nos. 1 and 2 and Ring Tread Cementer No. 1 when solvent-based cement is used.

C. Equipment & Rule Applicability

As indicated, the facility is transitioning from solvent-based to water-based cement in the cementing operation. A successful transition will result in a decrease in the VOC emission rate and the idling of the Thermal Oxidizer (APCD No. TO01) for controlling the VOC emission rate from the Flat Tread Cementer Nos 1 and 2 (Emission Unit ID Nos. CL01 and CL02) and the Regenerative Thermal Oxidizer (APCD No. RTO2) for controlling the VOC emission rate from the Flat Tread Cementer Nos. 1 and 2 (Emission Unit ID Nos.CL01 and CL02) and the Ring Tread Cementer No. 1 (Emission Unit ID No. CL03).

[Note that water-based cement has typically zero to negligible VOC content (≈0-0.003 lb/gal) while solvent-based cement has VOC content many orders of magnitude more (≈4 lb/gal)]

A toxic impact analysis was not necessary for this modification because the project will result in the decrease of the VOC emission rate.

Note that 40 CFR 63, Subpart XXXX is not impacted because the new cement will be water-based which does not contain HAP.

Each cementing operation is subject to the following rules:

391-3-1-.02(2)(b)
391-3-1-.02(2)(e)
391-3-1-.02(2)(tt)
40 CFR 52.21 – PSD
40 CFR 63, Subpart A
40 CFR 63 Subpart XXXX

D. Permit Conditions

Condition No. 3.4.3 requires the Permittee to meet the indicated destruction efficiency of 97 percent only when utilizing solvent-based cement in the flat and ring tread cementing operation.

Condition No. 3.4.4 requires the Permittee to route the waste gases from the cementing operation to the appropriate control device when utilizing solvent-based cement.

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

Condition No. 5.2.1 requires the Permittee to monitor continuously the combustion zone temperature of each control device when utilizing solvent-based cement in the cementing operation.

VII. Other Record Keeping and Reporting Requirements

Condition No. 6.1.7.c.i defines as an excursion any three-hour period during which the combustion zone temperature of the Regenerative Thermal Oxidizer (APCD ID No. RTO2) falls below 1553 ºF when solvent-based cement is being utilized in the flat and/or ring tread cementing operation.

Condition No. 6.1.7.c.ii defines as an excursion any three-hour period during which the combustion zone temperature of the Thermal Oxidizer (APCD ID No. TO01) falls below 1553 ºF when solvent-based cement is being utilized in the flat tread cementing operation.

New Condition No. 6.2.15 requires the Permittee to keep a record of the period(s) when solvent-based cement is used in any cementer (ID Nos. CL01 through CL03) to assure that air pollution control device are in use.