NORTH CAROLINA DIVISION OF
AIR QUALITY

Application Review

Issue Date: December 4, 2024

Region: Fayetteville Regional Office
County: Cumberland
NC Facility ID: 2600050
Inspector's Name: Taijah Hamil
Date of Last Inspection: 02/14/2024
Compliance Code: 5 / Outstanding Penalty

Facility Data

Applicant (Facility's Name): The Goodyear Tire & Rubber Company

Facility Address:
The Goodyear Tire & Rubber Company
6650 Ramsey Stree
Fayetteville, NC 28311

SIC: 3011 / Tires And Inner Tubes
NAICS: 326211 / Tire Manufacturing (except Retreading)

Facility Classification: Before: Title V After: Title V
Fee Classification: Before: Title V After: Title V

Permit Applicability (this application only)

SIP: 15A NCAC 02D .0515, 02D .0521, 02D .0530
NSPS: NSPS Dc, NSPS BBB, NSPS IIII, NSPS JJJJ,
NESHAP: MACT DDDDD, MACT XXXX,
PSD: PSD BACT for VOC
PSD Avoidance: PSD Avoidance for Nitrogen oxides, Sulfur dioxide, and VOC
NC Toxics: North Carolina General Statute (NCGS) 143-215.107(a)(5) (House Bill 952).
112(r): N/A
Other: 40 CFR Part 64 CAM

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Jorge Rivera EHS Coordinator (910) 630-5678 6650 Ramsey St Fayetteville, NC 28311	Julien Frezard Manufacturing Director (910) 630-5232 6650 Ramsey Street Fayetteville, NC 28311	Jorge Rivera EHS Coordinator (910) 630-5678 6650 Ramsey St Fayetteville, NC 28311

Application Data

Application Number: 2600050.24A
Date Received: 08/02/2024
Application Type: Modification
Application Schedule: TV-Minor

Existing Permit Data
Existing Permit Number: 00011/T56
Existing Permit Issue Date: 12/04/2024
Existing Permit Expiration Date: 01/31/2027

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2023	0.2300	35.12	190.56	29.19	19.71	31.11	10.73 [MIBK (methyl isobutyl ketone)]
2022	0.2200	36.11	166.12	30.30	18.97	31.77	11.29 [MIBK (methyl isobutyl ketone)]
2021	0.2200	36.39	154.38	30.55	17.68	31.14	11.15 [MIBK (methyl isobutyl ketone)]
2020	0.2200	33.05	130.48	27.61	16.97	24.85	8.85 [MIBK (methyl isobutyl ketone)]
2019	0.2500	39.68	165.47	33.21	22.28	32.20	11.73 [MIBK (methyl isobutyl ketone)]

Review Engineer: Gautam Patnaik

Review Engineer's Signature: Date: 12/04/2024

G Patnaik 12/4/2024

Comments / Recommendations:
Issue 00011/T57
Permit Issue Date: 12/04/2024
Permit Expiration Date: 01/31/2027

I. Facility Description

Goodyear Fayetteville is in Cumberland County, which has been designated by the US EPA as "attainment" or "unclassifiable" for all criteria air pollutants.

The facility owns and operates a rubber tire manufacturing plant in Fayetteville, NC that primarily produces passenger tires and radial light truck tires. The plant's Standard Industrial Classification (SIC) code is 3011 "Tires and Inner Tubes," and the plant's North American Industry Classification System (NAICS) code is 326211 "Tire Manufacturing."

The principal raw materials are carbon black powder and rubber compound pellets and blocks. These materials are mixed per various recipes and formed into strips of uncured rubber. Various shapes of rubber parts are formed from these strips.

This facility is classified as a major source under Title V of the Clean Air Act (CAA) and the North Carolina Administrative Code Title 15A, Chapter 2, Subchapter 2Q, Section 500 (NCAC 15A 2Q .500). The Fayetteville facility is also an existing major source under the Prevention of Significant Deterioration (PSD) program. The Fayetteville facility is currently operating in accordance with the North Carolina Department of Environmental Quality (DEQ) Title V Operating Permit No. 00011T56, issued on April 14, 2023.

II. Purpose of Application

The facility is proposing to modify the existing Banbury Mixer #7 (BB07-AE8-1) to upgrade the mixer to change from a 370L mixer body to a 440L mixer body (the L signifies liters. The 370L and 440L refer to the approximate chamber volume of the mixers).

The units downstream of the Banbury mixer are the Tuber Operations, Calendar Operations, Tire Press Operations, Grinding Operations, Tire Repair Process, and Facility-wide Solvent and Cement Usage. These units are not impacted by the Banbury Mixer 7 potential throughput change, because the overall throughput for these operations are bottlenecked by the capacity of the Tire Press (curing) operations at the facility. Therefore, the increase in the Mixer 7 capacity will be offset by a comparable decrease in the mixing throughput of the other mixers at the facility.

The applicant calculated associated increases for the upstream carbon black handling operations because that carbon black is going directly into the mixer itself.

No changes to the existing twin screw roller die batch off associated with this mixer will be made with this project. The upgrade will increase the capacity of the mixer by 15 percent. The current maximum potential throughput for Mixer #7 is 20,600 lbs/hr.

With the 15 percent increase in capacity, the facility estimates the maximum potential throughput for the upgraded mixer will be **23,690** pounds per hour (**207,524,400** pounds per year).

The overall coupling agent usage at the facility is not expected to increase with this project, but if more rubber is being mixed in Mixer 7 because of the equipment change then there is a potential for the ethanol mixing in Mixer #7 to also increase proportionally. However, on a facility-wide basis, this would be off-set by an expected comparable decrease in ethanol mixing throughput of the other mixers at the facility.

The applicant is requesting a minor modification to the facility's Title V permit in accordance with 15A NCAC 02Q .0515. The proposed project will not require updates to the NSPS or MACT requirements at the

Fayetteville facility. Emissions from the proposed project include particulate matter (PM), PM_{10}, $PM_{2.5}$, volatile organic compounds (VOC), and several hazardous air pollutants (HAPs) and toxic air pollutants (TAPs), as classified by the North Carolina Department of Environmental Quality (NCDEQ). The emission increases from this project will not exceed the Prevention of Significant Deterioration (PSD) significant emission rates (SERs).

Equipment associated with Banbury Mixer #7 includes carbon black towers and surge bins feeding carbon black into the mixer. Actual emissions from these units associated with the Mixer #7 operation will increase because of the increased potential rubber production from the proposed project. There are no emissions units downstream of the mixer which will be affected by the proposed project, as throughput of downstream units is independent of mixer throughput due to the facility's ability to import and export rubber downstream of the mixers. Consistent with previously submitted applications and notifications, the plant is bottlenecked by curing capacity.

