

INITIAL TITLE V AIR PERMIT APPLICATION REVIEW

Revised 1/30/02

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APPLICANT: The Goodyear Tire & Rubber Company	SITE LOCATION: Fayetteville	COUNTY: Cumberland	
TECHNICAL CONTACT: Robert Fleury	PHONE: 910-630-5678	RESPONSIBLE OFFICIAL: Mr. James Konneker	TITLE: Plant Manager
REVIEW ENGINEER: Lesley Biller/Jenny Sheppard	SIGNATURE:	DATE: August 13, 2003	
REGIONAL CONTACT: Tom McKinney	REGIONAL OFFICE: Fayetteville	SIC CODE: 3011	
APPLICATION NUMBER: 260050A5.A 2600050.03A Toxics Demonstration 2600050.03B Renewal Request	EXISTING PERMIT NUMBER: 00011R19	NEW PERMIT NUMBER: 00011T20	

I. Introduction

The U.S. Environmental Protection Agency (EPA) has given interim approval to North Carolina's Title V operating permits program effective on December 15, 1995. This EPA approval triggered the requirements for Title V facilities to submit permit applications to the Division of Air Quality. Final approval for the Title V program was received October 1, 2001. Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility's obligations under the CAA.

This Initial Title V Air Permit application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the DRAFT Title V operating permit. The primary source of information used to construct the DRAFT permit is the above referenced air permit application.

II. Background Information

The DRAFT Title V operating permit replaces an existing Air Quality Construction and Operation Permit No. 00011R19 for The Goodyear Tire & Rubber Company which was issued on December 20, 2002 and is currently scheduled to expire on October 31, 2003.

Pursuant to 15A NCAC 2Q .0506 The Goodyear Tire & Rubber Company submitted its initial Title V application to the Division of Air Quality on August 8, 1996. The application was considered complete for processing on August 8, 1996. The permit was required to go to public notice pursuant to 15A NCAC 2Q .0521. The facility has also submitted an application (modelling) for updating the limits for 2D .1100. The modelling was reviewed (by AQAB) and the limits were approved and incorporated into the initial Title V. The facility has also submitted a request for renewal.

III. Facility Description

The Goodyear Tire and Rubber Company manufactures a wide variety of automobile and truck tires for the auto aftermarket. The major raw materials are carbon black powder and rubber compound pellets and blocks. These materials are mixed according to a recipe and formed into strips of uncured rubber. Workers assemble these strips into a tire in a two-step process prior to the final firing of the tire. After the tires are cured they are visually inspected and may pass through a repair station or a white sidewall grinding station. Goodyear is

considered major for Title V purposes because potential emissions of VOCs, SO₂, NO_x, PM, and HAP exceed the thresholds.

IV. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. On its latest inspection, July 29, 2002, the facility appeared to be operating in compliance with all requirements. The applicant has certified that the facility will be in compliance with all applicable requirements. The applicant has also certified that the facility will be in compliance with any applicable requirements taking effect during the term of the permit and will meet such requirements on a timely basis.

V. Summary of Emission Sources and Control Devices

The following table contains a summary of all permitted emission sources and associated air pollution control devices and appurtenances:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Boiler House			
BL01, BL02, BL03, and BL04	Four natural gas/No. 6 fuel oil/No. 2 fuel oil/recycled No. 6 fuel oil-fired boilers (77.4 million Btu per hour heat input capacity each)	N/A	N/A
B53 and D53	Two natural gas-fired inert gas generators (3.5 and 7.0 million Btu per hour heat input capacity, respectively)	N/A	N/A
Carbon Transfer Systems			
Carbon Black Tower 1 (ID No. CBT1) consisting of:			
ES-210	One Carbon black tower 1 railcar bucket elevator	DC-120	One bin vent filter (300 acfm, minimum)
ES-211 through ES-216	Six Carbon Black Tower 1 storage bins	DC-121 through DC-126	Six bin vent filters (300 acfm each, minimum)
CBS1	One Banbury #1 surge bin	DC-140 through DC-143	Four bin vent filters (300 acfm each, minimum)
CBS2	One Banbury #2 surge bin	DC-144 through DC-147	Four bin vent filters (300 acfm each, minimum)
CBS3	One Banbury #3 surge bin	DC-148 through 151	Four bin vent filters (300 acfm each, minimum)

