

Louisville Metro Air Pollution Control District
850 Barret Ave., Louisville, Kentucky 40204
10 April 2014

Title V Statement of Basis

Company: Clariant Corporation (Louisville South Plant)

Plant Location: 4900 Crittenden Drive, Louisville, KY 40209

Date Application Received: 04 April 2007

Public Comment Date: 22 February 2014

Proposed Permit Date: 22 February 2014

District Engineer: Karen Thorne

Permit No: 27759-14-TV

Plant ID: 0042

SIC Code: 2819

NAICS: 325188

AFS: 0042

Introduction:

This permit will be issued pursuant to: (1) District Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these 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 manufactures customized precipitated catalysts and catalyst carriers.

2. **Site Determination:** Clariant Corporation is the parent company, 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.

3. Permit Revisions

Revision	Issuance	Public Notice	Type	Emission Unit	Description
Initial	04/10/2014	02/22/2014	Initial	Entire Permit	Initial Permit Issuance

4. **Fugitive Sources:** There are fugitive PM/PM10, VOC, HAP, NOx and TAC emissions from the manufacturing of customized precipitated catalysts, impregnated catalysts, and catalyst carriers.

5. Emission Unit Summary: The South Plant operates the following emission units.

Emission Unit	Equipment Description
101-S01 and 101-S02	101-S01 and 101-S02 Mixing Systems
101-S03 and 101-S14	101-S03 and 101-S14 Systems
101-S04	101-S04 Dryer #2, electric
101-S06, 101-S07, 101-S08 and 101-S09	101-S06, 101-S07, 101-S08 and 101-S09 Dryers
101-S11 and 101-S12	101-S11 and 101-S12 Dryers
101-S13	101-S13 System
101-S15	101-S15 System
101-S16	101-S16 System
101-S17	101-S17 System
101-S18	101-S18 Dipping System
101-S19	101-S19 Dipping System
101-S20	Nitric Acid Tank Unloading
101-S22 and 101-S29	Screening System (North and South)
101-S21 and 101-S28	101-S21 and 101-S28 Systems (North and South)
101-S24 and 101-S25	101-S24 and 101-S25 Systems (Rotary Calciner #6 and #8)
101-S27	101-S27 Dipping System
101-S23	Material Handling System
102-S30, 102-S31, 102-S32 and 102-S33	102-S30, 102-S31, 102-S32 and 102-S33 Furnace Systems
102-S34 and 102-S36	102-S34 and 102-S36 Process Tanks (Ammonia Recovery System and Precipitation of metal catalyst products)
102-S35	102-S35 Stabilization System
102-S37	Hydrochloric Acid Tank
102-S38	102-S38 System
102-S39	102-S39 System
103-S40	Warehouse Packaging System
104-S41	Wastewater Treatment Plant
101-S10	Natural Gas Fired Boilers

6. **Plant-wide Emission Summary:** The source has taken synthetic minor permit limits. Pursuant to 40 CFR 63 Subpart VVVVVV, Section 11494(e), the source is required to obtain a Title V permit.

Pollutant	District Calculated Actual Emissions 2012 Data (tpy)	Pollutant that triggered major source status
CO	5.71	No
NO _x	7.90	Yes
SO ₂	0.06	No
PM/PM ₁₀ /PM _{2.5}	12.18	Yes
VOC	0.39	No
Total HAPs	2.27	Yes

7. **Applicable Requirements:**

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

8. **MACT Requirements:** 40 CFR 63 Subpart VVVVVV, *National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources*

9. **Referenced Federal Regulations in Permit:** 40 CFR 63 Subpart VVVVVV

II. Regulatory Analysis

1. **Acid Rain Requirements:** The source is not subject to the Acid Rain Program.
2. **Stratospheric Ozone Protection Requirements:** This source does not manufacture, sell, or distribute any of the chemicals listed in title VI of the CAAA. 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. 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 not 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:** The source is not a major source, because the source has taken synthetic minor limits for all criteria pollutants. Therefore, 40 CFR 64 does not apply.

5. Basis of Regulation Applicability

a. Applicable Regulations:

Regulation	Title	Type
2.16	Title V Operating Permits	SIP
5.00	Standards for Toxic Air Contaminants and Hazardous air Pollutants, Definitions	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
5.15	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
6.09	Standards of Performance for Existing Process Operations	SIP
7.06	Standards of Performance for New Indirect Heat Exchangers	SIP
7.08	Standards of Performance for New Process Operations	SIP
40 CFR 63 Subpart VVVVVV	National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources	Federal

b. Plant-wide major source limits

- i. The Clariant South Plant has potential major source emissions of PM₁₀/PM_{2.5}, NO_x, SO₂, 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 SO₂.
- ii. Pursuant to 40 CFR 63 Subpart VVVVVV, §63.11494(e), because the source installed a federally-enforceable control device on an affected chemical manufacturing process unit (CMPU), the source is required to obtain a Title V permit.
- iii. Pursuant to Regulation 2.16, section 4.1.1, 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.