Mixer #7 is currently authorized to mix high temperature silica coupling agent compounds within the mixer, resulting in additional VOC emissions from the mixing operations. With this modification, Mixer #7 will maintain the ability to mix coupling agents. The project will not impact the overall silica coupling agent throughput at the facility.

The facility has estimated a 15 percent increase in the potential coupling agent throughput for Mixer #7 in the projected actual emissions calculations used in the PSD evaluation for this project to account for a potential increase in silica mixing within Mixer #7 associated with this project.

The facility also estimates VOC emissions from curing operations associated with the use of the high temperature silica coupling agents. The project will not impact the existing bottleneck at the curing operations at the facility, nor will it impact the total facility-wide potential of silica coupling agent use at the facility. **Any coupling throughput increase at Mixer #7 will be counteracted by a decrease in coupling agent throughput at other mixers on the annual basis.** Therefore, there will be no emissions increase at the curing process, including no change to potential emissions from silica coupling agent mixing at the cure presses.

Banbury Mixer

The Banbury Mixer process is a batch operation which requires rather intensive operator interaction. Each batch requires the following process:

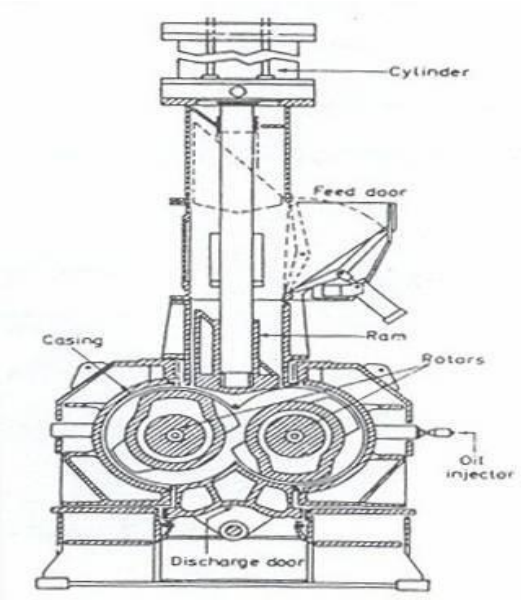
- Forklifts are used to deliver materials on pallets and in containers to mixers. These materials must be staged near the feed conveyor for the operator's use;
- The operator manually cuts rubber slabs and places them onto a conveyor weigh belt until the proper weight of rubber for the batch is achieved;
- The operator manually adds the contents of bags of various different additives (carbon black, pigments, coupling agents, etc.) to the weight belt depending on the formulation required for the tire specifications;
- The operator presses a button to turn the conveyor on, which transfers the material from the weight belt to the mixer through a hopper;
- Process oils are injected at a certain interval within the mixing cycle, and the entire mixture is blended in batch mode;
- The mixed batch falls from the Banbury Mixer onto a mill, a roller die extruder, or another device where it is further blended; and
- The batch is processed into either continuous slab rubber or into small pellets of rubber for temporary storage.

Rubber mixing is currently conducted in nine mixers at this facility, which conduct productive rubber mixing (rubber completely mixed and ready for downstream processing), non-productive rubber mixing (rubber partially mixed, requiring additional mixing) or can switch between non-productive and productive mixing. The mixing materials include carbon black, process oils, pigments, natural rubber, synthetic rubber, and specially formulated coupling agents. The mixers are fed manually with raw materials. Oil is injected at a certain interval within the mixing cycle, and the entire mixture is blended in batch mode. The mixed batch then falls from the mixer onto a mill, a roller die extruder, or another device where it is further blended. The batch is then processed into either continuous slab rubber or into small "pellets" of rubber for temporary storage for further downstream processing at the facility. Particulate matter (PM) emissions from the mixers are controlled with fabric filters.

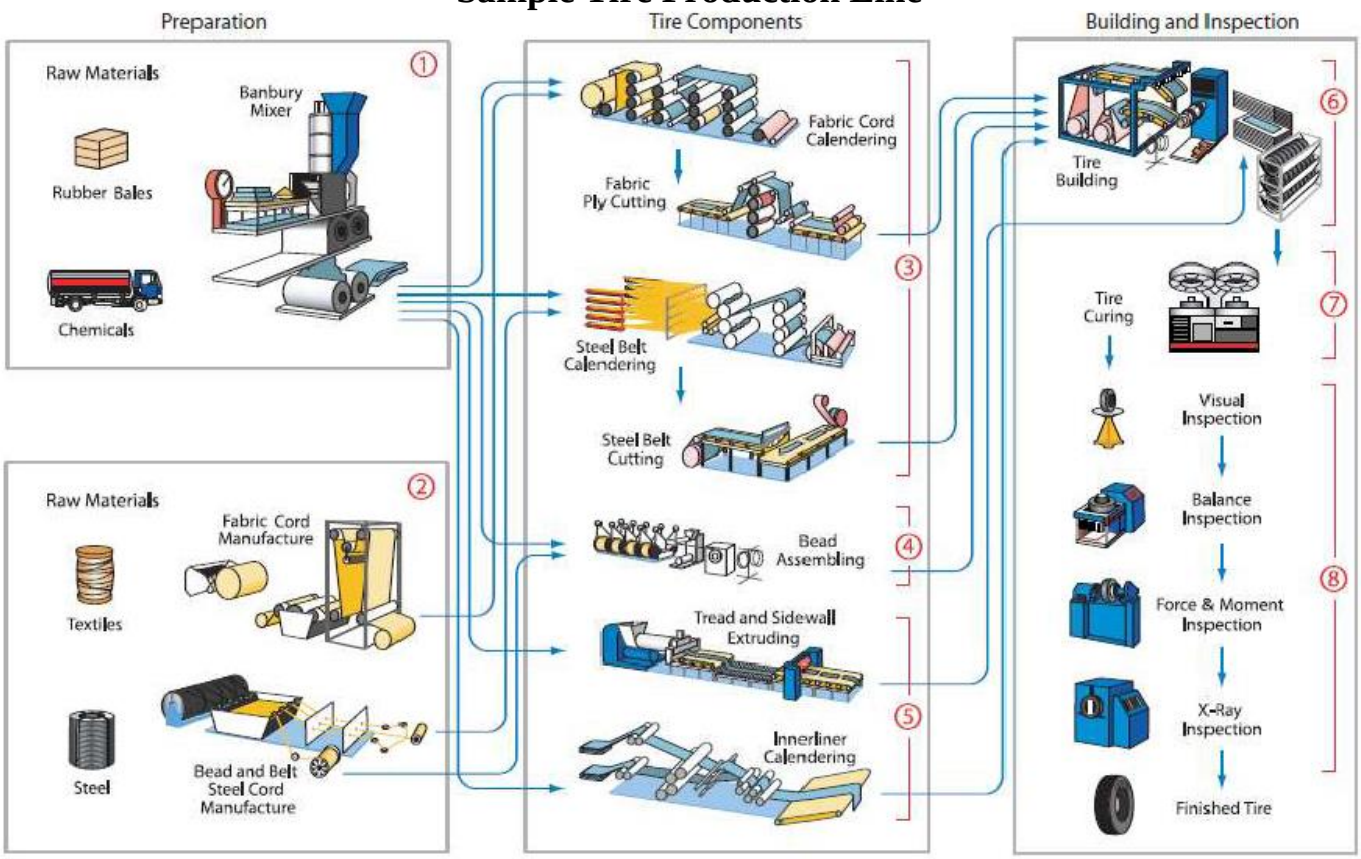
A portion of the tires manufactured at the facility are produced using a silica silane coupling agent referred to as "coupling agent". Usage of the coupling agent allows the facility to meet the increasing demands of auto manufacturers for low rolling resistance tires and to meet the United States Environmental Protection Agency's (U.S. EPA) Corporate Average Fuel Economy (CAFE) standards. The processing of rubber containing the coupling agent results in levels of ethanol (VOC) emissions that do not occur from the mixing of other rubber formulations.

