Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

Title V Construction Permit

Permit No.: C-0028-19-0035-V Plant ID: 0028
Effective Date: xx/xx/2020 Expiration Date: xx/xx/2020

Source: **Hexion Inc.**
6200 Camp Ground Road
Louisville, KY 40216

Owner: **Hexion Inc.**
180 East Broad Street
Columbus, OH 43215

is authorized to install the described process equipment by the Louisville Metro Air Pollution Control District. Authorization is based on information provided with the application submitted by the company and in accordance with applicable regulations and the conditions specified herein.

Process equipment description:

The source plans to remove the Recuperative Thermal Oxidizer (RTO) as a permitted control device from the Wastewater Treatment Plant's V-717R (Digester), V-750 (East Equalization Tank), and V-751 (West Equalization Tank) based on inlet stack testing performed on August 28, 2019 that indicated *de minimis* levels of TAC pollutants.

Public Notice Date: 02/13/2020

Permit writer: Ulalo Chirwa

Air Pollution Control Officer
{date1}

Table of Contents

Construction Permit Revisions and Changes

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
29971-10-C	01/05/2011	02/11/2011	Initial	Two (2) 210,000 gal Equalization Tank (#1 & #2) (T-101A & T-101B), Two (2) Primary Clarifiers (#1 & #2) (T-101A & T-102B), One (1) Equalization Sump Pump (SMP-EQ), One (1) 100,000 gal Digester (V-717), One (1) 5000 gal Sulfuric Acid Storage Tank (V-712), and One Recuperative Thermal Oxidizer (WWTP RTO).
C-0028-19-0035-V	02/13/2020	xx/xx/2020	Initial	Removal of the Recuperative Thermal Oxidizer (RTO) as a permitted control device from the Wastewater Treatment Plant's V-717R (Digester), V-750 (East Equalization Tank), and V-751 (West Equalization Tank) based on stack testing performed on August 28, 2019.

Application and Related Documents

Document Number	Date	Description
70803	08/14/2019	Source submitted an intent to test notification of U7 MO Catox and U9 WWT RTO
123082	10/15/2019	Source submitted stack test results from the U9 WWT RTO and requested the removal of the RTO control device
122280	10/15/2019	Construction Application

Abbreviations and Acronyms

AP-42	- AP-42, *Compilation of Air Pollutant Emission Factors, published by U.S.EPA*
APCD	- Louisville Metro Air Pollution Control District
BAC	- Benchmark Ambient Concentration
BACT	- Best Available Control Technology
Btu	- British thermal unit
CEMS	- Continuous Emission Monitoring System
CFR	- Code of Federal Regulations
CO	- Carbon monoxide
District	- Louisville Metro Air Pollution Control District
EA	- Environmental Acceptability
gal	- U.S. fluid gallons
GHG	- Greenhouse Gas
HAP	- Hazardous Air Pollutant
Hg	- Mercury
hr	- Hour
in.	- Inches
lbs	- Pounds
l	- Liter
LMAPCD	- Louisville Metro Air Pollution Control District
mmHg	- Millimeters of mercury column height
MM	- Million
(M)SDS	- (Material) Safety Data Sheet
NAICS	- North American Industry Classification System
NO_x	- Nitrogen oxides
PM	- Particulate Matter
PM_{10}	- Particulate Matter less than 10 microns
$PM_{2.5}$	- Particulate Matter less than 2.5 microns
ppm	- parts per million
PSD	- Prevention of Significant Deterioration
psia	- Pounds per square inch absolute
QA	- Quality Assurance
RACT	- Reasonably Available Control Technology
SIC	- Standard Industrial Classification
SIP	- State Implementation Plan
SO_2	- Sulfur dioxide
STAR	- Strategic Toxic Air Reduction
TAC	- Toxic Air Contaminant
UTM	- Universal Transverse Mercator
VOC	- Volatile Organic Compound
w.c.	- Water column
year	- Any period of twelve consecutive months, unless "calendar year" is specified
yr	- Year, or any 12 consecutive-month period, as determined by context

Preamble

This permit covers only the provisions of Kentucky Revised Statutes Chapter 77 Air Pollution Control, the regulations of the Louisville Metro Air Pollution Control District (District) and, where appropriate, certain federal regulations. The issuance of this permit does not exempt any owner or operator to whom it has been issued from prosecution on account of the emission or issuance of any air contaminant caused or permitted by such owner or operator in violation of any of the provisions of KRS 77 or District regulations. Any permit shall be considered invalid if timely payment of annual fees is not made. The permit contains general permit conditions and specific permit conditions. General conditions are applicable unless a more stringent requirement is specified elsewhere in the permit.

