

Louisville Metro Air Pollution Control District
850 Barret Ave., Louisville, Kentucky 40204
January 24, 2015

Construction Statement of Basis

Company: Hexion Inc.

Plant Location: 6200 Camp Ground Road, Louisville, KY 40216

Date Received	Application Number	Application Number	Description	Permit Number
11/24/2014		68176	Unit 7 Cat. Ox.	54-02-C (R2)

Public Comment Date: 01/24/2015

Proposed Permit Date: 01/24/2015

District Engineer: Randy Schoenbaechler

Permit No: 54-02-C (R2)

Plant ID: 00028

SIC Code: 2821

NAICS: 325211

AFS: 00028

Introduction:

These permits 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 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 for sulfur dioxide (SO₂).

Application Type/Permit Activity:

Initial Issuance

Permit Revision

Administrative

Minor

Significant

Permit Renewal

Compliance Summary:

Compliance certification signed

Compliance schedule included

Source is out of compliance

Source is operating in compliance

I. Source Information

1. **Product/Process Description:** The source produces formaldehyde and phenolic resins.
2. **Process Description:** The source reacts monomers using the silver or metal oxide process to produce formaldehyde. The source produces phenolic resins. The source produces steam for plant-wide use with gas and fuel oil fired boilers.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent and under common control.
4. **Emission Unit Summary:**
Unit 7. Formaldehyde Production - Metal Oxide Process
5. **Permit Revisions**

54-02-C(R1)

Revision No.	Issue Date	Public Notice Date	Type	Page No.	Description
Initial	5/9/2002	NA	Initial	Entire Permit	Catalytic Oxidizer
1	9/25/2014	8/10/2014	Significant	Entire Permit	Oxidizer operating parameter revision.
2	x/xx/2015	1/24/2015	Significant	Permit pages; 9 (Specific Conditions S2.a.iii, S2.a.iv.) and 10 (Specific Condition S2.a.vii.)	Oxidizer monitoring revisions.

6. **Fugitive Sources:** Fugitive emissions of dust from any part of the plant are subject to Regulation 1.14, *Control of Fugitive Particulate Emissions*.
7. **Plant-wide Emission Summary:**

Pollutant	District Calculated Actual Emissions 2013 Data (tpy)	Major Source Status (based on PTE)
CO	37.48	Yes
NO _x	15.21	No
SO ₂	0.13	Yes
PM	25.91	Yes
PM ₁₀	25.12	
VOC	20.13	Yes
Phenol	6.43	6.71
Formaldehyde	0.868	Yes
Methanol	4.56	Yes
Total HAPs	13.14	Yes
GHG	103,800.4*	Yes

Note: The source accepted synthetic minor source limits on all criteria pollutants and HAPs
 *Note: The GHG are potential to emit (PTE) emissions not actual emissions.

8. Applicable Requirements:

PSD Part 60 SIP Part 63
 NSR Part 61 District-Origin Other

9. MACT Requirements:

This source was major for HAPs before October 31, 2005 and is subject to the following MACT regulations:

40 CFR 63 Subpart A	General Provisions
40 CFR 63 Subpart F	National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry
40 CFR 63 Subpart G	National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater
40 CFR 63 Subpart H	National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks

10. Referenced non-MACT 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 does manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount. The required Risk Management Plan was submitted on October 27, 2009.
- 4. 40 CFR Part 64 Applicability Determination:** In accordance with 40 CFR 64, Compliance Assurance Monitoring for Major Stationary Sources, the source is not required to propose a CAM plan based on current process and control device requirements and practices.
- 5. Basis of Regulation Applicability**

a. **Applicable Regulations:**

Regulation	Title	Type
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements	SIP
2.07	Public Notification for Title V, PSD, and Offset Permits; SIP Revisions; and Use of Emission Reduction Credits	SIP
5.00	Standards for Toxic Air Contaminants and Hazardous Air Pollutants	Local
5.01	General Provisions	SIP
5.02	Federal Emission Standards for Hazardous Air Pollutants Incorporated by Reference	Local
5.14	Hazardous Air Pollutants and Source Categories	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
7.01	General Provisions (for <i>New Affected Facilities</i>)	SIP
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

b. **Basis for Applicability**

Regulation	Basis for Applicability
2.03	Establishes requirements for Permits to Construct and Operate
2.07	Title V source
5.00	Establishes definitions of terms used in the Strategic Toxic Air Reduction Program.
5.01	Establishes general provisions for process equipment from which a toxic air contaminant is or may be emitted.
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
5.20	Establishes the methodology for determining the benchmark ambient concentration of a toxic air contaminant.

