



# AIR POLLUTION CONTROL DISTRICT

## **Strategic Toxic Air Reduction (STAR) Program Request for Modification June 23, 2017**

Facility Name: American Synthetic Rubber Company  
Owner: Michelin North America, Inc.  
Address: 4500 Campground Road, Louisville, KY 40216  
Plant ID: 0011

### **Revised May 16, 2017, Request for Modification and Opportunity for Public Participation**

On May 16, 2017, American Synthetic Rubber Company, a division of Michelin North America, Inc. (ASRC), submitted a revised Request for Modification pursuant to Regulation 5.21 Section 5 for several Strategic Toxic Air Reduction (STAR) Program Environmental Acceptability (EA) goals. ASRC's revised request includes a demonstration of the Toxics Best Control Technology ("Best available technology for toxics" or T-BAT) for the affected processes.

T-BAT is defined in Regulation 5.00 Section 1.3 as "an emission standard that reflects the maximum reduction in emissions of, and risk from, a TAC that the Louisville Metro Air Pollution Control District (the District) determines can reasonably be achieved by a process or process equipment, taking into account energy, environmental, and economic impacts and other costs, and health and welfare benefits." This may include work practices, raw material substitutions, alternative processes and process design characteristics, air pollution control equipment, pollution prevention measures, equipment maintenance measures (including leak detection and repair), and upset condition prevention measures. District Regulation 5.21 Section 5.8 states that for requested modifications up to a cancer risk of 25 in a million "the District shall approve the requested modification if the District determines that the T-BAT requirement of section 5.2 is met, or will be met in a timely manner, and the resulting emission standard would provide an ample margin of safety to the exposed population." Section 5.9 of Regulation 5.21 states that for requests for modification with a cancer risk between 25 and 100 in a million, "the District may approve the requested modification, following an opportunity for public review and comment and a public hearing, if the District determines that the T-BAT requirement of section 5.2 is met, or will be met in a timely manner, and the resulting emission standard would provide an ample margin of safety to the exposed population."

Based on the District's review of the revised Request for Modification, ASRC's most substantive change is a proposal to reduce fugitive emissions of 1,3-butadiene from 6,708.4 pounds per year to 4,694 pounds per year. For this reason, the District is granting ASRC's request to withdraw its first Request for Modification and incorporating all of the comments received during the public comment periods and at the public hearings held on April 19, 2017, and on May 17, 2017, into its consideration of ASRC's revised Request for Modification. The District invites additional comments from the public on ASRC's revised Request for Modification. Written statements will be accepted by Industrial Permitting Engineering Manager, Paul Aud, 701 W. Ormsby Ave., Suite 303, Louisville, KY 40203, until 5:00 p.m., July 24, 2017. Written statements will also be accepted electronically until the same deadline via the Internet at the e-mail address "airpermits@louisvilleky.gov". Oral statements will be accepted at a public hearing in the 2<sup>nd</sup> floor ballroom of Memorial Auditorium, 970 S 4th St, Louisville, KY 40203 at 6:00 p.m., July 19, 2017. Copies of ASRC's revised Request for Modification and associated documents may be downloaded for review at <https://louisvilleky.gov/government/air-pollution-control-district/services/proposed-actions-apcd> or by calling (502) 574-6000.

The District will make a final decision on ASRC's revised Request for Modification at the end of the public comment period and public hearing. All comments made during all of the public comment periods and public hearings will be responded to in a formal Response to Comment document. The District will notify the public when it makes a final decision on ASRC's revised Request for Modification.

## **Background**

ASRC manufactures synthetic rubber products, polybutadiene rubber, styrene butadiene rubber by solution, and liquid polymer on a 60.5-acre site in southwest Jefferson County. The facility was originally constructed by the United States Government in 1943 within the industrial area known as "Rubbertown" to provide a vital supply of synthetic rubber during World War II. ASRC is subject to a variety of local and federal air pollution regulations, including the Hazardous Organic National Emission Standards for Hazardous Air Pollutants (the HON), 40 CFR 63 Subparts F-I, which require the implementation of certain measures deemed by the U.S. Environmental Protection Agency (EPA) to be the Maximum Available Control Technology (MACT), and the STAR Program.

In 2005, the Air Pollution Control Board adopted the STAR Program regulations requiring certain industrial emitters of toxic pollutants to demonstrate the environmental acceptability of their toxic air emissions (TACs). The STAR Program requires companies subject to the regulations to submit EA demonstrations and model individual and plant-wide emissions of TACS to estimate risks to offsite industrial and non-industrial properties. Companies with emissions that exceed the STAR Program's unmodified EA goals are required to submit a

compliance plan pursuant to Regulation 5.21 section 4, or request a modification, which includes a T-BAT demonstration, pursuant to section 5.