Most mixers use a 4-wing rotor was initially developed for larger mixers, but it has gradually been introduced for all sizes of machine when the process requires the faster mixing which this type of rotor provides.

The Banbury Mixer is approximately 2 stories high and has manual operations both upstream and downstream of the process.



Sample Tire Production Line



Emissions from the proposed project will include VOC, PM, PM_{10}, and $PM_{2.5}$ as well as several hazardous air pollutants (HAPs) and toxic air pollutants (TAPs). These emissions occur because of the rubber mixing process.

Emissions from Banbury Mixer #7 are calculated using published emission factors from US EPA's AP-42: Compilation of Air Emission factors, Section 4.12: Manufacture of Rubber Products. Emission factors are provided in pounds of emissions per pounds of rubber throughput and factors are specific to the type of rubber compound processed in the mixers. The AP-42 emission factors were developed based on an assumption that non-productive rubber (rubber not ready for final production) mixing comprises 90% of the total rubber emissions, while productive rubber (rubber ready for final production) comprises 10% of total emissions.[1] A weighted emission factor is calculated for each pollutant based on a sum of the products of the percentage of each compound mixed times the compound-specific emission factor for each compound type.

Administrative Changes Requested

The applicant requested the following changes:

Remove carbon black transfer system (BT2-TS2), four rubber pellet material feed systems for Banbury mixers 4, 5, 6, and 6A, (ID. Nos. PFS4, PFS5, PFS6, and PFS6A)

[1] AP-42, Section 4.12, Manufacture of Rubber Products, Emission Factors Tables (2008).

Banbury mixer Nos. 5 and 6 dump sinks (PDS-2) and two bagfilters (4,560 square feet of filter area each, minimum) two bagfilters (4,560 square feet of filter area each, minimum ID nos. DC-172 and DC-173), one cold feed quad extruder (QE01).

Change the definition of TR01-F67 and TR01-F69 to "Tire Repair Tables 2 and 3, consisting of 1 dye grinder, each"

Changed description of TR01-AE63 to "Tire Inspection Station" and this source is no longer Subject to MACT XXXX.

Remove one Carbon Black transfer system (ID No. CBT2-TS2), one pellet feed system operation (ID No. BO02) including four rubber pellet material systems with associated bagfilters (ID Nos. DC-25 through DC-28), and 7 dump sinks (ID No. PDS-2).

Changed definition of (ID No. TR01-AE63) and removed self-induced spray scrubber (ID No. DC-31)

Remove one cold feed quad extruder (ID No. QE01) and emergency fire pump (I-ESFP1).

(Note - All the above changes were requested in applicability determination # 3771 and were advised to wait till the next modification to make these changes).

III. Regulatory Analysis

A. 15A NCAC 02D .0515: "Particulates from Miscellaneous Industrial Processes;"

The allowable emission rates for particulate matter from any stack, vent, or outlet of any industrial process for which no other emission control standards are applicable shall not exceed the level calculated with the following equations:

$E = 55.0 \times (P)^{0.11} - 40$
For process rates less than or equal to 30 tons per hour:

$E = 4.10 \times (P)^{0.67}$
For process rates greater than 30 tons per hour:

Where:
E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

The process rate is 23,690 lbs. per hour or 11.845 tons per hour.

$E = 55.0 \times (P)^{0.11} - 40$
For process rates less than or equal to 30 tons per hour:

E = the allowable PM emission rate is 32.16 pounds per hour. The estimated potential after control emissions is 0.09 lbs. per hour of PM. (See Form B). Thus, it is expected this source will comply with this regulation.

There are no changes to the current testing, monitoring, record keeping, and reporting requirements as they are adequate to demonstrate compliance with this regulation.

B. 15A NCAC 02D .0521: "Control of Visible Emissions;"

The Banbury mixers are required to be observed once a week as the emission from the Banbury Mixer are expected to be low as per this regulation the visible emission from Banbury Mixer #7 (BB07-AE8-1) shall not be more than 20 % opacity when averaged over a six-minute period.

Monitoring and Recordkeeping

To ensure compliance with this regulation for this source the current permit requires the Permittee to observe the visible emissions on a weekly basis. As demonstrated above (02D .0515) the margin of compliance (between allowable and actual) is large and the opacity from the Banbury Mixer #7 are expected to be low given the source is controlled by bagfilters.

No changes will be made to the existing monitoring, recordkeeping, and reporting requirements with the exception of the following additional requirement:

The applicant shall establish "normal" for the Banbury Mixer #7 (BB07-AE8-1) and bagfilter (DC-20) in the first 30 days following beginning operation after the modification of the of Banbury Mixer #7 as presented in application no. 2600050.24A, If visible emissions from this source is observed to be above normal, the applicant shall either:

i. take appropriate action to correct the above-normal emissions as soon as practicable or

ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) is below 20 percent opacity. (history of 20%)

C. 15A NCAC 02D .0530: "Prevention of Significant Deterioration"

For this project to increase the size of the existing Banbury Mixer #7 (BB07-AE8-1) different calculation methodologies are used for existing and new units.

North Carolina PSD rules reference the PSD definitions in 40 CFR 51.166(b)(7)(i) and (ii) define new unit and existing units:

1. Baseline actual emissions (A);
2. Projected actual emissions (B);
3. "Could have accommodated" (commonly called the demand growth); And
4. Potential emissions (D)

For this project, the facility estimated "could have accommodated" emissions at zero, i.e., that all emission increases from baseline actual emissions are due to the proposed project.