- iv. Pursuant to Regulation 2.16, Sections 4.1.9.1 and 4.1.9.2, the source is required to monitor and maintain records of the throughput of each raw material and the HAP content for each raw material for each emission point during each calendar month and consecutive 12-month period.
- v. Pursuant to Regulation 2.16, Section 4.1.9.3, the source is required to report the total plant-wide calendar month and consecutive 12-month emissions of PM₁₀/PM_{2.5}, NO_x, SO₂, each single HAP and total HAP for each month in the reporting period.

c. Basis for Applicability

Regulation	Basis for Applicability
2.16	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
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.
6.09	Establishes emission standards for processes that emit PM which were constructed by September 1, 1976
7.06	Applies to each indirect heat exchanger having a heat input capacity of more than one million BTU per hour commenced after September 1, 1976
7.08	Establishes emission standards for processes that emit PM which were constructed after September 1, 1976
40 CFR 63 Subpart VVVVVV	40 CFR 63 Subpart VVVVVV establishes requirements for a chemical manufacturing process unit (CMPU) at an that is located at an area source of HAP emissions

- d. **Equipment:** Except where otherwise noted, only the PM and opacity standards in Regulation 6.09 and 7.08 apply to the emission units.

EU	Emission Point	Control Device	Applicable Regulations
101-S01	T-101-S01-001	NA	5.21
	T-101-S01-002, T-101-S01-003, T-101-S01-004	NA	7.08, 5.21
	MX-101-S01-001		
101-S02	DD-101-S02-001, H-101-S02-001	DC-101-NOX-119	7.08, 5.21, 6V ¹
	MX-101-S02-001		
	T-101-S02-001, T-101-S02-002	NA	7.08, 5.21
	T-101-S02-004	NA	5.21
101-S03	DD-101-S03-001, H-101-S03-001	DC-101-S03-123 FIL-101-S03-001	7.08, 5.21, 6V
	CV-101-S03-001, MX-101-S03-001		
	T-101-S03-001, T-101-S03-002	NA	7.08, 5.21
101-S14	DD-101-S14-001/H-101-S14-001, PD-101-S14-001	DC-101-S03-123 FIL-101-S03-001	7.08, 5.21, 6V
	H-101-S14-002		7.08, 5.21
101-S04	HT-101-S04-001	NA	5.21
101-S06	HT-101-NOX-006		
101-S07	HT-101-NOX-007	ED-101-NOX-007 V-101-NOX-001	6.09 (NO _x and Opacity)
101-S08	HT-101-NOX-008		
101-S09	HT-101-NOX-009		
101-S11	HT-101-NOX-001	ED-101-NOX-001 or 002 V-101-NOX-001	6.09, (PM, Opacity & NO _x), 6.10, 5.21, 6V
	H-101-S11-001, PD-101-S11-001	DC-101-NOX-120 FIL-101-NOX-120	6.09, 5.21, (PM, Opacity & NO _x), 6V
101-S12	HT-101-NOX-002	ED-101-NOX-004 or 005 V-101-NOX-001	7.08, 5.21, (PM, Opacity & NO _x), 7.09, 6V
	H-101-S12-001, PD-101-S12-001	DC-101-NOX-120 FIL-101-NOX-120	7.08, 5.21, (PM, Opacity & NO _x), 6V
101-S13	T-101-S13-001	NA	5.21
	T-101-S13-002	NA	7.08
	DD-101-S13-001	ME-101-S13-001,	7.08, 5.21

¹ The notation "6V" in the table refers to 40 CFR 63 Subpart VVVVVV.