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CBS6A	One Banbury #6a surge bin	DC-152 through DC- 155	Four bin vent filters (300 acfm each, minimum)
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Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Carbon Black Tower 2 (ID No. CBT2) consisting of:			
ES-220	One Carbon black tower 2 railcar bucket elevator	DC-220	One bin vent filter (300 acfm, minimum)
ES-221 through ES-226	Six Carbon Black Tower 1 storage bins	DC-131 through DC-136	Six bin vent filters (300 acfm each, minimum)
CBS7	One Banbury #7 surge bin	DC-156 through DC-159	Four bin vent filters (300 acfm each, minimum)
CBS2	One Banbury #8 surge bin	DC-160 through DC-164	Five bin vent filters (300 acfm each, minimum)
Blending/Pellet Production			
BO01	Blend room operations including: one bailer (ID No. E10-1), one weigh hopper (ID No. E10-2), and two mixers (ID Nos. E10-4 and E10-5)	DC-10	One bagfilter (7,524 square feet of filter area, minimum)
BO02	One Pellet Feed System Operation consisting of the following equipment: seven rubber pellet material systems (ID Nos. PFS1, PFS2, PFS3, PFS4, PFS5, PFS6, and PFS6A) for seven banbury mixers (ID Nos. K9-1, L9-1, M9-1, P9-1, Q9-1, R9-1, and V9-1) One rubber pellet material feed system for banbury mixer #7 (ID No. AE8-3)	DC-22, DC-23, DC-24, DC-25, DC-26, DC-27, and DC-28 DC-29	Seven bagfilters (1,368 square feet of filter area each, minimum) One bagfilter (1,368 square feet of filter area, minimum)
Banbury Processes			
Banbury Process #1 (ID No. BB01) consisting of:			
K9-1	Banbury Mixer #1	DC-13	One bagfilter (7,524 square feet of filter area, minimum)
K11B-1 and K11B-2	Two pellet coolers	DC-108 and DC-109	Two dust collectors/cyclones (30 inches in diameter each, minimum)

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Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
K-12	One pellet loader	DC-110	One dust collector/ bagfilter (904 square feet of filter area, minimum)
Banbury Process #2 (ID No. BB02) consisting of:			
L9-1	Banbury Mixer #2	DC-14	One bagfilter (7,524 square feet of filter area, minimum)
L11B-1 and L11B-2	Two pellet coolers	DC-112 and DC-111	Two dust collectors/cyclones (30 inches in diameter each, minimum)
L-12	One pellet loader	DC-110	One dust collector/ bagfilter (904 square feet of filter area, minimum)
Banbury Process #3 (ID No. BB03) consisting of:			
M9-1	Banbury Mixer #3	DC-15	One bagfilter (7,524 square feet of filter area, minimum)
Banbury Process #4 (ID No. BB04) consisting of:			
P9-1	Banbury Mixer #4	DC-16	One bagfilter (7,524 square feet of filter area, minimum)
Banbury Process #5 (ID No. BB05) consisting of:			
Q9-1	Banbury Mixer #5	DC-17	One bagfilter (7,524 square feet of filter area, minimum)
Banbury Process #6 (ID No. BB06) consisting of:			
R9-1	Banbury Mixer #6	DC-18	One bagfilter (7,524 square feet of filter area, minimum)
Banbury Process #6A (ID No. BB6A) consisting of:			
V9-1	Banbury Mixer #6A	DC-19	One bagfilter (14,592 square feet of filter area, minimum)

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Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Banbury Process #7 (ID No. BB07) consisting of:			
AE8-1	Banbury Mixer #7	DC-20	One bagfilter (7,524 square feet of filter area, minimum)
AE11B-1 and AE11B-2	Two pellet coolers	DC-114 and DC-113	Two dust collectors/cyclones (30 inches in diameter each, minimum)
AE-12	One pellet loader	DC-115	One dust collector/bagfilter (904 square feet of filter area, minimum)
Banbury Process #8 (ID No. BB08) consisting of:			
CE8-1	Banbury Mixer #8	DC-21	One bagfilter (14,592 square feet of filter area, minimum)
CE11B-1 and CE11B-2	Two pellet coolers	DC-117 and DC-116	Two dust collectors/cyclones (30 inches in diameter each, minimum)
CE-12	One pellet loader	DC-115	One dust collector/bagfilter (904 square feet of filter area, minimum)
One Slurry Mix Operation consisting of:			
KE8-1 and K8-2	Slurry Mixers 1 and 2	DC-100	One bagfilter (2,032 square feet of filter area, minimum)
BE7-1 and BE7-2	Slurry Mixers 3 and 4	DC-21	One bagfilter (14,592 square feet of filter area, minimum)
PDS-1	Banbury Mixer Nos. 1, 2, and 3 dump sinks	DC-11	One bagfilter (7,524 square feet of filter area, minimum)

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Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
PDS-2	Banbury Mixer Nos. 4, 5, 6, 6A, and 7 dump sinks	DC-12	One bagfilter (7,524 square feet of filter area, minimum)
Tuber Operations			
One Rubber Extrusion Process consisting of:			
TL01, TL05, TL07, TL08, and TL09	Five non-cementing Rubber Extrusion Lines/Tubers, Nos. 1, 5, 7, 8, and 9	N/A	N/A
TL02, TL03, TL04, and TL06 NSPS Subpart BBB	Four cementing Rubber Extrusion Lines/Tubers Nos. 2, 3, 4, and 6 consisting of one trad end cement operation each (ID Nos. K23-2, M23-2, P23-2, and AE23-2)	N/A	N/A
Calendar Operations			
One Fabric Calendar Process (ID No. FABR) consisting of:			
G18	One line vacuum	DC-103	One bagfilter (220 square feet of filter area, minimum)
G25	One windup process	DC-104	One dust collector/cyclone (12 inches in diameter, minimum)
One Electron Beam Process (ID No. EPB) consisting of:			
S20-2	One EPB unit	N/A	N/A
S22	One windup cloth	DC-105	One dust collector/cyclone (12 inches diameter intake, minimum)
U27	One windup	DC-106	One dust collector/cyclone (12 inches in diameter, minimum)
CAL1, CAL2, and CAL3	One Four-Roll Calendar Operation consisting of three Four Roll Calendar Processes Nos. 1, 2, and 3	N/A	N/A