Net emissions increase (NEI) is defined by 40 CFR 51.166(b)(3)(i): "Net emissions increase means, with respect to any regulated NSR pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero:"

(A) Baseline Actual Emissions

Baseline actual emissions are defined for existing units in 40 CFR 51.166(b)(47)(ii): Federal PSD regulations under 40 CFR 51.166(b)(47)(ii) state that the baseline actual emissions can be calculated using any 24-month period in the 10-year period immediately preceding a completed permit being received by the EPA or state agency. North Carolina Regulation 15A NCAC 2D .0530(b)(1)(A) states: "For an existing emissions unit, baseline actual emissions mean the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the **five-year period** immediately preceding the date that a complete permit application is received by the Division for a permit required under this Rule. The Director shall allow a different time period, not to exceed 10 years immediately preceding the date that a complete permit application is received by the Division, if the owner or operator demonstrates that it is more representative of normal source operation. "

Because the mixer and associated units are classified as existing units, baseline actual emissions are calculated for all units.

Baseline actual emissions for new units are defined in 40 CFR 51.166(b)(47)(iii) and 15A NCAC 2D .0530(b)(1)(B). For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit.

(B) Projected Actual Emissions

The facility is projecting an increase in emissions from the associated emission sources due to the increase in overall rubber throughput for the facility with the installation of the proposed cure presses.

As per 40 CFR 51.166(b)(40)(i): Projected actual emissions means the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated NSR pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source.

The facility is projecting an increase in emissions from the mixer, associated emission sources due to the changes to Mixer #7 with this project. Therefore, projected actual emissions are calculated from Mixer #7 and the associated emission sources and to determine the net emissions increase from this project.

(C) Potential Emissions

Potential emissions as defined by 40 CFR 51.166(b)(4) means … the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable...

Emissions from new equipment must be calculated using potential throughput. There will not be any new equipment associated with this project therefore, no potential emissions are included in the evaluation for this project.

Defining Existing versus New Emission Units

Different calculation methodologies are used for existing and new units North Carolina PSD rules reference the PSD definitions in 40 CFR 51.166(b)(7)(i) and (ii) define new unit and existing units:

i. A new emissions unit is any emissions unit that is (or will be) newly constructed and that has existed for less than 2 years from the date such emissions unit first operated.

ii. An existing emissions unit is any unit that does not meet the requirements in paragraph (b)(7)(i) of this section. A replacement unit, as defined in paragraph (b)(32) of this section, is an existing emissions unit.

Banbury Mixer #7 is not newly constructed and has existed for greater than 2 years therefore, the mixer will be classified as an existing emissions unit. The associated emissions units will also be classified as existing.

A replacement unit is defined in 40 CFR 51.166(b)(32) as follows:
Replacement unit means an emissions unit for which all the criteria listed in paragraphs (b)(32)(i) through (iv) of this section are met. No creditable emission reductions shall be generated from shutting down the existing emissions unit that is replaced.

i. The emissions unit is a reconstructed unit within the meaning of § 60.15(b)(1) of this chapter, or the emissions unit completely takes the place of an existing emissions unit
ii. The emissions unit is identical to or functionally equivalent to the replaced emissions unit
iii. The replacement does not change the basic design parameter(s) of the process unit-and
iv. The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.

The modifications to Mixer 7 do not meet the criteria in 40 CFR 51.166(b)(32)(i), as the emission unit is not a reconstructed unit within the meaning of 40 CFR 60.15(b)(1), which is defined as follows:

(b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:
(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility.

The cost of the proposed project to upgrade Mixer 7 is less than 50% of the fixed capital cost that would be required to construct a comparable entirely new mixer. Therefore, the modified Banbury Mixer #7 will be considered a true existing emission unit with respect to the PSD rules.

Annual Emissions Increase Calculation Methodology

As the facility is classified as a major source for PSD, if the proposed project were classified as a major modification, then the full PSD permitting requirements would apply. Project increases were evaluated to determine if the proposed project is a major modification using the current NSR Reform methodology.

For projects that involve only existing units, PSD applicability is determined using the actual-to-projected-actual applicability test in 40 CFR 51.166(a)(7)(iv)(c). For projects involving new emission units only, PSD applicability is determined using the actual-to-potential applicability test defined in 40 CFR 51.166(a)(7)(iv)(d) for projects that involve both new and existing units, and hybrid test is used in accordance with 40 CFR 51.166(a)(7)(iv)(f), with the actual-to-projected-actual calculation being used for the existing units, the actual-to-potential calculation being used for new units, and the total emissions increases being the sum of the results of all individual calculations for the units affected by the project:

(c) Actual-to-projected-actual applicability test for projects that only involve existing emission units. A significant emission increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions… and the baseline actual emissions… for each existing emissions unit, equals or exceeds the significant amount for that pollutant.

(d) Actual-to-potential test for projects that only involve construction of a new emissions unit(s). A significant emission increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit… from each new emissions unit… and the baseline actual emissions… equals or exceeds the significant rate for that pollutant….

(f) Hybrid test for projects that involve multiple types of emissions units. A significant emission increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in paragraphs (a)(2)(iv)(c) through (d) of this section as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant.

Major modification is defined by 40 CFR 51.166(b)(2)(i):

"Major Modification" means any physical change in or change in the method of operation of a major stationary source that would result in a significant emission increase … of a regulated NSR pollutant … and a significant net emission increase of that pollutant …

As the project is classified as a physical change, the project needs to be analyzed to determine if a significant net emissions increase will occur.

Net emissions increase (NEI) is defined by 40 CFR 51.166(b)(3)(i):

"Net Emissions Increase" means, with respect to any regulated NSR pollutant … the amount by which the sum of the following exceeds zero:

(a) The increase in emissions … as calculated pursuant to paragraph (a)(2)(iv) [for existing units, calculated by actual-to-projected actual or actual-to-potential for new units, calculated by actual-to-potential] of this section and

(b) Any other increases or decreases in actual emissions…that are contemporaneous with the particular change and are otherwise creditable. Baseline emissions for calculating increases and decreases…shall be determined as provided…

The first step (a) is commonly referred to as the "project emission increases" as it accounts only for emissions related to the proposed project itself. If the emission increase estimated per step (a) exceed the major modification thresholds, then the applicant may move to step (b), commonly referred to as the 5-year contemporaneous netting analysis. The netting analysis includes all projects for which emission increases or decreases occurred. If the resulting net emission increases exceed the major modification threshold after completing the netting analysis, then NSR permitting is required.

While the prior discussion only references three components of the NEI calculation, there are actually four calculated components, with the additional component being a subset of the definition for projected actual. The four components are listed below and are discussed individually, as appropriate.

1. Baseline actual emissions (A)

2. Projected actual emissions (B)
3. "Could have accommodated" emissions exclusion (C) (commonly called the demand growth exclusion)
4. Potential emissions (D)

For this project, the applicant estimated "could have accommodated" emissions at zero, i.e. that all emissions increase from baseline actual emissions are due to the proposed project.