EU	Emission Point	Control Device	Applicable Regulations
	T-101-S13-003, T-101-S13-004, T-101-S13-005, T-101-S13-006	SC-102-S34-100	5.21
101-S15	DD-101-S15-001, MX-101-S15-001, DD-101-S15-002, MX-101-S15-002	DC-101-S15-112	7.08, 5.21, 6V
	Weigh Out Station (H-101-S15-006, CV-101-S15-005, PD-101-S15-004)	DC-101-S15-113	7.08, 5.21, 6V
	DR-101-S15-001a	DC-101-S15-111	7.08 (PM, Opacity & NO _x), 5.21, 6V
	DR-101-S15-001b	DC-101-S15-110	
	DD-101-S15-003, H-101-S15-003, FD-101-S15-002, CV-101-S15-002, H-101-S15-004, PD-101-S15-001	DC-101-S15-114	7.08, 5.21, 6V
	HT-101-S15-001	DC-101-S15-114	7.08 (PM, Opacity & NO _x), 5.21, 6V
	VS-101-S15-001, PD-101-S15-002		7.08, 5.21, 6V
	DD-101-S15-004, H-101-S15-005, M-101-S15-002, M-101-S15-006, PD-VS-101-S15-002	DC-101-S15-113	7.08, 5.21, 6V
101-S16	T-102-S38-010, T-102-S38-012	NH ₃ Recovery System (HE-102-S34-100, 101/102/ 103 V-102-S34-100)	5.21
	T-102-S38-011	SC-102-S34-100	7.08
	T-102-S38-013		7.08
	T-102-S38-014, T-102-S38-016, T-102-S38-017	NA	7.08
	SD-101-S16-001	DC-101-S16-124, FIL-101-S16-124	7.08, 5.21, 6V
	HT-101-S16-001	DC-101-S16-122, FIL-101-S16-122	7.08 (PM, Opacity and NO _x), 5.21, 6V
	PD-101-S16-101, T-101-S16-101, T-101-S16-102	DC-101-S16-117, FIL-101-S16-117	7.08, 5.21, 6V

EU	Emission Point	Control Device	Applicable Regulations
101-S17	T-101-S17-001, T-101-S17-003, T-101-S17-009, T-101-S17-011	NA	5.21
	T-101-S17-004, T-101-S17-005	ED-101-S17-001 V-101-S17-001 SEP-101-S17-008	7.08 (PM, Opacity & NO _x), 5.21
	FR-101-S17-001	FIL-101-S17-001	7.08, 5.21
	T-101-S17-010	NA	7.08, 5.21
	FR-101-S17-002	FIL-101-S17-002 FIL-101-S17-014	7.08, 5.21
	T-101-S17-012	FIL-101-S17-015 BV-101-S17-001	7.08, 5.21
	SD-101-S17-001	SEP-101-S17-001 SEP-101-S17-002 SEP-101-S17-007 SC-101-S17-001 FIL-101-S17-003 FIL-101-S17-004	7.08, 5.21
	SEP-101-S17-003	DC-101-S17-001, DC-101-S17-002, FIL-101-S17-007, FIL-101-S17-008	
	FR-101-S17-003	FIL-101-S17-012 FIL-101-S17-013	
	H-101-S17-002	DC-101-S17-002 FIL-101-S17-007 FIL-101-S17-008	7.08, 5.21
	HT-101-S17-001	SEP-101-S17-004 SEP-101-S17-008 ED-101-S17-002 V-101-S17-001	7.08 (NO _x), 5.21
	HT-101-S17-002	FIL-101-S17-005 FIL-101-S17-006	7.08, 5.21
	PD-101-S17-002	FIL-101-S17-005 FR-101-S17-016	7.08, 5.21
	PD-101-S17-003	DC-101-S17-005 DC-101-S17-002	
PD-101-S17-001	FIL-101-S17-007 FIL-101-S17-008		
101-S18	DD-101-S18-001, H-101-S18-001, FD-101-S18-001, H-101-S18-002, PD-101-S18-001	DC-101-NOX-120 FIL-101-NOX-120	7.08, 5.21, 6V
101-S19	DD-101-S19-001, DB-101-S19-001, H-101-S19-001	DC-101-FITZ-118 FIL-101-FITZ-118	7.08, 5.21, 6V
	T-101-S19-001	NA	5.21
101-S20	T-101-S20-001	NA	5.21