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Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Tire Press Operations			
IGTS NSPS Subpart BBB	Three hundred and ten (310) tire curing presses, ID Nos. CP01 through CP310) each consisting of two curing cavities and two tire/mold release lube spray (green tire spray) operations	N/A	N/A
One Tire Press Mold Operation consisting of :			
KE60	One mold cleaner	DC-93	One bagfilter (180 square feet of filter area, minimum)
LE60	One mold cleaner	DC-94	One bagfilter (500 square feet of filter area, minimum)
Grinding Operations			
White Sidewall Grinders Operation Bank #1 consisting of :			
Q64 and P63	Sidewall Grinders SG-101 through SG-105, SG-201 through SG-206 (ID No. Q64) and SG-106 (ID No. P63)	DC-31	One self induced spray scrubber (20,000 ACFM, minimum)
N63 and T63	Two lubricant appliers	N/A	N/A
White Sidewall Grinders Operation Bank #2 consisting of :			
HE63 and KE63	Sidewall Grinders SG-300 through SG-306 (ID No. HE63) and SG-307 (ID No. KE63)	DC-42	One self induced spray scrubber (16,000 ACFM, minimum)
JE63	One lubricant appliers	N/A	N/A
Force Grinder Operation Bank #1 consisting of :			
Q66	Force Grinders FG-101 through FG-109 and FG-201 through FG-208	DC-48	One self induced spray scrubber (20,000 ACFM, minimum)

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Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Force Grinder Operation Bank #2 consisting of :			
WX66	Force Grinders FG-209 through FG-215 and FG-301 through FG-304	DC-65	One self induced spray scrubber (20,000 ACFM, minimum)
Force Grinder Operation Bank #3 consisting of :			
FE66	Force Grinders FG-305 through FG-315	DC-77	One self induced spray scrubber (20,000 ACFM, minimum)
Force Grinder Operation Bank #4 consisting of:			
ME69	Force Grinders FG-401 through FG-403	DC165	One rotoclone (self induced scrubber) (5 gallons per minute minimum water injection rate, 5,100 ACFM , minimum)
One Tire Repair Process (ID No. TR01) consisting of :			
F67 and F69	Tire Repair Tables 2 and 3	DC-91	One dust cyclone (30 inches in diameter, minimum)
AE63	Tire Repair Table 4	DC-31	One self induced spray scrubber (20,000 ACFM, minimum)

VI. Emission Source-by-Source Evaluation

A. Fournatural gas/No. 6 fuel oil/No. 2 fuel oil/recycled No. 6 fuel oil-fired boilers (ID Nos. BL01, BL02, BL03, and BL04)

Two natural gas-fired inert gas generators (ID Nos. B53 and D53)

1. Description

The boilers each have heat input capacities of 77.4 million Btu per hour. They were first operated in 1969, 1970, 1970, and 1971. The boilers can fire natural gas, Nos. 2 and 6 fuel oils, and recycled No. 6 fuel oil reclaimed from on-site equipment or supplied by an approved vendor.

The generators can fire natural gas and LP gas and have heat input capacities of 3.5 million Btu per hour each. They are used to produce gas for use in the curing presses (the gas expands the bladders on the presses which expand the green tire in the mold during the curing process).

2. Applicable Regulatory Requirements

These boilers are not subject to NSPS regulations because they were constructed prior to the applicability dates.

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	<i>ID Nos. BL01, BL02, BL03, and BL04:</i> 0.25 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	<i>ID Nos. BL01, BL02, BL03, and BL04:</i> 40 percent opacity	15A NCAC 2D .0521(c)
	<i>ID Nos. B53 and D53:</i> 20 percent opacity	15A NCAC 2D .0521(d)
toxic air pollutants	State enforceable-only: recycled oil shall be reclaimed on-site or supplied by a DAQ-approved vendor	15A NCAC 2D .1100 and 15A NCAC 2Q .0701

ID Nos. BL01, BL02, BL03, and BL04:

- a. 2D .0503 "Particulates from Fuel Burning Indirect Heat Exchangers"

- i. Regulation Analysis

Since natural gas, No. 2 fuel oil, No. 6 fuel oil, and recycled No. 6 fuel oil can be burned for the primary purpose of producing heat by indirect heat transfer, the boilers are subject to 2D .0503. The generators are not subject to this regulation because they do not use indirect heat transfer. Allowable emissions of particulate matter from fuel combustion shall be calculated as follows:

$$E = 1.090(Q^{0.2594})$$

where, E = allowable particulate matter emissions (pounds per million Btu),
Q = actual heat input rate (million Btu per hour).