Baseline actual emissions (A)

Baseline emissions within the 5-year period preceding this permit application were reviewed, and the baseline period of calendar years **2019 and 2020** for Mixer #7 was selected for all regulated pollutants, satisfying both federal and North Carolina baseline requirements.

Baseline emissions are calculated based on the throughput for each unit and applied emission factors. The baseline rubber and coupling agent throughput for Mixer #7 is based on the actual throughput during the baseline years, as calculated for the emissions inventory during the baseline period. The carbon black throughput for the associated sources (carbon black towers and surge bins) is directly related to the rubber throughput in the mixers. To determine the baseline carbon black throughput for these associated sources, the applicant utilized the percentage of total rubber throughput in Banbury Mixer #7 as a percentage of the total rubber throughput for all the mixers at the Fayetteville facility during the baseline period. The resulting percentage was applied to the total carbon black throughput for the entire facility during the baseline period to determine the baseline throughput for the associated sources.

Banbury Mixer #7 mixed 99.99% non-productive rubber during the baseline period therefore the 90% adjustment factor is applied. This resulting weighted emission factor for each pollutant is multiplied by the 90% adjustment factor and the baseline throughput to determine the baseline actual emissions for the mixer. VOC emissions from the mixer are not controlled. Controlled PM emissions from the mixer are calculated based on the uncontrolled emission rate and assuming a 99% control device efficiency. An example calculation for the **2019** calendar year PM emissions from Banbury Mixer #7 is shown below:

Banbury Mixer #7 2019 Baseline PM Emissions:

$$\text{PM Emissions} = \left(\text{Baseline Actual Throughput}\left(\frac{\text{lb}}{\text{yr}}\right) \times \sum(\text{Compound Emission Factor} \times \%\ \text{Compound})\right) \times 90\%\ \text{Non-productive Adjustment Factor} \times (1\text{-control efficiency}) \times \frac{1\ \text{ton}}{2{,}000\ \text{lbs}}$$

$$\text{PM Emissions} = 138{,}616{,}531\ \frac{\text{lb}}{\text{yr}} \times 4.51\text{e-}4\ \frac{\text{lb PM}}{\text{lb Rubber}} \times 90\% \times (1\text{-}99\%) \times \frac{1\ \text{ton}}{2{,}000\ \text{lbs}}$$

PM Emissions = 0.28 tpy

Coupling emissions are calculated by using the material usage based on the actual throughput during the baseline years, as calculated for the emissions inventory during the baseline period. The coupling agent usage is then multiplied by the VOC emission factor (lb VOC per lb of coupling agent used) and a VOC emissions percentage from mixing of 75% is applied to determine total uncontrolled VOC emissions from Banbury Mixer #7. Controlled emissions are calculated based on a control device capture efficiency of 84% based on unit specifications and 98.5% control efficiency, assuming the uncaptured emissions and the

controlled emissions from the RTO will be emitted. An example calculation for the VOC emissions from Banbury Mixer #7 is shown below:

Banbury Mixer #7 2019-2020 Baseline Coupling VOC Emissions:

$$\text{VOC Emissions} = \sum\left(\text{Average Baseline Actual Coupling Agent Throughput}\left(\frac{\text{lb}}{\text{yr}}\right)\times\text{VOC Emission Factor}\right)$$

$$\times 75\%\ \text{VOC Emissions from Mixing}\times\left((\text{1-capture efficiency})+\text{capture efficiency}\times(\text{1-control efficiency})\right)\times\frac{\text{1 ton}}{\text{2,000 lbs}}$$

$$\text{VOC Emissions} = 314{,}854\,\frac{\text{lb Silanic}}{\text{yr}}\times 0.388\,\frac{\text{lb VOC}}{\text{lb Silanic}}\times 75\%\times\left((\text{1-84\%})+84\%\times(\text{1-98.5\%})\right)\times\frac{\text{1 ton}}{\text{2,000 lbs}}$$

VOC Emissions = 7.91 tpy

Associated equipment, including carbon black towers and surge bins, are sources of particulate emissions only. Baseline emissions from the associated equipment were calculated using the baseline throughput, a fly loss percentage, and control efficiency of the dust collectors. Facility calculations assume a 1% fly loss percentage and a 98% control device efficiency for the associated equipment. All PM is assumed to be $PM_{2.5}$. There are no VOC emissions from these associated emissions units. An example calculation for the 2019 calendar year PM emissions from the Carbon Black Towers associated with Banbury Mixer #7 is shown below:

Carbon Black Towers 2019 Baseline PM Emissions:

$$\text{PM Emissions} = \text{2019 Total Carbon Black Throughput (tpy)}\times\frac{\text{2019 Mixer \#7 Throughput}\left(\frac{\text{lb}}{\text{yr}}\right)}{\text{2019 Total Mixer Throughput}\left(\frac{\text{lb}}{\text{yr}}\right)}\times$$

$$\%\ \text{Fly Loss}\times(\text{1-Control Efficiency \%})$$

$$\text{PM Emissions} = 45{,}327\,\frac{\text{ton}}{\text{yr}}\times\frac{138{,}616{,}531\,\frac{\text{lb}}{\text{yr}}}{853{,}048{,}890\,\frac{\text{lb}}{\text{yr}}}\times 1\%\times(\text{1-98\%})$$

PM Emissions = 1.47 tpy

Projected Actual Emissions (B)

The second step in determining the project emissions increase is calculating projected actual emissions. The projected actual emissions for Banbury Mixer #7 and all associated emission units are based on an increase of 15% from the baseline values, which is consistent with the facility's current projected maximum throughput for the upgraded mixer following the project. Projected actual emissions are calculated based on projected throughput, AP-42 emission factors, composition makeup of rubber to be mixed, the non-productive adjustment factor, and the dust collector control efficiency for PM emissions. The expected compound makeup is based on current factors used in most recent emission inventories. It is conservatively assumed that Mixer #7 will produce non-productive rubber. Additionally, the methodology for determining project actual emissions for coupling is based on an increase of 15% of coupling agent usage over baseline values.

The facility assumed that the proposed project will increase throughputs for carbon black towers and surge bins associated with Mixer #7. Projected actual throughputs are based on the projected actual throughput of Mixer #7 and average ratio of tower or surge bin throughput to Mixer #7 rubber throughput for the baseline period. The calculation methodology for projected actual emissions from associated units is identical to the methodology described as per the baseline actual emissions.

Potential Emissions (D)

Potential emission calculations are required for new emission units. For this proposed project, there are no new emission units proposed therefore, there are no potential emissions calculated for this project.