EU	Emission Point	Control Device	Applicable Regulations
101-S22 and 101-S29	DD-101-S22-001, H-101-S22-001, FD-101-S22-001, VS-101-S22-001, H-101-S22-002, PD-101-S22-001, PD-101-S22-002	DC-101-S22-011 FIL-101-S22-011	7.08, 5.21, 6V
	DD-101-S29-001, H-101-S29-001, FD-101-S29-001, VS-101-S29-001, PD-101-S29-001	DC-101-S29-010 FIL-101-S29-010	7.08, 5.21, 6V
101-S21 and 101-S28	DD-101-S21-001, MX-101-S21-001	DC-101-S21-116 FIL-101-S21-116	7.08, 5.21
	DD-101-S28-001, MX-101-S28-001	DC-101-S28-115 FIL-101-S28-115	7.08, 5.21
101-S24	DD-101-S24-003, FD-101-S24-001	DC-101-S03-123 FIL-101-S03-001	7.08, 5.21, 6V
	HT-101-NOX-003	ED-101-NOX-003 V-101-NOX-001	
	VS-101-S24-001, PD-101-S24-001	DC-101-NOX-120 FIL-101-NOX-120	
101-S25	DD-101-S25-004, FD-101-S25-001	DC-101-S03-123 FIL-101-S03-001	7.08, 5.21, 6V
	HT-101-NOX-004	ED-101-NOX-006 V-101-NOX-001	
	VS-101-S25-002, PD-101-S25-001	DC-101-NOX-120 FIL-101-NOX-120	
101-S27	T-101-S27-001	NA	5.21
	T-101-NOX-007, T-101-NOX-009	ED-101-NOX-008	5.21
101-S23	DD-101-S23-101, PD-101-S23-101	DC-101-S23-001 FIL-101-S23-001	7.08, 5.21, 6V
102-S30	DD-102-S30-101, H-102-S30-101, T-102-S30-104	DC-102-S30-216 FIL-102-S30-216	7.08, 5.21, 6V
	T-102-S30-105	FIL-102-S30-003	
102-S31	DD-102-S31-101, H-102-S31-001, T-102-S31-106	DC-102-S31-217 FIL-102-S31-217	7.08, 5.21, 6V
	T-102-S31-107	FIL-102-S31-103	
102-S32	DD-102-S32-101, PD-102-S32-001	DC-102-S33-218 FIL-102-S33-218	7.08, 5.21, 6V
102-S33	DD-102-S33-001, PD-102-S33-001	DC-102-S33-218 FIL-102-S33-218	7.08, 5.21, 6V
102-S34	T-102-S34-100, T-102-S34-101, T-102-S34-102, T-102-S34-103, T-102-S34-104, T-101-AQNH-001	SC-102-S34-100	5.21

EU	Emission Point	Control Device	Applicable Regulations
102-S36	T-102-S38-007	NA	7.08
	T-102-S38-008, T-102-S38-009	NH ₃ Recovery System (HE-102-S34-100, 101/102/103, V-102-S34-100)	5.21
	T-102-S36-018 - T-102-S36-019	NA	5.21
102-S35	T-102-S35-108	FIL-102-S35-004 FIL-102-S35-005	7.08, 5.21, 6V
	T-102-S35-109	FIL-102-S35-006 FIL-102-S35-007	
	V-102-S35-001	Internal Mott FIL-102-S35-003	
	SSD-102-S35-001	DC-102-S35-212 FIL-102-S35-008	
	PT-102-S35-001 & PD-102-S35-001		
102-S37	T-102-S37-001	SC-102-S37-001	5.14
102-S38	T-102-S38-001, T-102-S38-004, T-102-S38-005	SC-102-S34-100	5.21
	T-102-S38-002, T-102-S38-003	SC-102-S34-100 FIL-102-S38-001	7.08, 5.21, 6V
102-S39	MX-102-S39-001	FIL-102-S39-001	7.08, 5.21, 6V
	VS-102-S39-001, CV-102-S39-001, H-102-S39-001, VS-102-S39-002, PD-102-S39-001	NA	7.08
103-S40	DD-103-S40-001, H-103-S40-001, PA-103-S40-001	DC-103-S40-012	7.08
104-S41	T-104-S41-002, EQ-104-S41-001	NA	5.21
101-S10	B-101-S10-001, B-101-S10-002, B-101-S10-003	NA	7.06, 40 CFR 60 Subpart Dc

d. STAR Program

- i. Regulations 5.01, 5.21, and 5.23 (STAR Program) establish requirements for environmental acceptability of TACs and the requirement to comply with all applicable emission standards. Clariant submitted their Category 1 and 2 TAC Environmental Acceptability Demonstration to the District on September 30, 2008. Regulation 5.21, section 4.14 exempts Category 2 TACs that were not reported on a company's Toxic Release Inventory (TRI) Report. The source did not report aluminum, hydrochloric acid, manganese, and sulfuric acid on their 2007 TRI Report. This includes hydrochloric acid emissions from EU 102-S37. Natural gas combustion sources at this facility are de minimis in accordance with Regulation 5.21, section 2.7. For TACs listed as compounds,

the BAC was developed for the base element, and therefore, all analysis for these TACs were done in terms of the amount of base metal present in the compound. The source emits the TACs listed in the following table.