The total maximum heat inputs of fuel firing indirect heat exchangers at the plant (Q = 309.6 million Btu per hour,) established prior to the effective date of this regulation (February 1, 1983) is used to determine the allowable emission limit (E = 0.25 pounds per million Btu).

The worst-case uncontrolled emission rate from No. 6 fuel oil was calculated based on the DAQ spreadsheet to be 0.06 pounds per million Btu. Emissions of particulate matter from the combustion of No. 6 fuel oil will always be less than the allowable.

ii. Monitoring/Recordkeeping/Reporting Requirements

The particulate matter emissions from the combustion of natural gas, No. 2 fuel oil, and No. 6 fuel oil will always be less than the allowable emissions rate. For this reason monitoring and recordkeeping are not required.

b. 2D .0516 “Sulfur Dioxide Emissions from Combustion Sources”

i. Regulation Requirements

These boilers and generators are sources of emissions from combustion which discharge through a stack and therefore are subject to 2D .0516(a). Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input.

Natural gas, propane, and No. 2 fuel oil are inherently low sulfur emitting fuels. Emissions of sulfur dioxide from the combustion of natural gas, propane, and No. 2 fuel oil will always be less than the emission limit.

Emissions of sulfur dioxide from the combustion of No. 6 fuel oil are calculated to be less than the allowable when the sulfur content of the No. 6 fuel oil is less than 2.1%. Compliance with this regulation is indicated since estimated emissions are less than the allowable.

ii. Monitoring/Recordkeeping Requirements

The sulfur content of the No. 6 fuel oil combusted will be limited to 2.1% or less to ensure emissions are less than 2.3 pounds per million Btu. There are no monitoring, recordkeeping, or reporting requirements for the combustion of propane, natural gas, or No. 2 fuel oil because potential emissions of sulfur dioxide are less than the allowable.

iii. Reporting Requirements

A summary report is required twice a year.

c. 2D .0521 “Control of Visible Emissions”

i. Regulation Analysis

The boilers were established before July 1, 1971 and therefore are subject to 2D .0521(d). Per this regulation, visible emissions shall not be more than 40 percent opacity when averaged over a six-minute period except that six-minute period averaging not more than 90 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

The generators were established after July 1, 1971 and therefore are subject to 2D .0521(d). Per this regulation, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period except that six-minute period averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Compliance is demonstrated with this regulation because the latest scheduled inspection report did not cite any opacity exceedances.

ii. Monitoring Requirements

The Permittee shall observe these boilers once a day for any visible emissions above normal when firing No. 6 fuel oil. There are no monitoring, recordkeeping, or reporting requirements for the generators or for the combustion of natural gas, or No. 2 fuel oil in the boilers because visible emissions are expected to be undetectable.

iii. Recordkeeping Requirements

The Permittee shall record the results of the observations along with any corrective actions taken to reduce visible emissions to normal.

iv. Reporting Requirements

Reporting requirements include a summary report of the records by January 30 and July 30 of each year.

State-enforceable only:

d. 2Q .0711: "Toxic Air Pollutant Emissions Limitation Requirement"

i. Regulation Analysis

In order to avoid applicability of 2D .1100, only recycled oil that is reclaimed from on-site equipment or supplied by an approved vendor may be fired in the boilers. For oil supplied by an approved vendor, the oil shall meet the criteria specified in the permit.

ii. Monitoring/Recordkeeping Requirements

Records shall be kept of the amount of recycled oil received and combusted at the facility on an annual basis and the results of any analytical testing of the recycled oil.

iii. Reporting Requirements

The Permittee shall report annually the summary of results of any analytical testing and the total amount in gallons of recycled oil combusted from each vendor.

- B. One Carbon Black Tower 1 bucket elevator (ID No. ES-210) with associated bin vent filter (ID No. DC-120), Six Carbon Black Tower 1 six storage bins (ID Nos. ES-211 through 216) with associated bin vent filters (ID Nos. DC-121 through 126), One Banbury #1 surge bin (ID No. CBS1) with associated bin vent filters (ID Nos. DC-140 through 143) One Banbury #2 surge bin (ID No. CBS2) with associated bin vent filters (ID Nos. DC-144 through 147) One Banbury #3 surge bin (ID No. CBS3) with associated bin vent filters (ID Nos. DC-148 through 151) One Banbury #6a surge bin (ID No. CBS6a) with associated bin vent filters (ID Nos. DC-152 through 155) One Carbon Black Tower 2 bucket elevator (ID No. ES-220) with associated bin vent filter (ID No. DC-220), Six Carbon Black Tower 2 six storage bins (ID Nos. ES-221 through 226) with associated bin vent filters (ID Nos. DC-131 through 136), One Banbury #7 surge bin (ID No. CBS7) with associated bin vent filters (ID Nos. DC-140 through 143) One Banbury #8 surge bin (ID No. CBS8) with associated bin vent filters (ID Nos. DC-144 through 147) Blend room operations (ID No. BO01) including one bailer, one weigh hopper, and two mixers with associated bagfilter (ID No. DC-10) One pellet feed system operation (ID No. BO02) including eight rubber pellet material systems with associated bagfilters (ID Nos. DC-22 through DC-29)**