Regulation	Basis for Applicability
5.21	Establishes the criteria for determining the environmental acceptability of emissions of toxic air contaminants.
5.22	Establishes the procedures for determining the maximum ambient concentration of a toxic air contaminant.
5.23	Establishes categories of toxic air contaminants.
7.01	General applicability.
7.12	Storage tanks with a capacity greater than 250 gallons constructed after April 19, 1972
7.25	Affected facility constructed after June 13, 1979 for VOC.
40 CFR 63 Subpart A	These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants.
40 CFR 63 Subpart F	National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry
40 CFR 63 Subpart G	National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater
40 CFR 63 Subpart H	National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks

c. **Permit (54-02-C(R1))**

i. **Equipment**

One (1) MO Catalytic Oxidizer (C5), make Anguil, model 75

ii. **Standards/Operating Limits**

a. **VOC**

Regulation 7.25, section 3.1 requires sources to comply with BACT. The source submitted a BACT analysis dated September 26, 2005. From the BACT analysis the district determined that the plant-wide VOC emissions for all emission points are limited to 70 tons or less per 12 consecutive month period. The plant-wide limit includes all process equipment, storage tanks, loading racks, etc. that emit VOCs.

b. **TAC**

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

2) Regulation 5.21, sections 4.11.1 and 4.11.2 require that the permit contains emission standards for each Category 1-4 TAC emitted that have been demonstrated to comply with an applicable EA goal.

c. **HAP**

Federal Regulation 40 CFR 63 Subparts F, G, and H regulate the emissions of HAP from the synthetic organic manufacturing industry. Although a synthetic minor source for HAP emissions the Company agreed to regulation of the two Formaldehyde production processes as part of Board Order agreement 2142.

iv. **Monitoring and Recordkeeping**

a. **VOC**

Regulation 7.25 does not contain specific monitoring and record keeping requirements, but, Regulation 2.03, section 6.1 requires all necessary monitoring or record keeping requirements to ensure compliance with the standards be contained in the permit.

b. **TAC**

Regulation 5.21, section 4.10 requires sufficient monitoring or record keeping requirements to ensure compliance with the standards.

c. **HAP**

Federal Regulation 40 CFR 63 Subparts F, G, and H regulate the emissions of HAP from the synthetic organic manufacturing industry. Although a synthetic minor source for HAP emissions the Company agreed to regulation of the two Formaldehyde production processes as part of Board Order agreement 2142.

v. **Reporting**

a. **VOC**

Regulation 7.25 does not contain specific reporting requirements, however, Regulation 2.03, section 5.1 requires sufficient reporting requirements to ensure compliance with the emission limits.

b. **TAC**

1) Regulation 5.21, section 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 that impacts the demonstration of environmental acceptability.

- 2) Regulation 5.21 does not contain specific reporting requirements; however, Regulation 2.03, section 5.1 requires sufficient reporting requirements to ensure compliance with the emission limits.

c. **HAP**

Federal Regulation 40 CFR 63 Subparts F, G, and H regulate the emissions of HAP from the synthetic organic manufacturing industry. Although a synthetic minor source for HAP emissions the Company agreed to regulation of the two Formaldehyde production processes as part of Board Order agreement 2142.

vi. **Testing**

VOC/TAC

The District may require any reporting requirements necessary to ensure compliance with the standards per Regulation 2.03, section 6.1

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 the emission points.

5. Compliance History:

Incident Dates	Regulation Violated	Result
4/27/1998	1.09 0 General Prohibition of Air Pollution	Agreement
10/29/1999	2.17 03 GENERAL PROVISIONS 7.25 03 Failure to Comply with VOC limit or BACT 5.11 00 AIR TOXICS-EXISTING-EXCEEDING STANDARDS 7.25 03 SOP-NEW SOURCES USING VOC 5.11 01 SOP-EXISTING SOURCES EMITTING TAP 2.17 03 COMPLIANCE WITH PERMIT	Board Order
2/27/2003	1.13 02 ODORS-PROHIBITION	Agreement
9/1/2011	2.17 03 Failure to Comply with FEDOOP Permit 1.07 04 Failure to Report Excess Emissions	Board Order
9/12/14	2.03 5 Failure to Comply with District Permit	Board Order

6. Calculation Methodology:

The Company uses a variety of 9 methods to estimate air emissions. Most of the emission estimates are based on established calculation methodologies for common processes and emissions-generating activities, which are based on EPA's AP-42.

7. Permit Fee: Construction permit fees are based on the Schedule of Fees table in Regulation 2.08, section 12.

8. Insignificant Activities: There are no insignificant activities contained in this construction permit.