In 2006, ASRC submitted a required EA Demonstration for Category 1 and 2 Toxic Air Contaminants (“TACs”). On June 30, 2007, ASRC demonstrated that its emissions of all TACs met the plant-wide EA goal of 7.5 in a million for non-industrial property and 75 in a million for industrial property. The company also demonstrated that it met the single TAC/single process goal for emissions of 1,3-butadiene from the flare (C-FLARE) on industrial property and submitted a Request for Modification of an EA Goal and T-BAT demonstration for flare and fugitive emissions of 1,3-butadiene based on annual emissions of 19,000 lbs. from the flare and 2,868 lbs. from fugitive sources as shown in Table 1.

**Table 1**  
**2007 Request for Modification**

	Receptors	EA Goal	Proposed Modified Goal
		Cancer Risk ( $\times 10^{-6}$ )	
<b>All TACs/All Processes</b>	Non-Industrial receptors	7.5	No modification requested.
	Industrial receptors	75	No modification requested.
<b>Single TAC/Single Process 1,3-butadiene, Flare</b>	Industrial receptors	10	No modification requested.
	Non-Industrial receptors	1	2.12
<b>Single TAC/Single Process 1,3-butadiene, Fugitives</b>	Industrial receptors	10	42.10
	Non-Industrial receptors	1	1.94

The following measures were proposed as T-BAT:

1. For the flare, the use of the Flare TO (C-FLARE-TO) as the primary control device shall constitute T- BAT, so long as the flare is operated no more than 10% of allowed operating time (876 hours out of 8,760), and throughput to the flare and Flare TO is limited to 9,500,000 lbs. annually.
2. For fugitive emission sources, the enhanced Leak Detection and Repair (LDAR) provisions as shown in Table 2.

**Table 2**  
**2007 Enhanced LDAR Monitoring/T-BAT**

<b>LDAR Monitoring Component Type</b>	<b>HON-Required LDAR Monitoring</b>	<b>2007 Enhanced LDAR Monitoring/T-BAT</b>
<b>Valves</b>	Annually	Semi-annually
<b>Connectors</b>	Every 4 years	Semi-annually
<b>Pumps and Agitator Seals</b>	Monthly	Monthly
<b>Pressure Relief Valves</b>	Annually	Semi-annually
<b>Closed Vent Systems</b>	Annually	Semi-annually
<b>Potentially Open-Ended Lines</b>	Every 4 years	Semi-annually
<b>Instruments</b>	Exempt	Semi-annually

On October 13, 2008, the District determined that the enhanced LDAR provisions were T-BAT for the affected processes and provisionally approved the company's 2007 Request for Modification.

In April 2015, the District determined that emissions of 1,3-butadiene exceeded the modified EA goals for emissions from fugitive sources and that future emissions from these sources were likely to also exceed the modified amounts provisionally approved in 2008. During the same time period, emissions of 1,3-butadiene from the Flare TO continued to meet the modified EA goals established by the District in 2008.

As a result, the District issued Notice of Violation Letter 02612 to ASRC on September 21, 2015, and requested that the company submit a revised EA Demonstration and compliance plan to address the higher emissions from fugitive sources

On December 7, 2015, ASRC responded to the District's Notice of Violation and submitted a revised EA Demonstration and the Request for Modification and Upset Condition Prevention Plan. The company requested an increase in allowed emissions of 1,3-butadiene from fugitive sources from 2,868 lbs. to 6,708 lbs. per year. No increase in the emissions of 1,3-butadiene from the flare, i.e., 19,000 lbs., was requested.

On June 15, 2016, the District opened a public comment period on the 2015 Request for Modification, including specific permit conditions, which ended on July 18, 2016. The District received comments from ASRC; no other public comments were received. On March 11, 2017, the District opened a second public comment period, which was extended through May 12, 2017, on certain revised permit conditions. The revised permit conditions clarified certain provisions,

but did not change the T-BAT requirements or increase risk from the EA modification proposed June 15, 2016. Public hearings were held on April 19, 2017, and May 17, 2017.

### Requested EA Goal Modification and T-BAT Demonstration

As part of its revised Request for Modification, ASRC submitted an EA Demonstration showing that emissions of all TACs will meet the plant-wide EA goals of 7.5 in a million for non-industrial property and 75 in a million for industrial property, and that it will meet the single TAC/single process goal for emissions of 1,3-butadiene from the flare on industrial property. ASRC has requested that the District approve the modified EA goals based on annual 1,3-butadiene emissions of 19,000 lbs. from the flare and 4,694 lbs. from fugitive sources as shown in Table 3.

**Table 3**  
**2016-17 Request for Modification**

	Receptors	EA Goal	2007 ASRC Request	2015 ASRC Request	2017 ASRC Request
		Risk "in a million"			
<b>All TACs/All Processes</b>	Industrial receptors	75	No modification requested.	100	No modification requested 74.69
	Non-Industrial receptors	7.5	No modification requested.	No modification requested.	No modification requested. 6.02
<b>Single TAC/Single Process 1,3-butadiene, Flare</b>	Industrial receptors	10	No modification requested.	No modification requested.	No modification requested. 2.78
	Non-Industrial receptors	1	2.12	1.93	1.93
<b>Single TAC/Single Process 1,3-butadiene, Fugitives</b>	Industrial receptors	10	42.10	90.56	63.36
	Non-Industrial receptors	1	1.94	4.12	3.04

The District has prepared a Draft Modification Plan that includes necessary emission limits, and work practices, and the T-BAT requirements included in the company's revised Request for Modification. They include, among other things, the following:

1. For the flare, the use of the Flare TO as the primary control device shall constitute T-BAT, so long as the flare is operated no more than 10% of allowed operating time (876 hours out of 8,760), and combined throughput to the flare and Flare TO is limited to 9,500,000 lbs. annually.
2. For fugitive emission sources, all of the following:

- a. Replacement of all rupture disks in 1,3-butadiene service (completed in 2015; must continue to replace with similar equipment in the future);
- b. Threshold for first attempt to fix a leak (required within 5 days) is reduced to 250 ppm for components in 1,3-butadiene service;
- c. Leaks greater than 500 ppm that cannot be repaired within the 15 day timeframe as required by 40 CFR Subpart H\* and requiring delay of repair until next process unit shutdown will have a permanent repair or engineered solution placed on the component<sup>†</sup> within 90 days, provided that the cost of repair shall not exceed (\$5,000.00); and
- d. The enhanced LDAR provisions as shown in Table 4.

**Table 4**  
**2015 Enhanced LDAR Monitoring**

<b>Component Type in Enhanced Monitoring 1,3-butadiene Service</b>	<b>HON-Required LDAR Monitoring</b>	<b>2007 Enhanced LDAR Monitoring/T-BAT</b>	<b>2015/2017 goal modification request</b>
Valves	Annually	Semi-Annually	Quarterly
Connectors	Every 4 years	Semi-Annually	Quarterly
Pumps and Agitator Seals	Monthly	Monthly	Monthly
Pressure Relief Valves	Annually	Semi-Annually	Monthly
Compressors	Annually	Semi-Annually	Monthly
Closed Vent Systems	Every 4 years	Semi-Annually	Quarterly (Visual, Olfactory, and Auditory Method)
Potentially Open-Ended Lines	Exempt	Semi-Annually	Quarterly
Instruments		Semi-Annually	Quarterly
Components that are designated as “unsafe to monitor” or “difficult- to-monitor”		Annually	Annually

The District is also seeking comments on the enforceable standards, recordkeeping, reporting, and monitoring requirements included in the Draft Modification Plan. Changes in the Draft

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\* 40 CFR 63.171 states “Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown.”

<sup>†</sup> This is generally done with a cast that is clamped over leaking components, and a proprietary sealant injected at high pressure into the cast to create a seal that stops the leak.

Modification Plan from ASRC's first Request for Modification to its recently revised request are shown in redline/strike through. If approved by the District, the draft provisions would be included in an enforceable permit issued to the company. T-BAT shall be re-evaluated by the company every five years at permit renewal. If the District determines, at any time after approving a modified EA goal, that a revised T-BAT would achieve greater compliance with the EA goal, the District may require the owner or operator to implement the revised T-BAT in accordance with Regulation 5.21 section 5.

As an interim measure, ASRC entered into an Agreed Board Order with the Air Pollution Control Board on May 16, 2016, which requires, among other things, that ASRC implement all of the proposed T-BAT, including the 2016 enhanced LDAR provisions, and provide quarterly reports of its efforts to the District until such time as the District may issue a permit with any modified STAR environmental acceptability goals. A final Agreed Board Order to fully resolve the noncompliance issues identified in Notice of Violation Letter 02612 will be presented at a later date to the Air Pollution Control Board for its approval.