One Banbury mixer #1 (ID No. K9-1) with associated bagfilter (ID No. DC-13)
 Two pellet coolers (ID Nos. K11B-1 and K11B-2) with associated dust collectors/cyclones (ID Nos. DC-108 and 109)
 One pellet loader (ID No. K-12) with associated dust collector/bagfilter (ID No. DC-110)
 One Banbury mixer #2 (ID No. L9-1) with associated bagfilter (ID No. DC-14)
 Two pellet coolers (ID Nos. L11B-1 and L11B-2) with associated dust collectors/cyclones (ID Nos. DC-111 and 112)
 One pellet loader (ID No. L-12) with associated dust collector/bagfilter (ID No. DC-110)
 One Banbury mixer #3 (ID No. M9-1) with associated bagfilter (ID No. DC-15)
 One Banbury mixer #4 (ID No. P9-1) with associated bagfilter (ID No. DC-16)
 One Banbury mixer #5 (ID No. Q9-1) with associated bagfilter (ID No. DC-17)
 One Banbury mixer #6 (ID No. R9-1) with associated bagfilter (ID No. DC-18)
 One Banbury mixer #6A (ID No. V9-1) with associated bagfilter (ID No. DC-19)
 One Banbury mixer #7 (ID No. AE8-1) with associated bagfilter (ID No. DC-20)
 Two pellet coolers (ID Nos. AE11B-1 and AE11B-2) with associated dust collectors/cyclones (ID Nos. DC-113 and 114)
 One pellet loader (ID No. AE-12) with associated dust collector/bagfilter (ID No. DC-115)
 One Banbury mixer #8 (ID No. CE8-1) with associated bagfilter (ID No. DC-21)
 Two pellet coolers (ID Nos. CE11B-1 and CE11B-2) with associated dust collectors/cyclones (ID Nos. DC-116 and 117)
 One pellet loader (ID No. CE-12) with associated dust collector/bagfilter (ID No. DC-115)
 Two slurry mixers (ID Nos. KE8-1 and KE8-2) with associated bagfilter (ID No. DC-100)
 One slurry mixer (ID No. BE7-1 and BE7-2) with associated bagfilter (ID No. DC-21)
 Banbury mixer Nos. 1, 2, and 3 dump sinks (ID No. PDS-1) with associated bagfilter (ID No. DC-11)
 Banbury mixer Nos. 4, 5, 6, 6A, and 7 dump sinks (ID No. PDS-2) with associated bagfilter (ID No. DC-12)
 One line vacuum (ID No. G18) with associated bagfilter (ID No. DC-103)
 One windup process (ID No. G25) with associated bagfilter (ID No. DC-104)
 One electron beam unit (ID No. S20-2)
 One windup cloth (ID No. S22) with associated dust collector/cyclone (ID No. DC-105)
 One windup (ID No. U27) with associated dust collector/cyclone (ID No. DC-106)
 One four-roll calendar operation consisting of three four roll calendar process (ID Nos. CAL1, CAL2, and CAL3)
 Two mold cleaner processes (ID Nos. KE60 and LE60) with associated bagfilters (ID Nos. DC-93 and DC-94)
 Sidewall grinders SG101 through SG106 and SG201 through SG206 (ID Nos. Q64 and P63) with associated self induced spray scrubber (ID No. DC-31)
 Sidewall grinders SG-300 through SG-307 (ID Nos. HE63 and KE63) with associated self induced spray scrubber (ID No. DC-42)
 Force grinders FG-101 through FG-109 and FG-201 through FG-208 (ID No. Q66) with associated self induced spray scrubber (ID No. DC-48)
 Force grinders FG-209 through FG-215 and FG-301 through FG-304 (ID No. WX66) with associated self induced spray scrubber (ID No. DC-65)
 Force grinders FG-305 through FG-315 (ID No. FE66) with associated self induced spray scrubber (ID No. DC-77)
 Force grinder FG-401 through FG-403 (ID No. ME69) with associated self induced spray scrubber (ID No. DC165)
 Tuber Lines 1, 5, 7, 8, and 9 (ID Nos. TL01, TL05, TL07, TL08, and TL09)
 Tire Repair Tables 2, 3, and 4 (ID Nos. F67, F69, and AE63) with associated dust cyclone (ID No. DC-91)

1. Description

The carbon black towers are used to store carbon black which is used in the tire manufacture process. The towers are filled by rail car. Each tower has a bucket elevator, six storage bins, and several surge bins. Bin vent filters are used to reduce particulate matter emissions. According to the application, the equipment was installed in 1970.