Emissions Increase Summary
The table below shows the emissions increases associated with the existing associated emission units:

Baseline Emissions (A)

Source	Total PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	VOC (tpy)
Banbury Mixer #7	0.25	0.25	0.25	3.47
Mixer # 7 Coupling	-	-	-	7.91
Carbon Black Towers	1.27	1.27	1.27	-
Surge Bins	1.27	1.27	1.27	-
Total Emissions	2.79	2.79	2.79	11.37

The table below shows the projected actual emissions from existing emission sources associated with the proposed project.

Projected Actual Emissions (B)

Source	Total PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	VOC (tpy)
Banbury Mixer #7	0.27	0.27	0.27	3.99
Mixer # 7 Coupling	-	-	-	7.91
Carbon Black Towers	1.54	1.54	1.54	-
Surge Bins	1.54	1.54	1.54	-
Total Emissions	3.36	3.36	3.36	13.08

To evaluate if the project must undergo PSD permitting, baseline actual emissions are subtracted from the sum of projected actual emissions from existing sources.

The results shown in the table below indicate that emissions from this proposed project are below the Significant Emission Rate (SER) for that pollutant.

Emissions Increase Summary

Source	Total PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	VOC (tpy)
Projected Actual Emissions (B)	3.36	3.36	3.36	13.08
Baseline Emission (A)	2.79	2.79	2.79	11.37
Total Change (B) – (A)	0.57	0.57	0.57	1.71
SER	25.0	15.0	10.0	40.0
PSD Review Required	No	No	No	No

Since the project emission changes are below the (SER) for that pollutant no PSD review is required. However, PSD applicability also needs to be evaluated considering recent projects consistent with current PSD Aggregation policy [2]. Please see the discussion below.

Revised Project Aggregation Summary

The facility had reviewed the total net emissions increase of all projects at the Fayetteville facility that have been included in recent 502(b)(10) notifications or permitting actions, including all projects within a 3-year time period of this application, starting with March 2021.

NC DAQ typically applies the economic relationship test to determine if two projects should be aggregated[3]. Although all of the projects included in the analysis are not all economically and technically dependent to the proposed Banbury Mixer #7 project, the applicant included all projects within a 3-year window for this analysis for simplicity and the total aggregated emissions were below the PSD SERs.

However, in the original submitted analysis, the emission of $PM_{2.5}$ was more than 50% of the SER and hence triggered the recordkeeping requirement pursuant to 15A NCAC 02D .0530(u). This was discussed with the permittee (See chronology, Section VII) The Permittee then provided a revised PSD project aggregation analysis considering the true economic and technical interdependence consistent with current PSD policy (See chronology, Section VII).

Below is a revised project aggregation summary for the projects completed at the Fayetteville facility over the past 3 years. In the original application, the applicant grouped all projects within the 3-year timeline together, but these projects are not all substantially related to the Mixer 7 project proposed in application 2600050.24A. A revised project aggregation summary is presented below.

Of the projects included in the original application, only the following two (2) projects should be included in the project aggregation based on the technical interconnection between the projects.

- Projects included in Mixer #7 project aggregation - Technical interconnection: Upgraded Mixing Capabilities at the facility:
  - Application 2600050.22A: Mixer #1 Upgrade.

[2] (Federal Register / Vol. 83, No. 221 / Thursday, November 15, 2018 / Rules and Regulations)

[3] As noted on page 23 of the application review of the renewal application number 2600050.19C for The Goodyear Tire & Rubber Company Fayetteville Facility.

- Application 2600050.24A: Mixer #7 Upgrade

An updated summary of the aggregated emissions for these related projects compared to the PSD SERs is provided in the table below. As provided in the table, the emissions increase associated with these aggregated projects is below 50% of the SER for all pollutants. Therefore, PSD permitting action is not required for this project and no additional monitoring or recordkeeping or reporting is required. No changes are necessary to the existing permit.

					Net Emissions Increase (Tons/yr)						
Project	**Permitting Mechanism**	**Application #**	**Submittal Date**	**Approximate Start Up Date**	**CO**	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**
Mixer #1 Upgrade	02Q .0515	2600050.21D Changed to 2600050.22A	7/19/2021	2024	--	--	2.55	2.55	2.55	--	6.99
Mixer #7 Upgrade	02Q .0515	This Application	3/24/2024	Fall 2024	--	--	0.57	0.57	0.57	--	1.71
Total Aggregated Emissions					**0.00**	**0.00**	**3.12**	**3.12**	**3.12**	**0.00**	**8.70**
PSD SER (tons/yr)					100	40	25	15	10	40	40
% of SER					0%	0%	12%	21%	31%	0%	22%

The following projects were included in the original project aggregation summary in the application since they occurred within the past 3-years. However, these are not substantially related to the Mixer #7 Upgrade project and, therefore, are excluded from the updated project aggregation summary for the Mixer #7 project:

- Technical interconnection: Upgraded tire curing capabilities at the facility:
  - Application 2600050.21C: Trench #8 – 13 Replacement Cure Presses.
  - Application 2600050.22B: Trench #8 – 13 New Cure Presses
  - Application 2600050.20B – GTS #10 Installation – Upgrade to GTS capabilities
  - Application 2600050.22A – FIT Machine & Engraver equipment install
  - Equipment added per specific customer requirement
- Application 2600050.22B – Mixer 6A Dust Collector Replacement – Plant safety project.

As per the table above none of the pollutants are 50% or higher above SER (rate). Thus, no additional monitoring or reporting is required.

IV. NSPS, NESHAPS/MACT, PSD, Attainment Status, 12(r), Air Toxics (NCGS) 143-215.107(a)(5) (House Bill 952), CAM Applicability, Retain 02D .0958 and Compliance Status:

NSPS

There are several significant and insignificant sources subject to NSPS at this facility, however the modified Banbury Mixer #7 (BB07-AE8-1) is not subject to any NSPS standards. Modification of this mixer does not subject this source to any NSPS standards.

NESHAP/MACT

There are several significant and insignificant sources subject to a MACT standard at this facility. The modified Banbury Mixer #7 (BB07-AE8-1) is subject to MACT XXXX. The proposed modification requires no changes to the existing monitoring, recordkeeping or reporting requirements under this rule. Continued compliance with this rule is expected.

Attainment Status and Increments

The PSD minor source baseline dates for the emissions of PM_{10}, NOx and SO_2 have been triggered for Cumberland County, which is currently designated as an attainment area.

The potential increase in criteria pollutants from the proposed project are shown in Section III C above. For the triggered pollutants, the project will only result in an increase of PM10 (i.e., 0.57 tpy). Based on operation of 8760 hours per year, the estimate hourly increase in PM10 is 0.13 pounds per hour.

112(r)

This facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in this rule.