General Conditions

G1. The owner or operator of the affected facility covered by this permit shall notify the District of any process change, equipment change, material change, or change in method or hours of operation. This requirement is applicable to those changes (except equipment changes) that may have the potential for increasing the emission of air contaminants to a level in excess of the applicable limits or standards specified in this permit or District regulations.

G2. The owner or operator shall obtain new or revised permits from the District in accordance with District Regulation 2.16 for Title V sources, District Regulation 2.17 for FEDOOP sources or District Regulation 2.03 for other sources including:

a. The company relocates to a different physical address.

b. The ownership of the company is changed.

c. The name of the company as shown on the permit is changed.

d. Permits are nearing expiration or have expired.

G3. The owner or operator shall submit a timely application for changes according to G2. Timely renewal is not always achievable; therefore, the company is hereby authorized to continue operation in compliance with the latest District permit(s) until the District issues the renewed permit(s).

G4. The owner or operator shall not be authorized to transfer ownership or responsibility of the permit. The District may transfer permits after appropriate notification (Form AP- 100A) has been received and review has been made.

G5. The owner or operator shall pay the required permit fees within 45 days after issuance of the SOF by the District, unless other arrangements have been proposed and accepted by the District.

G6. This permit allows operation 8,760 hours per year unless specifically limited elsewhere in this permit.

G7. The owner or operator shall submit emission inventory reports as required by Regulation 1.06.

G8. The owner or operator shall timely report abnormal conditions or operational changes, which may cause excess emissions as required by Regulation 1.07.

G9. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month.

G10. If a change in the Responsible Official (RO) occurs during the term of this permit, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of the date the RO change occurs.

G11. **Other Applicable Regulations** - The owner or operator shall comply with all applicable requirements of the following:

Regulation	Title
1.01	General Application of Regulations and Standards
1.02	Definitions
1.03	Abbreviations and Acronyms
1.04	Performance Tests
1.05	Compliance With Emissions Standards And Maintenance Requirements
1.06	Source Self-Monitoring, Emission Inventory Development and Reporting
1.07	Excess Emissions During Startups, Shutdowns, and Upset Conditions
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention
1.11	Control of Open Burning
1.14	Control of Fugitive Particulate Emissions
1.18	Rule Effectiveness
1.19	Administrative Hearings
2.01	General Application (Permit Requirements)
2.02	Air Pollution Regulation Requirements and Exemptions
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements
2.04	Construction or Modification of Major Sources in or Impacting Upon Non-Attainment Areas (Emission Offset Requirements)
2.05	Prevention of Significant Deterioration
2.06	Permit Requirements – Other Sources
2.07	Public Notification for Title V, PSD, and Other Offset Permits; SIP Revisions; and Use of Emission Reduction Credits
2.09	Causes for Permit Modification, Revocation, or Suspension
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
3.01	Ambient Air Quality Standards
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.04	Particulate and Sulfur Dioxide Reduction Requirements
4.05	Hydrocarbon and Nitrogen Oxides Reduction Requirements
4.06	Carbon Monoxide Reduction Requirements
4.07	Episode Reporting Requirements
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (New Affected Facilities)

District Only Enforceable Regulations:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors
2.08	Emission Fee, Permit Fees and Permit Renewal Procedures
2.16	Title V Operating Permits
5.00	Definitions
5.01	General Provisions
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
5.14	Hazardous Air Pollutants and Source Categories
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant
5.21	Environmental Acceptability for Toxic Air Contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant
5.23	Categories of Toxic Air Contaminants
7.02	Adoption and Incorporation by Reference of Federal New Source Performance Standards

Emission Unit U9: Wastewater Treatment Plant

Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
7.25	Standard of Performance for New Sources Using Volatile Organic Materials	1 through 5
40 CFR 63 Subpart A	General Provisions	§63.1 through §63.15
40 CFR 63 Subpart F	National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry	§63.100, §63.105

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

Equipment

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E422	Stream #2: Weir/Waterfall (Sump 3)	1977	STAR, 7.25 40 CFR 63 Subpart F	NA	FS024
E423	Waste #6: Storage Tank (Sump 8A)	1977			FS027