TAC	Abbreviation	TAC Category
Chromium ^{hexavalent} & chromium compounds	Cr(VI)	1
Chromium ^{trivalent} & chromium compounds	Cr(III)	1
Nickel & nickel compounds	Ni	1
Ammonia	NH ₃	2
Cobalt & cobalt compounds	Co	2
Copper & copper compounds	Cu	2
Hydrochloric acid (hydrogen chloride)	HCl	2
Manganese & manganese compounds	Mn	2
Nitric acid	HNO ₃	2
Sulfuric acid	H ₂ SO ₄	2
Antimony & antimony compounds	Sb	4
Radon & other radionuclides	U	4

- ii. The source is required to comply with the EA Goals for all TACs in accordance with Regulation 5.01, 5.21, and 5.23. The source shall not increase the TAC content in a raw material or substitute any raw materials or additional TACs for those identified in the initial permit application for the processes or equipment that would result in an increase in the quantity of a TAC without prior notification to, and approval by, the District.
- iii. 101-RMILL, Roll Mill & Double Cone Blending System, was inactivated when the STAR Compliance Plan was submitted because it did not meet STAR EA goals for nickel.
- iv. The emissions from many emission units are de minimis with control devices, as described in Regulation 5.21 Section 2. Compliance table on page 20 of this *Statement of Basis*. The potential controlled emissions of Co, Mn, Ni, Cr(III), Cr(VI), HNO₃, and NH₃ from the emission units listed in the following table are above the de minimis levels in Regulation 5.21. Therefore, the source performed an analysis of the environmental acceptability, resulting in the following risks and hazard quotients.

EU	TAC	Risk		HQ	
		<i>Unadjusted</i>	<i>Industrial</i>	<i>Unadjusted</i>	<i>Industrial</i>
101-S01	Co	--	--	0.25	0.64
	Ni	0.39	1.45	0.030	0.11
101-S02	Co	--	--	0.70	1.98
	Mn	--	--	0.22	0.78
	Ni	0.83	3.06	0.063	0.23
101-S13	Co	--	--	0.022	0.029
101-S15	Cr(III)	--	--	0.081	0.25
101-S16	NH ₃	--	--	0.054	0.047
101-S20	HNO ₃	--	--	0.087	0.44
102-S38	NH ₃	--	--	0.033	0.028
102-S30	Ni	0.24	0.95	0.018	0.072
102-S31	Ni	0.13	0.29	0.010	0.022
101-S22	Cr(VI)	0.17	0.38	0.002	0.004
101-S29	Cr(VI))	0.17	0.38	0.002	0.004
Plantwide R_C		1.92	6.51	--	--
Highest Plantwide HQ (Cobalt):				0.97	2.64

Pursuant to Regulation 5.21, Section 4.10, the source is required to maintain records sufficient to demonstrate environmental acceptability. The source is required to notify and receive approval by the District for any raw material change that increases the TAC content or introduces new TACs in this process equipment not identified in the permit application.

e. Standards/Operating Limits

i. PM/PM₁₀/PM_{2.5}

- 1) For emission points subject to Regulation 6.09 for PM, the PM emission standards are calculated per section 3.2. The equation to calculate the hourly PM emission limit is $E = 4.10 P^{0.67}$, where E is the allowable lb/hr PM emission limit and P is the process weight rate expressed in tons/hr.
- 2) For emission points subject to Regulation 7.08 for PM, the PM emission standards are calculated per section 3.1.2. The equation to calculate the hourly PM emission limit is $E = 3.59 * P^{0.62}$, where E is the allowable lb/hr PM emission limit and P is the process weight rate expressed in tons/hr.
- 3) For emission points subject to Regulation 7.06, the total heat input capacity of all affected facilities within a source, including those for which an application to construct has been submitted to the District, shall be used to determine the PM emission standards. The total heat input capacity is 65.28 MM Btu/hr. The emission limit = $0.9634 * 65.28^{-0.2356} = 0.36$ lb PM per million BTU actual heat input.

ii. **Opacity**

- 1) Regulation 6.09, section 3.1, and Regulation 7.08, section 3.1.1, establish an opacity standard of less than 20%.
- 2) Regulation 7.06, section 4.2 establishes an opacity standard of 20%.

iii. **HAP**

- 1) The plant-wide emissions are limited to synthetic minor limits to avoid the applicability of Regulation 2.04 and 2.05.
- 2) Per Regulation 5.02 section 4.127, the source is subject to 40 CFR 63, Subpart VVVVVV.

iv. **TAC**

Regulations 5.01, 5.21 and 5.23 (STAR Program) establish requirements for environmental acceptability of TACs and the requirement to comply with all applicable emission standards. The emissions from many emission units are de minimis with control devices, resulting in the requirement to operate the control devices to maintain the de minimis status of those emission units, as listed in the STAR (Regulations 5.01, 5.21 and 5.23) Compliance on page 20 of this *Statement of Basis*.

