

Illinois Environmental Protection Agency  
Bureau of Air, Permit Section  
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Project Summary for a  
Construction Permit Application from  
Bridgestone Americas Tire Operations, LLC for an  
Expansion Project at its  
Existing Tire Manufacturing Plant in  
Normal, Illinois

Site Identification No.: 113823AAB  
Application No.: 12090015

Illinois EPA Contacts:

Permit Analyst: Jason Schnepf  
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Important Dates:

Application Received: September 10, 2012  
Comment Period Begins: November 1, 2012  
Comment Period Closes: December 1, 2012

## **I. Introduction**

Bridgestone Americas Tire Operations, LLC (Bridgestone) has applied for a construction permit for the manufacture of very large "giant" loader tires at its tire manufacturing plant in Normal. Bridgestone has also requested the permit establish operational and emission limits for the plant, including the giant loader tire expansion project, so that it is classified as a minor source for purposes of the federal rules for Prevention of Significant Deterioration of Air Quality (PSD), 40 CFR 52.21.

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed Bridgestone's application and made a preliminary determination that it meets applicable requirements for issuance of a permit. Accordingly, the Illinois EPA has prepared a draft of the permit that it would now propose to issue. Before issuing this permit, the Illinois EPA is holding a public comment period to receive comments on the proposed issuance of a permit for this expansion project.

## **II. Description**

### **A. Plant**

This tire manufacturing plant begins with rubber processing operations. Purchased rubber is prepared by conventional techniques, e.g., milling, extrusion and calendaring, for use on tire assembly machines. At the tire assembly machines, rubber sheets and other rubber material, e.g., calendered belt material, beads or tread material are wrapped around a metal cylinder the size of which is dependent upon the required bead diameter. Solvents are applied to the tire assemblies as needed to help the various rubber components adhere to one another. Once the tires have been built, they are cured in the curing presses or pot heaters, which involve a combination of hot water and steam. Cured tires may require final finishing such as grinding of imperfections. In the finishing department the repaired tires that pass the visual inspection process have the repaired areas ground and buffed to smooth the repair and make it blend in with the rest of the tire. These tires are then sprayed with a blemish paint.

### **B. Project Description**

This project includes physical changes to the tire assembly and curing operations at the plant. In the tire assembly operation, an additional tire assembly machine would be installed. In tire assembly machines, rubber components from upstream operations (e.g., extrusion, milling, and calendaring) are assembled to make "green" tires, i.e., tires that have not been cured. Volatile organic material (VOM) emissions evolve from the cement and solvent used during assembly.

In the curing operation, an additional curing press or "pot heater" would be installed. In the pot heater, a green tire is converted into a finished tire. Pot heaters consist of a frame into which a tire mold of the appropriate size, contour, tread pattern, and sidewall design is placed. Steam is used to provide the pressure and heat to form and vulcanize the tires. VOM emissions occur from organic compounds in the rubber that evolve due to the elevated temperatures at which curing occurs.

This project also addresses existing operations at the plant that will experience increased utilization with this project, e.g., rubber processing equipment and existing boilers.

### III. Emissions

About 90 percent of VOM emissions from the plant are generated at the tire assembly operations and the finishing spray operations. Emissions from these processes are calculated by material balance, i.e., volatiles in the solvent and cement used is assumed to be emitted. Emissions from rubber processing operations (e.g., extrusion, milling and curing) are determined using conservative process-specific emission factors.

Prior to calendar year 2000, actual VOM emissions from the plant were greater than 250 tons/year. Since then, actual VOM emissions have been below 250 tons/year.<sup>1</sup> As part of this permit, Bridgestone has requested that emissions for the plant be limited to less than 250 tons of VOM per year so that the plant, including the Giant Loader Expansion Project, can be considered a minor source for purposes of PSD.<sup>2</sup> Emission limits for all units at the plant as limited by this permit are provided in Condition 5 of the draft permit.

### IV. Applicable Emission Standards

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. The Board has standards for sources of VOM. This project should readily comply with all applicable Board standards.

The plant is not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Rubber Tire Manufacturing, 40 CFR 63 Subpart XXXX. This is because the plant is a minor source for emissions of hazardous air pollutants (HAPs).

The plant is also not subject to control requirements of the New Source Performance Standards (NSPS) for Rubber Tire Manufacturing Industry, 40 CFR

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<sup>1</sup> VOM emissions for the last five years as reported to the Illinois EPA are:

Year	VOM Emissions Tons/Year
2011	195.10
2010	157.81
2009	107.59
2008	240.23
2007	192.66

<sup>2</sup> PSD applicability was also performed for other pollutants at the plant and compared against the major source threshold of 250 tons/year. The permit would limit emissions of other pollutants as follows: 41.8 tons/year of Nitrogen oxides (NO<sub>x</sub>), 35.2 tons/year of Carbon Monoxide (CO), and 4.2 tons/year of particulate matter (PM including PM<sub>10</sub> and PM<sub>2.5</sub>). Greenhouse Gases expressed, as carbon dioxide equivalent (CO<sub>2</sub>e), was also limited below the major source threshold of 100,000 tons/year. The limit for CO<sub>2</sub>e emissions from the plant would be set at 55,000 tons/year.

60 Subpart BBB. This is because the NSPS does not apply to the larger tires produced by this plant.

#### **V. Draft Permit**

The conditions of the draft permit contain limitations and requirements to assure that the project addressed by this application will comply with all applicable Board emissions standards.

The permit conditions also establish appropriate compliance procedures, including recordkeeping and reporting requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the plant is operated within the limitations set by the permit.

#### **VI. Request for Comments**

It is the Illinois EPA's preliminary determination that the project meets all applicable state and federal air pollution control requirements, subject to the conditions proposed in the draft permit. The Illinois EPA is therefore proposing to issue a construction permit for this project.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit.