

Louisville Metro Air Pollution Control District
850 Barret Ave., Louisville, Kentucky 40204
20 September 2014

Construction Statement of Basis

Company: American Synthetic Rubber Company, a Division of Michelin North America, Inc.

Plant Location: 4500 Camp Ground Road, Louisville, KY 40216

Date Application Received: 27 June 2014
27 June 2014

Application Number: 65759 (Confidential)
65758 (Public)

Date of Draft Permit: 09/20/2014

District Engineer: Randy Schoenbaechler

Permit No: C-0011-1000-14

Plant ID: 0011

SIC Code: 2822

NAICS: 325212

AFS: 0011

Introduction:

This permit will be issued pursuant to District Regulation 2.03, Permit Requirements - Non-Title V Construction and Operating Permits and Demolition/Renovation Permits. Its purpose is to limit the plant-wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), 1 hr and 8 hr ozone (O₃), and particulate matter less than 10 microns (PM₁₀); and is a non-attainment area for particulate matter less than 2.5 microns (PM_{2.5}) and partial non-attainment area for sulfur dioxide (SO₂).

Application Type/Permit Activity:

- Initial Issuance
- Permit Revision
 - Administrative
 - Minor
 - Significant
- Permit Renewal
- Construction

Compliance Summary:

- Compliance certification signed
- Source is out of compliance
- Compliance schedule included
- Source is operating in compliance

I. Source Information

1. **Product/Process Description:** The source produces polybutadiene rubber (PBR) and styrene butadiene rubber (SSBR) by solution, and liquid polymer (LP).
2. **Project Description:** The source is converting from using toluene as an organic solvent to using a mixture of cyclohexane and methylcyclohexane for the production of all PBR/SSBR. This project is Phase 3 of the Plant Phased Solvent Conversion Project.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
4. **Emission Unit Summary:**

Construction No.	Equipment Description
C-0011-1000-14	New storage tanks and front-end process equipment as part of Phase 3 of a Plant Phased Solvent Conversion Project. See equipment table for complete list of equipment.

5. Permit Revisions

Revision No.	Date of Issuance	Public Notice Date	Type	Emission Unit/Page No.	Description
Initial	xx/xx/2014	09/20/2014	Initial	Entire Permit	Initial Permit Issuance

6. **Fugitive Sources:** There are no fugitive emissions for this project.

7. Plant-Wide Emission Summary:

Pollutant	Actual Emissions (tpy) 2012 Data	Pollutant that triggered Major Source Status (based on PTE)
VOC	402.85	Yes
CO	255.91	Yes
NO _x	444.68	Yes
SO ₂	112.73	Yes
PM	42.42	Yes
PM ₁₀	31.06	Yes
PM _{2.5}	29.58	Yes
Total HAPs	378.96	Yes
1, 3-Butadiene	4.03	Yes
Toluene	358.34	Yes
Styrene	9.08	Yes
Hydrogen Chloride	5.13	Yes

Pollutant	Actual Emissions (tpy) 2012 Data	Pollutant that triggered Major Source Status (based on PTE)
CO ₂ e	*507,257	Yes

*Note: The GHG are potential to emit (PTE) emissions not actual emissions.

8. Applicable Requirements:

PSD NSPS SIP MACT
 NSR NESHAPS District-Origin Other

9. MACT Requirements:

40 CFR Part 63 Subpart U

10. Other Referenced Federal Regulations in Permit:

None

II. Regulatory Analysis

1. Acid Rain Requirements: The source is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements: Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals. The source’s use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r): The source shall comply with the Risk Management Program and Regulation 5.15.

4. Basis of Regulation Applicability

a. Applicable Regulations:

Regulation	Title	Type
1.05	Compliance with Emission Standards and Maintenance Requirements	Federal
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements	SIP
2.16	Title V Operating Permits	SIP
2.05	Prevention of Significant Deterioration of Air Quality Note, ASRC accepted a PSD/Non-Attainment NSR avoidance limit. (See Permit Specific Condition S1.a.i. and Permit Footnote Comment 2.)	SIP

Regulation	Title	Type
5.00	Definitions	Local
5.01	General Provisions	SIP
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants	Local
5.14	Hazardous Air Pollutants and Source Categories	Local
5.15	Chemical Accident Prevention Provisions	Local
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	Local
5.21	Environmental Acceptability for Toxic Air Contaminants	Local
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	Local
5.23	Categories of Toxic Air Contaminants	Local
7.12	Standard of Performance for New Storage Vessels for Volatile Organic Compounds	SIP
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	SIP
40 CFR Part 63 Subpart U	National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins	Federal

b. Permit C-0011-1000-14:

i. Equipment:

Emission Points			
ID	Description	Applicable Regulation(s)	Basis for Applicability
C-0011-1000-14	New storage tanks and front-end process equipment as part of Phase 3 of a Plant Phased Solvent Conversion Project. See equipment table for complete list of equipment.	1.05	This regulation establishes the conditions for compliance with emissions standards.
		2.05	Provides for the prevention of significant deterioration of air quality where the national ambient air quality standards have been achieved. Note, ASRC accepted a PSD/Non-Attainment NSR avoidance limit. (See Permit Specific Condition S1.a.i. and Permit Footnote Comment 2.)
		5.00, 5.01, 5.20, 5.21, 5.22, 5.23	Regulation 5.21 establishes the criteria for determining the environmental acceptability of emissions of toxic air contaminants.
		7.12	Regulation 7.12 establishes requirements for volatile organic compounds for storage vessels that were constructed on or after April 19, 1972 and have a storage capacity greater than 250 gallons.

		7.25	Regulation 7.25 establishes requirements for each affected facility with VOC emissions that commenced after June 13, 1979.
		40 CFR Part 63 Subpart U	40 CFR Part 63 Subpart U establishes requirements for elastomer product process units (EPPU) and associated equipment

ii. Standards/Operating Limits:

a. VOC

- i. For Phase 3 new Emission Points C-604A, D-645, D-641, D-642, R-651, R-652, R-653, R-654, D-657, D-658 and D-655; Phase 2 new Emission Point D-8A; and Phase 1 new Emission Points T-605, D-612, C-615, D-616, C-623, D-7A, D-60A, D-61A, D-628, D-630, D-686, D-680, D-6A, and D-618, VOC emissions are limited to less than 40 tons per 12 consecutive month period in order to avoid PSD/Non-attainment NSR per Regulation 2.05. (The VOC limit of 40 tons per year is to avoid PSD/Non-attainment NSR for ASRC’s Plant Phased Solvent Conversion Project as a whole. Phase 3 new Emission Points C-604A, R-651, R-652, R-653, R-654; Phase 2 new Emission Point D-8A; and Phase 1 new Emission Points C-615 and C-623 are closed or closed pressurized systems, and therefore, should have no associated VOC emissions.)
- ii. Regulation 7.12, section 3.3 requires that submerged fill be maintained and operated for Emission Points D-641, D-642 and D-655.
- iii. Regulation 7.25, section 3.1 requires that VOC BACT is utilized for new Emission Points C-604A, D-645, R-651, R-652, R-653, R-654, D-657 and D-658. (New Emission Points C-604A, R-651, R-652, R-653, and R-654, each of which is a closed pressurized system, have each been determined by the District to be VOC BACT for Regulation 7.25.)

For involved Phase 3 new Emission Points D-645, D-657 and D-658, and for Emission Points D-64M (existing Phase 2), D-6A (new Phase 1), D-44 (existing Phase 1), D-44M (existing Phase 1),

D-45M (existing Phase 1) and Heat Cleaning Oven (existing pre-Solvent Conversion Project), each of which is not involved in Phase 3, the combined VOC emissions are limited to 5.0 tons per 12-consecutive month. (The combined potential uncontrolled VOC emissions are less than the plant-wide combined 5 TPY limit for Emission Points without a VOC BACT Review. Therefore, there are no monitoring and recordkeeping, and no reporting requirements under Regulation 7.25 for these Emission Points.)

The company submitted a VOC BACT Analysis on February 4, 2011 which showed that venting to the existing Flare Thermal Oxidizer and/or the existing Flare Control System is considered VOC BACT for the purposes of Regulation 7.25. The District accepted the BACT determination.

b. **1,3-Butadiene**

As required by the Title V Operating Permit 154-97-TV(R1), as well as Regulation 2.03, the existing Flare Thermal Oxidizer (C-FLARE TO) shall be utilized as the primary control device, with the existing Flare Control System (C-FLARE) maintained as a safety device and back-up control for existing C-FLARE TO, have a minimum destruction efficiency of 99.5%, a minimum of 0.50 second residence time, shall be used to combust the process vent stream up to the maximum design gas flow for the existing C-FLARE TO, and be allowed to divert any or all of the process vent stream from the existing C-FLARE TO to the existing C-FLARE for a maximum of 876 hours per 12-consecutive months.

c. **40 CFR Part 63 Subpart U HAP (Non-LDAR and LDAR)**

The source is subject to 40 CFR Part 63 Subpart U of Regulation 5.02, section 4.19, as applicable.

d. **TAC**

Regulations 5.00 and 5.21 require that TAC emissions do not exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis.

iii. **Monitoring and Record Keeping**

a. **VOC**

Regulation 7.25, section 4 requires the source to operate devices specified in the permit to determine the degree and effectiveness of air pollution control equipment (e.g. rates of flow). Regulation 2.03, section 6.1 requires sufficient monitoring and record keeping assuring ongoing compliance with the terms and conditions of the permit.

b. **1,3-Butadiene**

Regulation 2.03, section 6.1 requires sufficient monitoring and record keeping assuring ongoing compliance with the terms and conditions of the permit.

c. **40 CFR Part 63 Subpart U HAP (Non-LDAR and LDAR)**

The source is required to comply with applicable monitoring and record keeping requirements of 40 CFR Part 63 Subpart U.

d. **TAC**

Regulation 5.21, section 4.10 establishes monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.

iv. **Reporting**

a. **VOC**

Regulation 2.03, section 6.1 requires reporting to assure compliance with the terms and conditions of the permit. The source is required to report VOC emissions and any exceedances in their semi-annual compliance reports as well as any periods of time that the Flare Thermal Oxidizer and/or the Flare Control System were not in operation.

b. **1,3-Butadiene**

Regulation 2.03, section 6.1 requires reporting to assure compliance with the terms and conditions of the permit. The source is required to report 1,3-Butadiene emissions, the

amount of time the process vent stream flow was diverted from the Flare Thermal Oxidizer to the Flare Control System, any by-passes that occurred, and any exceedances of gas flow in their quarterly reports. In addition, any exceedances must be reported in the semiannual reports.

c. **40 CFR Part 63 Subpart U HAP (Non-LDAR and LDAR)**

The source is required to comply with applicable reporting requirements of 40 CFR Part 63 Subpart U.

d. **TAC**

Regulation 5.21, sections 4.22, 4.23, and 4.24 require the source to submit a re-evaluated environmentally acceptable (EA) demonstration with each construction application, permit renewal, or within 6 months of making a change.

III. Other Requirements

1. **Temporary Sources:** The source did not request to operate any temporary facilities.
2. **Short Term Activities:** The source did not report any short term activities.
3. **Emissions Trading:** N/A
4. **Operational Flexibility:** The source did not request any operational flexibility for this equipment.
5. **Compliance History:**

Incident Date(s)	Regulation Violated	Result
12/20/1993	7.02	Board Order
12/9/1994	7.02	Board Order
7/6/1996	7.02	Settled
5/8/1998	1.09	Settled
3/3/1999	1.09	Settled
7/26/2003	5.02	Settled
1/15/2004	5.15	Settled
4/3/2007 4/11/2007,	2.03, 2.16	Board Order
1/6/2009, 3/25/2009, 9/29/2009	2.16, 1.09, 1.13	Board Order
5/27/2010	2.16	Board Order

- 6. Permit Fee:** The construction permit fees are based on a significant permit revision (including new construction and initial issuance), one applicable MACT Standard (40 CFR Part 63 Subpart U) and STAR Program de minimis determination only for two TACs in accordance with the Schedule of Fees Table table (for Fiscal Year 2015) in Regulation 2.08.
- 7. Insignificant Activities:** All equipment items associated with the Phase 3 project are new and have been demonstrated to be insignificant activities with applicable regulatory standards, monitoring and record keeping as shown in the permit conditions and as explained in Footnote 14 and 15.