v. **Control Device Operation**

The owner or operator shall operate and maintain the control devices at all times an associated emission point is in operation to maintain compliance with Regulations 2.04, 2.05, 5.01, 5.21, 7.08 section 3.1.2 and 40 CFR 63 Subpart VVVVVV.

vi. **NO_x**

Regulations 6.09 and 7.08, section 4.1 establish a NO_x emission limit of 300 ppmv, expressed as NO₂, or an invisible discharge.

vii. **SO₂**

- 1) Regulation 6.10, section 4 establishes a sulfur dioxide standard of 2000 ppm by volume at 0% excess oxygen.
- 2) Regulation 7.09, section 4 establishes a SO₂ emission limit of 28.63 grains per 100 dscf at 0% excess oxygen unless the resulting emission of sulfur dioxide is less than 40 tons per year and a modeling demonstration pursuant to Regulation 2.11 is made showing attainment and maintenance of the NAAQS for sulfur dioxide.

- 3) Regulation 7.06 establishes an emission standard of 1.0 lb SO₂ per million BTU actual heat input capacity for liquid and gaseous fuels.

f. Monitoring and Record Keeping

i. PM/PM₁₀/PM_{2.5}

- 1) Regulations 6.09 and 7.08 do not require any specific monitoring or record keeping requirements for PM. However, Regulation 2.16, Sections 4.1.9.1 and 4.1.9.2 requires sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The source is required to maintain records of all periods when a PM process was operating while an associated control device was not operating to assure ongoing compliance with the PM standards.
- 2) There are no compliance monitoring requirements for PM for Regulation 7.06. The potential uncontrolled PM emissions are below the applicable PM emission standard.

ii. Opacity

- 1) Regulations 6.09 and 7.08 do not require any specific monitoring or record keeping requirements for opacity. However, Regulation 2.16, Sections 4.1.9.1 and 4.1.9.2 requires sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit.
- 2) Regulation 7.06 does not require any specific monitoring requirements to demonstrate ongoing compliance with the opacity standard, however, Regulation 2.16, Sections 4.1.9.1 and 4.1.9.2 requires sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The District has determined that combusting natural gas will not cause an exceedance of the opacity standard. There are no compliance monitoring requirements for opacity for Regulation 7.06.

iii. **HAP**

- 1) **Emissions Calculation Methodology:** The emission calculations are based upon the throughput of HAP containing material used and weight percent of the HAP.
- 2) The source is required to comply with applicable monitoring and record keeping requirements of 40 CFR 63, Subpart VVVVVV.

iv. **TAC**

The source is required to maintain records of all periods when a TAC process was operating while an associated control device was not operating to assure ongoing compliance with Regulations 5.01, 5.21, and 5.23.

v. **NO_x**

- 1) Regulations 6.09 and 7.08 do not require any specific monitoring or record keeping requirements for NO_x. However, Regulation 2.16, Sections 4.1.9.1 and 4.1.9.2 requires sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. For EU 101-S15 and 101-S16 there are no compliance monitoring or record keeping requirements for NO_x because the potential uncontrolled emissions of NO_x are below the emission standards in Regulation 7.08 for these emission units.
- 2) For EU 101-S06, 101-S07, 101-S08, 101-S09, 101-S11, 101-S12, 101-S17, 101-S24 and 101-S25, the potential controlled emissions of NO_x are below the emission standards in Regulation 6.09. Therefore, the source is required to monitor any periods of bypassing a control device to assure ongoing compliance with the applicable NO_x emission standard.

vi. **SO₂**

- 1) There are no compliance monitoring or record keeping requirements for SO₂ for EU 101-S11 and 101-S12. The potential uncontrolled emissions of SO₂ are below the emission limit of 2000 ppmv in

Regulation 6.10.

- 2) The potential uncontrolled emissions of SO₂ are below the applicable emission standard in Regulation 7.06; therefore, no compliance monitoring is required.

vii. **Control Device Operation**

Regulation 2.16, Sections 4.1.9.1 and 4.1.9.2 requires sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. Furthermore, Regulation 1.05, Section 5 establishes requirements for maintenance and operation of air pollution control equipment. The source is required to monitor the performance of each control device and conduct monthly visual inspections to assure ongoing compliance. The source is required to report all periods of operating outside the established performance indicator range for a control device.

g. **Reporting**

There are no compliance reporting requirements for PM, opacity, or SO₂ for Regulation 7.06.

i. **PM/PM₁₀/PM_{2.5}**

Regulations 6.09 and 7.08 do not require any specific reporting requirements for PM. However, Regulation 2.16, Section 4.1.9.3 establishes requirements to assure ongoing compliance with the terms and conditions of the permit. The source is required to report all periods when a PM process was operating while an associated control device was not operating.

ii. **Opacity**

Regulations 6.09 and 7.08 do not require any specific reporting requirements for opacity. However, Regulation 2.16, Section 4.1.9.3 establishes requirements to assure ongoing compliance with the terms and conditions of the permit.

iii. **HAP**

- 1) Regulation 2.16, Section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the

terms and conditions of the permit. The source is required to report HAP emissions.