Dry materials are mixed in the blend room operations. Equipment includes a bailer, weigh hopper, and two mixers. A bagfilter is used to reduce particulate matter emissions. According to the application, the equipment was installed in 1969.

In the pellet feed system operation, rubber pellets are conveyed from the dump sink to the Banbury processes. Equipment includes eight rubber pellet material feed systems which each exhaust to a bagfilter. According to the application, the equipment was installed between 1969 and 1974.

In the Banbury processes, rubber additives are mixed together to produce rubber pellets for the tire manufacturing process. Banbury processes 1, 2, 7, and 8 each include a bagfilter installed on a mixer, two cyclones installed one each on two pellet coolers, and a bagfilter installed on a pellet loader. Banbury processes 3, 4, 5, 6, and 6A each include only a bagfilter installed on a mixer. According to the application, the equipment was installed between 1969 and 1974.

The slurry mix operation includes one bagfilter installed on slurry mixers 1 and 2 and one bagfilter installed on slurry mixers 3 and 4.

In the dump sinks, cooled rubber pellets are collected from the Banbury processes. Two bagfilters are used to reduce emissions. According to the application, the equipment was installed between 1969 and 1976.

In the calendar process, rubber and fabric sheets are molded together to form a single, layered product. There is one line vacuum which exhausts to a bagfilter and one windup process which exhausts to a cyclone.

In the windup, rubber sheets and wire are molded together to form a single, layered product. Emissions are reduced by a cyclone. The equipment was first operated in 1972.

The grinders are used to remove excess rubber from the sidewalls to expose the white layer beneath to produce white sidewall tires and from the front tires to correct imbalances. Emissions are reduced by scrubbers. This equipment was first operated between 1969 and 1988.

Finished tires are inspected and if necessary buffed to correct blemishes in the tire repair process. Emissions are reduced by a cyclone and a spray scrubber. This equipment was first operated in 1969.

2. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	For P# 30 tons per hour: $E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour For P> 30 tons per hour: $E=55.0 P^{0.11} - 40$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515

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visible emissions	20 percent opacity	15A NCAC 2D .0521(d)
volatile organic compounds	See Section VII	15A NCAC 2D .0958

a. 2D .0515 "Particulates from Miscellaneous Industrial Processes"

i. Regulatory Analysis

These emission sources are subject to 2D .0515 since no other federal or state regulation applies to the particulate emissions from this source. The allowable particulate emission limit is calculated by the following equations:

For process weights less than or equal to 30 tons per hour:

$$E = 4.10(P^{0.67})$$

For process weights greater than 30 tons per hour:

$$E = 55.0(P^{0.11}) + 40$$

where: E = allowable emission rate for particulate matter in pounds per hour, and
P = process weight in tons per hour

The applicant has filed for confidentiality of the process rates and so they do not appear in this document. However they have been reviewed and based on the information submitted in the application and supporting documentation, the after control emissions are estimated to be below the allowable emission rates for each piece of equipment.

Emissions from the carbon black towers are controlled by several bin vent filters (one on each bucket elevator and storage bin, four on each surge bin #s 1, 2, 3, 6a, and 7 and five on #8 surge bin). The bin vent filters handle 300 acfm each and are estimated to remove 99% of particulate matter, which is a reasonable efficiency.

Emissions from the blend room operations are controlled by one bagfilter. The bagfilter is air pulse cleaned and made of polyester filter material. The filter area is 4,515 square feet and the air flow rate is 18,000 ACFM. The air-to-cloth ratio is 4.0:1. The bagfilter is estimated to remove 99.9 percent of the particulate matter. As the air-to-cloth ratio is in the appropriate range, this is a reasonable efficiency.

Emissions from the rubber pellet feed systems are controlled by eight bagfilters. Bagfilters DC-22 through DC-28 are air pulse cleaned and made of polyester filter material. The filter areas are 344 square feet each and the air flow rate through each is 3000 ACFM. The air-to-cloth ratio for each is 8.7:1. Bagfilter DC-29 is air pulse cleaned and made of polyester filter material. The filter area is 1,100 square feet and the air flow rate is 4,500 ACFM. The air-to-cloth ratio is 4.1:1. The bagfilters are estimated to remove 99.9 percent of the particulate matter. As the air-to-cloth ratios are in the appropriate range, this is a reasonable efficiency.

Emissions from the Banbury mixers are controlled by one bagfilter on each mixer. Bagfilters DC-13 through

DC-21 are air pulse cleaned and made of polyester filter material. The filter areas of bagfilters DC-13 through DC-20 are 4515 square feet each and the filter area of bagfilter DC-21 is 3822 square feet. The air flow rate through each is 18000 ACFM. The air-to-cloth ratio of bagfilters DC-13 through DC-20 is 4.0:1. The air-to-cloth ratio of bagfilter DC-21 is 4.7:1. The bagfilters are estimated to remove 99.9 percent of the particulate matter. As the air-to-cloth ratios are in the appropriate range, this is a reasonable efficiency.