CAM Applicability:

The CAM rule (40 CFR 64; 15A NCAC 02D .0614) applies to each pollutant specific emissions unit (PSEU) at major TV facilities that meets all three following criteria:

- the unit is subject to any emission limitation or standard for the applicable regulated pollutant.
- the unit uses any control device to achieve compliance with any such emission limitation or standard.
- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source (i.e., 100 tons per year for criteria pollutants or 10/25 tons per year for HAPs).

With respect to the proposed modified Banbury Mixer, the potential before control emission of PM is 40.04 tpy, the potential before control emission of VOC is 153.07 tpy, and the potential after control emission of VOC is 40.04 tpy. Thus, the mixer meets the pre-control device emissions threshold for CAM applicability only for VOC. The mixer uses a control device (RTO) to comply with a VOC emission limitation pursuant to 15A NCAC 02D .0530. Thus, the mixer is subject to CAM. Note that since the potential after control emissions of VOC are less than the "the amount equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source", the mixer is considered an "other pollutant specific emissions unit." As such, pursuant to 40 CFR 64.5 (b), CAM will be addressed at the next TV permit renewal.

Toxics

State enforceable only
15A NCAC 02Q .0700: TOXIC AIR POLLUTANT PROCEDURES
15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

The regulations at 15A NCAC 02Q .0700 require, with some exceptions, a permit to emit any toxic air pollutant (TAP) at levels greater than the toxic air pollutant permitting emission rate (TPER) specified in 15A NCAC 02Q .0711. These regulations include the procedural rules used to comply with the TAP control requirements found at 15A NCAC 02D .1100. 15A NCAC 02D .1104 contains Acceptable Ambient Levels (AALs) for each TAP. Generally, a facility must conduct a dispersion modeling analysis to demonstrate that each TAP emitted above its respective TPER will not result in the respective AAL being exceeded beyond the facility's premises. Collectively, these "toxics" rules are state-enforceable only and are not subject to the TV requirements found at 15A NCAC 02Q .0500.

All existing sources of TAPs at the Goodyear are subject to a MACT (i.e., MACT DDDDD, XXXX and ZZZZ) and therefore meet the exemption set forth in 15A NCAC 02Q .0702(a)(27). As such, a permit is not required pursuant to 15A NCAC 02Q .0700 for the sources of TAPs at Goodyear.

However, pursuant to 15 A NCAC 02Q .0706(d), sources meeting the exemption set forth in 15A NCAC 02Q .0702(a)(27) shall be reviewed by the Division pursuant to G.S. 143-215.107(a)(5)b. Thus, a determination needs to be made, if the operation of the facility after the modifications will pose an "unacceptable risk to human health."

It is noted in the permit review document for permit revision no. T47, issued March 9, 2015, that the initial determination, pursuant to North Carolina General Statute (G.S.) 143-215.107(a)(5)b, was made that the operation of the facility will not pose an "unacceptable risk to human health." Hence the existing 02D .1100 emission limitations were removed at that time. Every modification made since that time has reached the same conclusion of no unacceptable risk to human health pursuant to G.S. 143-215.107(a)(5)b.

On Friday, October 11 ,2024 a request for additional information was sent via email to Goodyear asking questions specifically related to the any increase in TAP emissions associated with the proposed project. Goodyear, responded the same day, October 11, 2024. Their response to the two questions posed are as follows:

1. **Will the proposed project result in an increase in emissions of TAPs?**
   The Mixer 7 project proposed in Air Permit Application No. 2600050.24A will not result in an increase in emissions of TAPs. The bottleneck of the facility is the cure press area which is downstream of the Mixer 7 operations and the cure press area will continue to be the facility bottleneck following this project. Therefore, the mixing throughput for the facility is limited by the curing throughput at the facility. As a result, the total mixing capacity at the facility (consisting of Banbury Mixers #1 through #8) will not change as a result of this project. Emissions of toxic air pollutants from mixing operations are tied directly to the mixer throughput; since the total mixing capacity from all mixing operations at the facility are not expected to change as a result of this project, the potential emissions of toxic air pollutants from the total of all mixing operations at the facility are not expected to change with this project. In addition, this project will not result in the emission of any pollutant listed in 15A NCAC 02Q .0711 not previously emitted before the project. This "mixing operations" approach to establishing emissions estimates is how EPA has developed their emissions factors and is standard for the industry.

2. **If it will result in an increase in TAPs, is the proposed project a modification as defined at 02Q .0703(14)?**
   As presented in the response to #1 above, the project will not result in an increase in potential emissions of TAPs from the site.

It seems reasonable to conclude that given the "bottleneck explanation" presented above, the proposed project will not result in a change in the facility-wide TAP emissions. Since the facility in its current state has been determined to not pose an unacceptable risk to human health pursuant to G.S. 143-215.107(a)(5)b, it is reasonable to conclude that the facility after the proposed modification will not pose an unacceptable risk to human health pursuant to G.S. 143-215.107(a)(5)b. No further review is necessary. No changes are necessary to the permit with respect to 15A NCAC 02Q .0700 or 02D .1100.

Compliance Status

Per the latest inspection performed on 02/14/2024 (as per Laserfiche) by Taijah Hamil of the Fayetteville Regional Office, "The Goodyear Tire and Rubber Company appeared to be operating IN COMPLIANCE with their current air permit except for the deviation noted for the 40 CFR Part 63 SUBPART ZZZZ."

The facility had not done the annual inspection for the fire pumps and emergency generators. This was regarding rescheduling issues with outside contractors.

PE Seal

15A NCAC 02Q .0112(a) states "If required by G.S. 89C, a professional engineer shall seal technical portions of air permit applications for new sources and modifications of existing sources..."

As per NC General Statue G.S. 89C "In order to safeguard life, health, and property, and to promote the public welfare, the practice of engineering … in this State are hereby declared to be subject to regulation in the public interest.

The One bagfilter (4,515 square feet of filter area, minimum, (DC-20) did not have any flow rate associated with this device and the applicant verified on 9/23/2024 that the flow rate for this device was 14,000 acfm.

15A NCAC 02Q .0112(b)(4) "particulate emission sources with air flow rates of less than or equal to 10,000 actual cubic feet per minute" are not required to have a PE seal.

Banbury Mixer #7 **(BB07-AE8-1**) is being upgraded to process a higher rate of rubber per year and all the control devices associated with this mixture bagfilter (DC-20) regenerative thermal oxidizers RTO-1 and RTO-2) have a flow rate more than 10,000 acfm a PE Seal was required and provided by Antoine H. Jabon's (Seal # 043183) on 9/23/2024.

Zoning Consistency Determination

Ms. Amber Moser, code enforcement officer, of the Cumberland County Planning and Inspection Department confirmed on 8/02/2024 that "This proposed operation is consistent with applicable zoning ordinances."