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
T-101A	West EQ Tank (96V-751)[1]	2009	STAR, 7.25 40 CFR 63 Subpart F	NA	S179 or S187-atm
T-101B	East EQ Tank (96V-750)[1]	2009			S179 or S188-atm
E426	N Aeration Basin	1977	STAR, 7.25 40 CFR 63 Subpart F	NA	FS018
E427	S Aeration Basin	1977			FS019
E428	West Clarifier (V-701A)	2009			FS016
E429	East Clarifier (V-701B)	2009			FS020
E434	Digester, 100,000 gal (V-717)[1]	2016			S179 or S189-atm
E230	Rinse Water Storage Tank, 25,000 gal (V-238)	1996			S85
E441a	Open Trench (filter press)	2009			FS022
E441b	Stream #8: Open Trench (storm water)	2009			FS026
T-102A	Clarifier Primary North (V-770A)	2009			PClar1
T-102B	Clarifier Primary South (V770B)	2009			PClar2
E480	EQ Tank Sump (V-760)	2009			EQ Tank Sump
E487	Run Down Tank	2009			FS021
E488	Stream #1: Storage Tank (caustic wash)	2009			FS023
E489	Stream #3: Weir/Waterfall (sump 14)	2009			FS025
E490	Stream #4: Weir/Waterfall (sump 25)	2009			FS028
E401	Sulfuric acid (H_2SO_4) Tank	2009	STAR	NA	S54

Control Devices

There are no control devices associated with Emission Unit U9.

[1] TAC emissions from West EQ Tank (T-101A), East EQ Tank (T-101B), and Digester (E434) are *de minimis* uncontrolled based on a stack test performed on August 28, 2019. Source is removing the WWTP Recuperative Thermal Oxidizer (E475) as a permitted control device associated with this equipment only.

U9 Emergency Vents

ID	Description	Operating Condition
S187-atm	Emergency bypass vent to atmosphere for West EQ Tank	The emergency vents shall be used only during an emergency event that meets General Condition 5: **Emergency Provision**. During such events, the emergency vents can be used in order to avoid safety hazards or equipment damage. Excess emissions during emergency events shall be reported to the District as required by the Emergency Provisions.
S188-atm	Emergency bypass vent to atmosphere for West EQ Tank	
S189-atm	Emergency bypass vent to atmosphere for Digester	

U9 Specific Conditions

S1. Standards

[Regulation 2.03, section 6.1]

a. HAP

i. The owner or operator shall limit plantwide single HAP emissions to less than 10 tons per 12-consecutive month rolling period.[2] [Board Order Agreement 2142]

ii. The owner or operator shall limit plantwide total HAP emissions to less than 25 tons per 12-consecutive month rolling period.[2] [Board Order Agreement 2142]

iii. HON MACT Requirements for Maintenance wastewater requirements[3]

(1) The owner or operator shall comply with the requirements of §§63.105(b) through (e) for maintenance wastewaters containing those organic HAP's listed in table 9 of subpart G.
[40 CFR 63.105(a)]

(2) The owner or operator shall prepare a description of maintenance procedures for management of wastewaters generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (i.e., a maintenance-turnaround) and during periods which are not

[2] The company agreed to maintain operations at a level of emissions below major source thresholds as part of Board Order Agreement 2142.

[3] This wastewater in this unit is maintenance wastewater as defined in §63.101: Wastewater means water that:
(i) Contains an annual average concentration of Table 9 compounds of at least 5 parts per million by weight and has an annual average flow rate of 0.02 liter per minute or greater, and that
(ii) Is discarded from a chemical manufacturing process unit that meets all of the criteria specified in §63.100(b)(1) through (b)(3). Wastewater is process wastewater or maintenance wastewater. [40 CFR 63.101]
Emission Units 1 and 7 subject to the HON regulation do not discharge process wastewater to the wastewater treatment plant, only maintenance wastewater is discharged.

shutdowns (i.e., routine maintenance). The descriptions shall: [40 CFR 63.105(b)]

(a) Specify the process equipment or maintenance tasks that are anticipated to create wastewater during maintenance activities. [40 CFR 63.105(b)(1)]

(b) Specify the procedures that will be followed to properly manage the wastewater and control organic HAP emissions to the atmosphere; and [40 CFR 63.105(b)(2)]

