



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



xx xx 2019

Construction Statement of Basis

Source:	Clariant Corporation-West	Owner:	Clariant Corporation
	1227 South 12 th Street		1227 South 12 th Street
	Louisville, KY 40210		Louisville, KY 40210

Application Documents: See Table 6 in Section I

Public Comment Date: 05 October 2019

Permitting Engineer: Ulalo Chirwa **Permit Number:** C-0036-1009-19-V

Plant ID: 0036 **SIC:** 2819 **NAICS:** 325188

Introduction:

This permit will be issued pursuant to District Regulation 2.03, Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements. Its purpose is to provide methods of determining continued compliance with all applicable requirements.

This permit’s action allows for the construction of a powder raw material handling system that will replace filter receiver FR-204-W36-001 and its associated control equipment (DC-204-W36-001 and FIL-204-W36-001) on the Small Eirich Mixing System EU 204-W36.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), particulate matter less than 10 microns (PM₁₀), and particulate matter less than 2.5 microns (PM_{2.5}). Jefferson County is classified as a nonattainment area for ozone (O₃). This facility is located in the portion of Jefferson County that is an attainment area for sulfur dioxide (SO₂).

Permit Application Type:

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Initial issuance | Permit Revision | <input type="checkbox"/> Permit renewal |
| | <input type="checkbox"/> Administrative | |
| | <input type="checkbox"/> Minor | |
| | <input type="checkbox"/> Significant | |

Compliance Summary

- | | |
|--|---|
| <input type="checkbox"/> Compliance certification signed | <input type="checkbox"/> Compliance schedule included |
| <input type="checkbox"/> Source is out of compliance | <input checked="" type="checkbox"/> Source is operating in compliance |

I. Source Information

1. **Plantwide Overall Process Description:** Clariant Corp. – Louisville West Plant manufactures customized precipitated catalysts and catalyst carriers.
2. **Project Description:** The source is proposing the replacement of existing filter receiver FR-204-W36-001 with a new powder raw material handling system. In addition, the source will update the raw material and production information associated with Emission Unit 204-W36.
3. **Site Determination:** Clariant Corporation is the parent company and operates two facilities in Louisville, the South plant at 4900 Crittenden Drive and the West plant at South 12th Street. Based on information obtained from the company and the criteria used by EPA to make single source determinations, the District has determined that both locations are separate sources. Both locations would have to meet the following three criteria in order to be considered one single source for Title V and PSD/NSR applicability:
 - Same industrial grouping,
 - Common ownership or control, and,
 - Contiguous or adjacent locations.

Both locations have the same first two digit SIC code (28).

Both are 100% owned and operated by their parent company.

Neither location is contiguous or adjacent. Each plant acts independently of the other, operating separate production lines, with minimal transfer of material between plants that is commercially available from other suppliers. Furthermore, there are no Clariant Corporation dedicated transportation links between the plants.

4. Emission Unit Summary:

Emission Unit	Description
EU 204-W36	Small Eirich Mixing System: Mixing of metal oxides with additives prior to extrusion.

5. Permit Revisions

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	C-0036-1009-19-V	xx/xx/2019	10/05/2019	Initial	Entire Permit	Initial Permit Issuance

6. Permit Application Documents

Document Number	Date Received	Description
98509	05/28/2019	Confidential version of the construction application
98508	05/28/2019	Public version of the construction application

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

8. Plantwide Emission Summary:

Pollutant	District Calculated Actual Emissions (tpy) 2017 Data	Major Source Pollutants (based on PTE)
CO	15.05	No
NO _x	45.87	*Yes
SO ₂	0.27	No
PM ₁₀	23.65	*Yes
VOC	2.38	*Yes
Total HAPs	0.39	*Yes
Single HAP		
Chromium Compounds	0.04	*Yes
Hexane	0.32	*Yes
Nickel Compounds	0.00	*Yes

* The source has accepted synthetic minor limits for these pollutants.

9. Applicable Requirements:

PSD 40 CFR 60 SIP 40 CFR 63
 NSR 40 CFR 61 District-Origin Other

10. Referenced MACT Federal Regulations: 40 CFR 63 Subpart VVVVVV, *National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources*

11. Referenced non-MACT Federal Regulations: N/A

II. Regulatory Analysis

1. Acid Rain Requirements: This equipment 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.
4. **40 CFR Part 64 Applicability Determination:** This project and affected equipment is not major for any criteria pollutant because the source is subject to a plant-wide limit of less than 100 tons during any consecutive 12-month period for PM/PM₁₀/PM_{2.5}, NO_x, and VOC. 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. **Plant-wide**

Regulation 2.03, section 6.1 requires sufficient monitoring, record keeping, and reporting to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.

Clariant Corp. – Louisville West Plant is a major source for PM/PM₁₀/PM_{2.5}, VOC, NO_x, single HAP, and total HAPs. To preclude the requirements of Regulation 2.04, Construction or Modification of Major Sources In or Impacting Upon Non-Attainment Areas, and Regulation 2.05, Prevention of Significant Deterioration of Air Quality, the source is subject to a plant-wide limit of less than 100 tons during any consecutive 12-month period for PM/PM₁₀/PM_{2.5}, NO_x, and VOC.

Pursuant to Regulation 2.16, section 4.1, the source is required to limit the plant-wide emissions of any individual HAP to less than 10 tons during any consecutive 12-month period. For all HAPs combined, the source is required to limit the plant-wide emissions of all HAPs to less than 25 tons during any consecutive 12-month period.

Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. Clariant Corp. – Louisville West Plant submitted their TAC Environmental Acceptability Demonstration to the District with the application dated August 3, 2016, revised September 16, 2016, and updated December 16, 2016. Compliance with the STAR EA Goals was demonstrated in the source's EA Demonstrations. SCREEN 3 modeling

was performed for each emission point that has non-*de minimis* Chromium VI emissions. The carcinogen risk and non-carcinogen risk values comply with the STAR EA goals required in Regulation 5.21.

b. **Permit C-0036-1009-19-V: EU 204-W36**

i. **Equipment:**

Emission Point	Description	Applicable Regulations	Control Device
EU 204-W36			
T-204-W36-001 ¹	Mix Tank (25 gal)	STAR	NA
H-204-W36-002A	Feed Hopper (3600 lbs/hr)	7.08	FIL-204-W36-002A
H-204-W36-002B	Scale Hopper (3600 lbs/hr)		BV-204-W36-002B
H-204-W36-003A	Feed Hopper (3600 lbs/hr)		FIL-204-W36-003A
H-204-W36-003B	Scale Hopper (3600 lbs/hr)		BV-204-W36-003B
H-204-W36-004	Scale Hopper (3600 lbs/hr)		BV-204-W36-004
H-204-W36-005	Scale Hopper (3600 lbs/hr)		BV-204-W36-005
FR-204-W36-001A	Filter Receiver (3600 lbs/hr)		FIL-204-W36-001A
MX-204-W36-001 ¹	Eirich Mixer (300 lbs/batch)		7.08, STAR, 40 CFR 63 VVVVVV

Control ID	Description	Control Efficiency
BV-204-W36-002B	Bin vent, Coperion K-Tron Salina, Model 5214-209M	99.343% PM
BV-204-W36-003B	Bin vent, Coperion K-Tron Salina, Model 5214-209M	99.343% PM
BV-204-W36-004	Bin vent, Coperion K-Tron Salina	99.343% PM
BV-204-W36-005	Bin vent, Coperion K-Tron Salina	99.343% PM
FIL-204-W36-001A	HEPA filter, Coperion K-Tron Salina, Model F15215-48	99.343% PM
FIL-204-W36-002A	Filter sock, TBD	95% PM
FIL-204-W36-003A	Filter sock, TBD	95% PM
DC-204-W36-001 ¹	Fabric Filter, Consolidated Engineering, Model P8	99.343% PM/ Cr/Cr III
FIL-204-W36-002 ¹	HEPA filter, Donaldson Torit Model Ultra Lok 1x1	99.97% PM/ Cr/Cr III

¹ This is existing equipment that was previously permitted in 27755-14-TV(R2).

ii. **Standards/Operating Limits**

1) **HAP**

- (a) Regulation 2.16, section 4.1.1 establishes a standard for a single HAP to not equal or exceed 10 tons and total HAP emissions to not equal or exceed 25 tons during any consecutive 12-month period.
- (b) Clariant shall comply with 40 CFR 63 Subpart VVVVVV.

2) **Opacity**

Regulation 7.08, section 3.1.1 establishes a standard for opacity to not equal or exceed 20%.

3) **PM/PM₁₀/PM_{2.5}**

In accordance with Regulation 7.08, Table 1, PM standards are determined by the following equation:

$$E = 3.59(P)^{0.62} \quad \text{if } P \leq 30 \text{ tons/hr}$$

4) **TAC**

Regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. Clariant submitted potential emissions calculation with their application for all TACs associated with this project. The following TACs were identified in the application for this project:

TAC	Abbreviation	TAC Category	Environmentally Acceptability Demonstration
Chromium III	Cr III	1	<i>De minimis</i> Controlled
Nitric Acid	HNO ₃	2	<i>De minimis</i>

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 these emission points.

5. Compliance History:

Date	Description	Penalty	Status
06/11/2015	Visible NOx plume	\$14,250	In compliance
10/27/2015	Visible NOx plume		In compliance
11/02/2015	Visible NOx plume		
08/22/2017 11/09/2017	Visible NOx plume	\$3000	In compliance
04/13/2017	TAC emissions exceed environmentally acceptable (EA) levels	\$7500	In compliance
04/13/2017	TAC emissions exceed environmentally acceptable (EA) levels		In compliance
01/09/2018 06/10/2018	Visible NOx plume		In compliance
12/04/2018 12/25/2018	Visible NOx plume	\$5000	In compliance

6. Calculation Methodology: Generally, emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc) or hours of operation of the equipment by the appropriate emission factor and accounting for any control devices unless otherwise approved in writing by the District. Approved emission factors determined by future stack test can replace the emission factors below:

Emission Point	Emission Factors
EU 250-W36	
T-204-W36-001	PV = nRT and AP-42 Chapter 7.1
H-204-W36-002A	2% Loss PM/PM ₁₀ /PM _{2.5}
H-204-W36-002B	2% Loss PM/PM ₁₀ /PM _{2.5}
H-204-W36-003A	2% Loss PM/PM ₁₀ /PM _{2.5}
H-204-W36-003B	2% Loss PM/PM ₁₀ /PM _{2.5}
H-204-W36-004	2% Loss PM/PM ₁₀ /PM _{2.5}
H-204-W36-005	2% Loss PM/PM ₁₀ /PM _{2.5}
FR-204-W36-001A	PM/PM ₁₀ /PM _{2.5} loss based on filter receiver efficiency (99.343%)
MX-204-W36-001	1% Loss PM/PM ₁₀ /PM _{2.5} Chromium III % loss based on content of material throughput

7. Insignificant Activities: N/A