Emissions from the pellet coolers are controlled by one dust collector/cyclone on each pellet cooler. The cyclones have diameters of 30 inches each. Emissions are expected to be reduced by 99%.

Emissions from the pellet loaders are controlled by one bagfilter on each loader. The filter areas of bagfilters are 904 square feet each, minimum. The air flow rate through each is 3600 ACFM. The air-to-cloth ratio is 4.0:1. Emissions from slurry mixers 1 and 2 are controlled by one bagfilter. The filter area of the bagfilter is 2032 square feet. Emissions from slurry mixers 3 and 4 are controlled by one bagfilter. The filter area of the bagfilter is 14,592 square feet. Emissions from Banbury mixer Nos. 1, 2, and 3 dump sinks are controlled by one bagfilter. The bagfilter is air pulse cleaned and made of polyester filter material. The filter area of the bagfilter is 7,524 square feet. The air flow rate is 30000 ACFM. The air-to-cloth ratio is 4.0:1. Emissions from Banbury mixers 4, 5, 6, 6A, and 7 dump sinks are controlled by one bagfilter. The bagfilter is air pulse cleaned and made of polyester filter material. The filter area of the bagfilter is 7,524 square feet. The air flow rate is 30000 ACFM. The air-to-cloth ratio is 4.0:1. The bagfilters are estimated to remove 99.9 percent of the particulate matter. As the air-to-cloth ratios are in the appropriate range, this is a reasonable efficiency.

Emissions from the line vacuum are controlled by one bagfilter. The bagfilter is air pulse cleaned and made of goretex filter material. The filter area of the bagfilter is 220 square feet. The air flow rate is 1450 ACFM. The air-to-cloth ratio is 6.6:1. The bagfilters are estimated to remove 99.9 percent of the particulate matter. As the air-to-cloth ratios are in the appropriate range, this is a reasonable efficiency. Emissions from the windup process, windup cloth, and windup are controlled by one dust collector/cyclone installed on each. The cyclones have diameters of 12 inches each. Emissions are expected to be reduced by 95%.

Emissions from the mold cleaners are controlled by one bagfilter installed on each. Bagfilter DC-93 is mechanically cleaned and DC-94 is air pulse cleaned. They are made of polyester filter material. The filter areas are 180 square feet for DC-93 and 500 square feet for DC-94. The air flow rate for DC-93 is 540 ACFM and the air-to-cloth ratio is 3.0:1. The air flow rate for DC-94 is 2000 ACFM and the air-to-cloth ratio is 4.0:1. The bagfilters are estimated to remove 99.9 percent of the particulate matter. As the air-to-cloth ratios are in the appropriate range, this is a reasonable efficiency.

Emissions from the grinders and tire repair table 4 are controlled by five self induced spray scrubbers. The scrubbers are estimated to remove 91.9 percent of the particulate matter.

Emissions from the tire repair tables 1, 2, and 3 are controlled by one dust collector/cyclone. The cyclone has a diameter of 30 inches. Emissions are expected to be reduced by XX% NOTE TO APPLICANT: PLEASE SUPPLY

Compliance with this regulation is indicated as the potential emissions rates are below the emissions limits.

ii. Monitoring Requirements

To ensure that optimum control efficiency of particulate matter is obtained by these control devices, monthly inspections will be performed and maintenance will be performed as recommended by the manufacturer. As a minimum, the inspections will include a monthly external inspection of the bagfilters,

bin vent filters, cyclones, scrubbers, and ductwork, and an annual internal inspection of the bagfilters to ensure structural integrity.

iii. Recordkeeping Requirements

The results of the inspection and maintenance will be kept in a log.

iv. Reporting Requirements

A summary report of the monitoring will be submitted by January 30 and July 30 of each year. The results of any maintenance to the control devices shall be reported within 30 days of a written request by DAQ.

b. 2D .0521 “Control of Visible Emissions”

i. Regulatory Analysis

According to the application, some of this equipment was first operated before July 1, 1971; however the current application lists the opacity limits as 20% so it is assumed that the equipment was modified some time after July 1, 1971 and therefore is subject to 2D .0521(d). Per this regulation, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. The latest inspection report did not cite any opacity exceedances. Continued compliance is expected.

ii. Monitoring Requirements

To assure compliance, once each month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The Permittee shall establish “normal” for the source using the weekly observations taken in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission source(s) are below the limit. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

iii. Record keeping

The results of the monitoring shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
- (c) the results of any corrective actions performed.

iv. Reporting

The Permittee shall submit, in writing a summary report of the observations by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

c. 2D .0530 “Prevention of Significant Deterioration”

i. Regulation Analysis

In order to avoid applicability of this regulation, the applicant has requested in the past that emissions of volatile organic compounds from the use of the coupling agent (which is applied in the Banbury processes and is emitted mainly in the Banbury processes but possibly in other areas as well) be less than 40 tons per year.

ii. Monitoring/Recordkeeping Requirements

Calculations of VOC emissions will be made at the end of each month. Emissions shall be determined by multiplying the total amount of each type of VOC-containing material consumed during the month by the VOC content of the material. A log will be kept of the VOC calculations and the total VOC emissions. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of VOC containing materials are not monitored and recorded.

iii. Reporting Requirements

The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter.