V. Recommendations

The minor permit application for The Goodyear Tire & Rubber Company located in Fayetteville, Cumberland County, North Carolina has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. DAQ recommends the issuance of Air Permit No. 00011T57.

VI. Miscellaneous

Checklist done for this application:

The responsible official in the draft permit matches the information on IBEAM.
The facility address matches the information on IBEAM.
All the regulatory references to 15A NCAC 02Q and 15A NCAC 02D have been verified.

Every instance of the word “assure” has been changed to “ensure” in the modified permit.
Removed all references from the bottom of the permitted sources table that no longer apply.
Removed word “Subpart” from the permit sources table (i.e., NSPS Subpart IIII, etc.,).
All old testing requirements have been deleted.
Updated language from the shell for regulations (example 15A NCAC 02D .0515, .0521, .0516, etc.,).
Updated General Conditions.

Regional office comments on received on 11/12/2024 – “The equations below are running off the page” (on page 12)
Fixed the equation.

Applicant comments for permit (received on 11/12/2024:
ID No. CBT2-TS2 – “Not requested to be removed from permit. Only change requested was to remove this from condition 2.1.C.1.c because it does not utilize a control device.”

ID No. BB04-P9-1 – “Should not be changed / removed with this application.”

BB05-Q9-1 – “Should not be changed / removed with this application”

ID No. BB06-R9-1 – “Should not be changed / removed with this application.”

ID No. BB06A-V9-1 – “Should not be changed / removed with this application.”

All the requested items were fixed.

VII. Chronology of Events

Date(s)	**Description of Events**
5/1/2024	Application received. The application was incomplete becuase the consistency determination was missing and A1 minor form not included
6/24/2024	Title V Minor Modification form provided.
6/30/2024	Questionnaire for Good Year Tire and Rubber Company 2600050.24A – Q1 -What are the units downstream of the Banbury Mixer #7 (BB07-AE8-1)? How do these units not affect the curing capacity of the Banbury Mixer #7? What is the rationale to use 15% increase? How was it determined? “Any coupling throughput increase at Mixer #7 will be counteracted by a decrease in coupling agent throughput at other mixers on the annual basis.” What are the annual decrease of coupling agent at other mixers? Are they accounted in the projected/potential increase for this project

Date(s)	Description of Events
7/23/2024	Response to the Questionnaire for Good Year Tire and Rubber Company 2600050.24A – Q1 – send on 6/30/2024
8/2/2024	Consistency determination received. Application complete.
8/15/2026	1st drafts of permit and review to Supervisor
8/25/2024	Comments from the Supervisor
8/28/2024	Discussed with Supervisor regarding the drafts and additional information required to complete the application.
8/28/2024	Discussed via phone with applicant all information discussed with joe regarding project aggregation does not trigger 02D .0530(u), demonstrate past toxics modeling and (House Bill 952), compliance with BACT, and non applicability of CAM
9/6/2024	Received via e-mail information from applicant regarding project aggregation, compliance with BACT, non applicability of CAM, The toxics demonstrate regarding (House Bill 952) was found to be incorrect.
9/26/2024	2nd drafts of permit and review to Supervisor
10/11/2024	A request for additional information was sent via email to Goodyear asking questions specifically related to the any increase in TAP emissions associated with the proposed project. (as noted in the review)
10/11/2024	Goodyear, responded the same day. See the response in the "Toxics discussion in Section IV of the review.
10/22/2024	Draft review sent to applicant
10/23/2024	Comments on draft review from the applicant (Melissa)
10/31/2024	2nd Draft to Applicant, regional office and SSCB
11/12/2024	Comments received from the applicant, regional office and SSCB
12/02/2024	Permit signed by Section Chief

VII. Summary of Changes to Permit

The following changes were made to Air Permit No. 00011T56:*

Pages No.	Section	Description of Changes
Cover letter		Format change to cover letter
Cover letter		Cover letter triggered increment tracking for PM_{10}.
Cover letter		Change in Responsible Official
4	(BT2-TS2)	(BT2-TS2) remove this equipment from Condition 2.1.C.1.c only
Accepted	SECTION 1: Table of permitted sources	Removal of four rubber pellet material feed systems for Banbury mixers 4, 5, 6, and 6A, (Nos. PFS4, PFS5, PFS6, and PFS6A)
8	Table of permitted sources	Update Banbury Mixer #7 (BB07-AE8-1) by increasing the size of the mixer.

Pages No.	Section	Description of Changes
9	Table of permitted sources	Removed Banbury mixer Nos. 5 and 6 dump sinks (PDS-2) and two bagfilters (4,560 square feet of filter area each, minimum) two bagfilters (4,560 square feet of filter area each, minimum ID nos. DC-172 and DC-173
9	Table of permitted sources	Removed, one cold feed quad extruder (QE01)
11	Table of permitted sources	Change the definition of TR01-F67 and TR01-F69 to "Tire Repair Tables 2 and 3, consisting of 1 dye grinder, each"
11	Table of permitted sources	TR01-AE63 description changed to "Tire Inspection Station" and this source is no longer subject to MACT XXXX
21	2.1 C	Removed "One Carbon Black transfer system (ID No. CBT2-TS2)"
21	2.1 C	Removed "One pellet feed system operation (ID No. BO02) including four rubber pellet material systems with associated bagfilters (ID Nos. DC-25 through DC-28)"
22	2.1 C	Removed "7 dump sinks (ID No. PDS-2)"
22	2.1 C	Changed definition of (ID No. TR01-AE63) and removed self-induced spray scrubber (ID No. DC-31)
22	2.1 C	Removed "One cold feed quad extruder (ID No. QE01)"
23	2.1 C.1a.	Sources CBT2-TS2, BO02, PDS-2, LE60, LE61, KE63, TR01-AE63, RG800, RG801, RG802, RG803, RG804, and RG805 not subject to 02D .0515 anymore. As source CBT2-TS2, BO02 is removed LE60 and LE61 changed to I-LE60 & I-LE61 insignificant sources.
24	2.1 C.2	Sources CBT1-TS1, CBT2-TS2, BO02, PDS-2, and TR01-AE63, not subject to 02D .0521 anymore. As source CBT2-TS2, BO02 is removed
24	2.1 C.2c.	Establish "normal" for the Banbury Mixer #7 **and** bagfilter (DC-20) in the first 30 days following operation after modification.
38	SECTION 3 Insignificant activities	Removed emergency fire pump (I-ESFP1)
38	Insignificant activities	Verified source description of I-ESFP2, I-ESFP5, I-ESFP6, and I-EG2
39 through 46	Section 4	General Conditions updated from version 6.0 to 8.0 (Section J. "Emergency Provisions" removed in the newer version)

* This list is not intended to be a detailed record of every change made to the permit but a summary of those changes