(c) Specify the procedures to be followed when clearing materials from process equipment. [40 CFR 63.105(b)(3)]

(3) The owner or operator shall modify and update the information required by §63.105(b) as needed following each maintenance procedure based on the actions taken and the wastewaters generated in the preceding maintenance procedure. [40 CFR 63.105(c)]

(4) The owner or operator shall incorporate the procedures described in §§63.105(b) and (c) as part of the startup, shutdown, and malfunction plan required under §63.6(e)(3). [40 CFR 63.105(d)]

b. TAC

i. The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be *de minimis.*[4] [Regulations 5.00 and 5.21] [See Comment 1]

ii. The owner or operator shall not allow formaldehyde, methanol, phenol, and sulfuric acid emissions to exceed *de minimis* levels.[5] [Regulation 5.00 and 5.21]

[4] The TAC emissions from the combustion of natural gas are considered to be "*de minimis* emissions" by the District. This includes all of the emissions from a process or process equipment for which the only emissions are the products of combustion of natural gas, such as from a natural gas-fired boiler or turbine but does not include the other emissions from a process or process equipment that are not the products of the combustion of natural gas. [Regulation 5.21, section 2.7]

[5] TAC emissions from EP T-101A, T-101B, E434 were determined to be de minimis uncontrolled based on stack testing performed on August 28, 2019. TAC emissions from EP E422, E423, E426, E427, E428, E429, E436, E441a, E441b, T-102A, T-102B, E480, E487, E488, E489, E490, E401 are *de minimis* uncontrolled based on EPA Water9 modeling.

c. VOC

i. The owner or operator shall limit the plantwide VOC emissions for all emission points to 70 tons or less per 12-consecutive month rolling period, based on the BACT analysis dated September 26, 2005.[6] [Regulation 7.25, section 3.1]

ii. Regulation 7.25 shall also apply to all affected facilities, as defined in Regulation 6.24, that were constructed before June 13, 1979 in addition to all affected facilities constructed after this date.[6]
[Regulation 7.25, section 3.1]

iii. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. [Regulation 2.16, section 4.1.1]

S2. Monitoring and Record Keeping
[Regulation 2.03, section 6.1]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

a. HAP

i. The owner or operator shall monthly calculate and record the monthly and 12-consecutive rolling month plantwide single HAP emissions and total HAP emissions.

ii. HON MACT Requirements for Maintenance wastewater:

(1) The owner or operator shall maintain a record of the information required by §§63.015(b) and (c) as part of the start-up, shutdown, and malfunction plan required under §63.6(e)(3) of 40 CFR 63 subpart A. [40 CFR 63.105(e)]

[6] The source agreed to the VOC BACT limit being plantwide in a letter dated February 16, 2007. The plantwide 70 ton per 12 consecutive months VOC BACT limit replaces the production limit of 35 million pounds per year for urethane resins from the liquid resin unit (LRU).

b. TAC

i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to (M)SDS, analysis of emissions, and/or modeling results.

ii. The owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions if a new TAC is introduced or the content of a TAC in a raw material increases above de minimis at the time of the change.

c. VOC

i. The owner or operator shall monthly calculate and record the monthly and 12-consecutive rolling month plantwide VOC emissions.

S3. Reporting
[Regulation 2.03, section 6.1]

The owner or operator shall submit semi-annual compliance reports that include the information in this section. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. The compliance reports shall be postmarked within 60 days following the end of each reporting period. All compliance reports shall include the following certification statement per Regulation 2.16, section 3.5.11.

- "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete".
- Signature and title of the responsible official of the company.

The compliance reports are due on or before the following dates of each calendar year:

Reporting Period	Report Due Date
January 1st through June 30th	August 29th
July 1st through December 31st	March 1st

a. HAP

i. The total plantwide monthly and 12-consecutive rolling month single and total HAP emissions for each month.

ii. There are no reporting requirements regarding the HON regulation.

b. TAC

i. Any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration. This includes, but is not limited to, control device upset conditions.

ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze.
[Regulation 5.21 sections 4.22 – 4.24]

iii. The re-evaluated EA demonstration to the District within 6 months after a change of a raw material. [Regulation 5.21]

c. VOC

i. The total plantwide monthly and 12-consecutive rolling month VOC emissions for each month.