C. Three hundred and ten (310) tire curing presses, (ID Nos. CP01 through CP310) each consisting of two curing cavities and two tire/mold release lube spray (green tire spray) operations (ID No. IGTS) Fourcementing Rubber Extrusion Lines/Tubers Nos. 2, 3, 4, and 6 consisting of one tread end cement operation each (ID Nos. TL02, TL03, TL04, and TL06)

1. Description

The rubber extrusion lines/tubers are used to make the general shape of the tire. According to the application, the equipment was installed in 1990.

In the curing presses, releasing lubricant is sprayed on the inside of a tire prior to it being cured. The presses then shape the tread of the tire. According to the application, the equipment was installed in 1995.

2. Regulatory Analysis

The following provides a summary of limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
volatile organic compounds	ID No. IGTS: less than 1.2 grams VOC per tire cemented for each month ID Nos. TL02, TL03, TL04, and TL06: less than 1.0 grams VOC per tire cemented for each month	15A NCAC 2D .0524
volatile organic compounds	See Section VII	15A NCAC 2D .0958

a. 2D .0524 “New Source Performance Standards”

i. Regulation Analysis

These sources are subject to Subpart BBB, "Standards of Performance for the Rubber Tire Manufacturing Industry" since construction commenced after January 20, 1983. The NSPS limits emissions of VOCs to 10 grams of VOC per tire cemented for each month and 1.2 grams of VOC per tire sprayed with an inside green tire spray for each month.

ii. Monitoring/Recordkeeping Requirements

Since only water-based sprays with less than 1.0 percent of VOC are used in these sources, a monthly performance test is not required. Instead, reports will be kept of the formulation data or results of Method 24 analysis to verify the VOC content of each tread end cement and each green tire spray material.

iii. Reporting Requirements

The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter.

VII. Multiple Emission Source Limits

The following emission source(s) and associated control device(s) are subject to this multiple emission source limit:
FACILITY-WIDE

The above emission sources are subject to these multiple emission source limits and/or standards:

Regulated Pollutant	Limits/Standards	Applicable Regulation
volatile organic compounds	work practice standards	15A NCAC 2D .0958
toxic air pollutants	State-enforceable only: see below	15A NCAC 2D .1100
odorous emissions	State-enforceable only: odorous emissions must be controlled	15A NCAC 2D .1806
toxic air pollutants	State-enforceable only: see below	15A NCAC 2Q .0711

A. 15A NCAC 2D .0958: “Work Practices for Sources of Volatile Organic Compounds”

Emission sources which discharge volatile organic compounds to the atmosphere from the use of solvents are subject to 2D.0958. This regulation requires several work practices to minimize the emissions of VOCs. Compliance with the work practice standards is expected.

State-enforceable only:

B. 15A NCAC 2D .1100: "Control of Toxic Air Pollutants"

Emissions of toxic air pollutants from the facility are limited by this “State-enforceable only” regulation. A modeling demonstration has been made in the past. Emission limits, monitoring, recordkeeping, and reporting are described

in the permit. The modeled limits have been updated per the application and modeling demonstration submitted April 29th.

State-enforceable only:

- C. 15A NCAC 2D .1806: “Control and Prohibition of Odorous Emissions”
Odorous emissions shall be controlled as described in the permit.

State-enforceable only:

- D. 2Q .0711: “Toxic Air Pollutant Emissions Limitation Requirement”
Emissions of toxic air pollutants from the facility are also limited by this “State-enforceable only” regulation. Emissions shall be below the limits in the permit in order to avoid a modeling demonstration. Emission limits, monitoring, recordkeeping, and reporting are described in the permit.

VIII.MACT Applicability and Requirements

Based on a review of the facility's operations and emission sources, the facility is will be subject to the MACT for rubber tire manufacturing, subpart XXXX. The final rule was published in July 2002. An initial compliance demonstration will be due July 11, 2005. This requirement will be placed in the permit.

IX. Permit Shield (including non-applicable requirements)

In accordance with 2Q .0512 the permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield.

X. General Conditions

The “General Conditions” section of the Title V Operating Permits lists additional applicable rule requirements that the permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, and severability.

XI. Insignificant Activities

The insignificant activities listed in the application have been reviewed and verified. Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.

XII. Public Notice

Pursuant to 15A NCAC 2Q .0521, a second notice of the draft Title V Operating 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, EPA, and South Carolina.

XIII. Recommendations

The initial Title V application for The Goodyear Tire & Rubber Company has been reviewed by the DAQ to determine compliance with all procedures and requirements under 15A NCAC 2Q .0500 and 40 CFR Part 70. The DAQ has made a preliminary determination that the facility is complying or will achieve compliance as specified in the draft permit with all applicable requirements. Therefore, the DAQ is proposing to issue the Title V Operating Permit upon completion of the public comment period and the EPA review.