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

22 October 2016

Construction Statement of Basis

Owner: Clariant Corporation

Source: Clariant Corporation (Louisville West Plant)

Plant Location: 1227 South 12th Street, Louisville, KY 40210

Date Application Received: 08/04/2016 **Application Number:** 78759, 78758, 79431, 79458, & 79459

Public Comment Date: 10/22/2016

District Engineer: Jenny Rhodes **Permit No:** C-0036-1004-16-V

Plant ID: 0036 **SIC Code:** 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.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO_2), carbon monoxide (CO), 1 hr and 8 hr ozone (O_3), and particulate matter less than 10 microns (PM_{10}); and is a non-attainment area for the 1997 standard for particulate matter less than 2.5 microns ($PM_{2.5}$), unclassifiable for the 2012 standard for particulate matter less than 2.5 microns ($PM_{2.5}$) and partial non-attainment for sulfur dioxide (SO_2).

Application Type/Permit Activity:
[ ] Initial Issuance
[ ] Permit Revision
  [ ] Administrative
  [ ] Minor
  [ ] Significant
[ ] Permit Renewal
[X] Construction

Compliance Summary:
[ ] Compliance certification signed [ ] Compliance schedule included
[ ] Source is out of compliance [X] 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 adding two new products to existing Small Quantity Manufacturing (203-W26), #3 Rotary Calciner (203-W09) and Catalyst Drying (203-W23).

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 203-W23	Catalyst Drying
EU 101-W26	Small Quantities Manufacturing; Mixing, steam drier, ball wheel, tableting machine and extruder

5. Permit Revisions

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	133-06-C	5/19/2006	NA	Initial	Entire Permit	Box Dryers HT-203-W23-534 & HT-203-W23-542

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	C-0036-1004-16-V	Xx/xx/2016	10/22/2016	Initial	Entire Permit	Initial Permit Issuance to add two new products to existing Small Quantity Manufacturing (203-W26), #3 Rotary Calciner (201-W09), and Catalyst Drying (203-W23).

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

7. Plantwide Emission Summary:

Pollutant	Actual Emissions (tpy) 2014 Data	Pollutant that triggered Major Source Status
CO	16.51	No
NO_x	30.95	*Yes
SO_2	0.12	No
PM	21.05	*Yes
$PM_{10}/PM_{2.5}$	19.93	*Yes
VOC	1.11	*Yes
Total HAPs	1.67	*Yes

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

8. Applicable Requirements:

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

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

10. 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. 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/PM_{10}/$PM_{2.5}$, 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/PM_{10}/$PM_{2.5}$, NOx, 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. Compliance with the STAR EA Goals was demonstrated in the source's EA Demonstrations. AERMOD air dispersion modeling was performed for

each emission unit that has non-de minimis Nitric Acid emissions. The carcinogen risk and non-carcinogen risk values comply with the STAR EA goals required in Regulation 5.21.

b. **Permit C-0036-1004-16-V:**

i. **Equipment:**

Emission Point[1]	Description	Applicable Regulations
EU 203-W23		
HT-203-W23-534	Box Dryer	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.25
HT-203-W23-542	Box Dryer	
EU 101-W26		
MX-203-W26-003	Ball Wheel	5.00, 5.01, 5.02, 5.14, 5.20, 5.21, 5.22, 5.23, 7.08, 7.25

ii. **Standards/Operating Limits**

1) **PM/PM_{10}/$PM_{2.5}$**

(a) Regulation 7.08, section 3.1.2 establishes PM standards for process equipment. Per Table 1 to Regulation 7.08, the maximum allowable emission rate is 2.34 lb PM/hr for equipment with a process weight rate of less than or equal to 1,000 pounds per hour.

(b) For MX-203-W26-003; it has been demonstrated that the PM emissions cannot exceed the PM standards specified in Regulation 7.08 uncontrolled.

2) **Opacity**

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

3) **VOC**

For equipment HT-203-W23-534, HT-203-W23-542, and MX-203-W26-003; Regulation 7.25 establishes a plant-wide VOC limit of 5 tons per year for all affected facilities, unless Best Available Control Technology (BACT) level of control is utilized to reduce the VOC emissions.

4) **TAC**

(a) Regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air

1 There are no new or increased emissions associated with #3 Rotary Calciner.

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 potential uncontrolled emissions of Antimony cannot exceed *de minimis* levels. The emissions of triethylamine cannot exceed *de minimis* levels when the production of HT-203-W23-534 and HT-203-W23-542 each is limited to 369 pounds hour and 898 hours per 12-consecutive month period. Nitric acid was modeled with two levels of control and meets the HQ goals non-cancer. The following TACs were identified in the application for this project:

TAC	Abbreviation	TAC Category	Environmentally Acceptability Demonstration
Antimony	Sb	4	*De Minimis* Uncontrolled
Nitric Acid	HNO_3	2	Potential emission rate modeled with two levels of control resulting with a HQ of 1.85 on industrial property which is less than the non-cancer goal of 3.0. The non-industrial HQ result of 0.48 is below the non-cancer goal of 1.
Triethylamine	$C_6H_{15}N$ or TEA	4	*De Minimis* with Production Limits

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
04/11/2007	Exceeding ASL for Nickel Oxide	$1000	In compliance
09/08/2010	Visible NO_X plume	$1000	In compliance
06/11/2015	Visible NOx plume	$14,250	In compliance
10/27/2015	Visible NOx plume		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	Description	Emission Factors
EU 203-W23		
HT-203-W23-534	Box Dryer	NO_x/SO_2/VOC/Triethylamine/Nitric Acid % loss based on amount of material throughput converted to Pollutant
HT-203-W23-542	Box Dryer	
EU 101-W26		
MX-203-W26-003	Ball Wheel	1% loss PM (Assuming $PM=PM_{10}=PM_{2.5}$) [2] VOC% loss based on amount of material throughput converted to VOC Antimony/Nitric Acid% loss based on amount of material throughput and 1% solution loss 40.70% loss of Antimony Compounds is Antimony Base Element

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

2 The 1% loss for PM is a District default assumption.