- 2) The source is required to comply with applicable reporting requirements of 40 CFR 63, Subpart VVVVVV.

iv. **TAC**

Regulation 5.21 does not require any specific reporting requirements for TAC. However, Regulation 2.16, Section 4.1.9.3 establishes requirements to assure ongoing compliance with the terms and conditions of the permit. The source is required to report all periods when a TAC process was operating while an associated control device was not operating. The owner or operator shall submit notification to, and receive approval by, the District for any raw material change that increases the TAC content or introduces new TACs in this process equipment not identified in the permit application.

v. **NO_x**

- 1) Regulations 6.09 and 7.08 do not require any specific reporting requirements for PM. However, Regulation 2.16, Section 4.1.9.3 establishes requirements to assure ongoing compliance with the terms and conditions of the permit. The source is required to report all periods of bypassing a NO_x control device while EP HT-101-NOX-006, HT-101-NOX-007, HT-101-NOX-008, HT-101-NOX-009, HT-101-NOX-001 and HT-101-NOX-002 were in operation during a reporting period.
- 2) From HT-101-NOX-006, HT-101-NOX-007, HT-101-NOX-008, HT-101-NOX-009, HT-101-NOX-001 and HT-101-NOX-002, the potential controlled NO_x emissions are below the applicable emission standard.

vi. **SO₂**

From HT-101-NOX-001 and HT-101-NOX-002, the potential uncontrolled emissions of SO₂ are below the applicable emission standard. Therefore, there are no compliance reporting requirements.

vii. **Control Device Operation**

Regulation 2.16, Section 4.1.9.3 establishes requirements to assure ongoing compliance with the terms and conditions of the permit. The source is required to report all periods of operating outside the established performance indicator range for a control device.

STAR (Regulations 5.01, 5.21 and 5.23) Compliance

The level of controls needed to meet the TAC de minimis levels in Regulation 5.21 are listed in the table below (1st indicates first control device needed, etc.). The starred (*) emission units can meet the de minimis values without a control device. For emission points that cannot meet the de minimis levels, the procedure used to calculate maximum ambient concentration (tier 1, 2, 3 or 4) from Regulation 5.22 is listed in the table.

EU	EP	Co	Cr(III)	Cr(IV)	Cu	HCl	Mn	NH ₃	Ni	HNO ₃	H ₂ SO ₄	Sb	U
101-S01	MX-101-S01-001	tier 3	--	--	1 st	--	1 st	--	tier 3	--	--	--	--
	T-101-S01-001	--	--	--	--	--	--	--	--	*	--	--	--
	T-101-S01-002, T-101-S01-003 & T-101-S01-004	--	--	--	--	--	--	*	--	*	--	--	--
101-S02	DD-101-S02-001 & H-101-S02-001	tier 3	--	--	1 st	--	tier 3	--	tier 3	--	--	--	--
	MX-101-S02-001	tier 3	--	--	1 st	--	1 st	--	tier 3	--	--	--	--
	T-101-S02-001	--	--	--	--	--	--	*	--	*	--	--	--
	T-101-S02-002 & T-101-S02-004	--	--	--	--	--	--	--	--	*	--	--	--
101-S03	T-101-S03-001 & T-101-S03-002	--	--	--	--	--	--	*	--	*	--	--	--
	H-101-S03-001 & DD-101-S03-001	2 nd	--	--	1 st	--	2 nd	--	2 nd	--	--	--	--
	MX-101-S03-001 & CV-101-S03-001	2 nd	--	--	1 st	--	1 st	--	2 nd	--	--	--	--
101-S14	DD-101-S14-001/H-101-S14-001 & PD-101-S14-001	--	--	--	*	--	--	2 nd	--	--	--	--	
101-S04	HT-101-S04-001	--	--	--	--	--	--	--	--	--	*	--	--
101-S11	HT-101-NOX-001	2 nd	--	2 nd	1 st	2 nd	2 nd	--	2 nd	--	--	--	--
	H-101-S11-001 & PD-101-S11-001	2 nd	--	2 nd	1 st	--	1 st	--	2 nd	--	--	--	--
101-S12	HT-101-NOX-002	2 nd	--	2 nd	*	1 st	2 nd	--	2 nd	--	--	--	--
	H-101-S12-001 &	1 st	--	1 st	*	*	1 st	--	1 st	--	--	--	--

EU	EP	Co	Cr(III)	Cr(IV)	Cu	HCl	Mn	NH ₃	Ni	HNO ₃	H ₂ SO ₄	Sb	U
	PD-101-S12-001												
101-S13	DD-101-S13-001	3 rd	--	--	--	--	--	--	--	--	--	--	--
	T-101-S13-001	--	--	--	--	--	--	*	--	--	--	--	--
	T-101-S13-003 & T-101-S13-004	--	--	--	--	--	--	3 rd	--	--	--	--	--
	T-101-S13-006	--	--	--	--	--	--	2 nd	--	--	--	--	--
101-S15	H-101-S15-006/CV-101-S15-005/PD-101-S15-004	--	tier 2	--	--	--	--	--	--	--	--	--	--
	All other EP	--	1 st	--	--	--	--	--	--	--	--	--	--
101-S16	SD-101-S16-001, HT-101-S16-001, PD-101-S16-001, T-101-S16-101 & T-101-S16-102	--	--	--	--	--	--	--	2 nd	--	--	--	--
	T-102-S38-010 & T-102-S38-012	--	--	--	--	--	--	tier 3	--	--	--	--	--
101-S17	SD-101-S17-001	--	--	--	--	--	--	*	--	--	--	final	final
	SEP-101-S17-003, H-101-S17-002 & HT-101-S17-001	--	--	--	--	--	--	--	--	--	--	final	final
	T-101-S17-004	--	--	--	--	--	--	*	--	*	--	final	final
	FR-101-S17-001 & PD-101-S17-001	--	--	--	--	--	--	--	--	--	--	1 st	1 st
	FR-101-S17-002 & T-101-S17-012	--	--	--	--	--	--	*	--	--	--	1 st	final
	PD-101-S17-003, FR-101-S17-003 & HT-101-S17-002	--	--	--	--	--	--	--	--	--	--	1 st	final
	PD-101-S17-002	--	--	--	--	--	--	--	--	--	--	*	1 st
	T-101-S17-001	--	--	--	--	--	--	--	--	*	--	--	--
T-101-S17-003, T-101-S17-009 & T-101-S17-010	--	--	--	--	--	--	--	*	--	--	--	--	--

EU	EP	Co	Cr(III)	Cr(IV)	Cu	HCl	Mn	NH ₃	Ni	HNO ₃	H ₂ SO ₄	Sb	U
101-S18	DD-101-S18-001/H-101-S18-001, FD-101-S18-001 & H-101-S18-002	--	--	--	*	--	--	--	2 nd	--	--	--	--
	PD-101-S18-001	--	--	--	*	--	--	*	2 nd	--	--	--	--
101-S19	DD-101-S19-001, DB-101-S19-001 & H-101-S19-001	--	1 st	2 nd	1 st	--	1 st	--	2 nd	--	--	--	--
	T-101-S19-001	--	--	--	--	--	--	--	--	*	--	--	--
101-S20	T-101-S20-001	--	--	--	--	--	--	--	--	tier 3	--	--	--
101-S22	DD-101-S22-001/H-101-S22-001	2 nd	2 nd	tier 2	2 nd	--	2 nd	--	2 nd	--	--	--	--
	FD-101-S22-001	2 nd	1 st	2 nd	1 st	--	2 nd	--	2 nd	--	--	--	--
	VS-101-S22-001, PD-101-S22-001, H-101-S22-002 & PD-101-S22-002	2 nd	2 nd	2 nd	1 st	--	2 nd	--	2 nd	--	--	--	--
101-S29	DD-101-S29-001/H-101-S29-001	2 nd	2 nd	tier 2	2 nd	--	2 nd	--	2 nd	--	--	--	--
	FD-101-S29-001	2 nd	1 st	2 nd	1 st	--	2 nd	--	2 nd	--	--	--	--
	VS-101-S29-001 & PD-101-S29-001	2 nd	2 nd	2 nd	1 st	--	2 nd	--	2 nd	--	--	--	--
101-S21	DD-101-S21-001 & MX-101-S21-001	2 nd	--	--	--	--	--	--	--	--	--	--	
101-S23	DD-101-S23-101 and PD-101-S23-101	2 nd	--	--	--	--	--	--	--	--	--	--	
101-S24	DD-101-S24-003, FD-101-S24-001, HT-101-NOX-003, VS-101-S24-001 & PD-101-S24-001	2 nd	--	2 nd	1 st	--	--	--	2 nd	--	--	--	
101-S25	DD-101-S25-004, FD-101-S25-001, VS-101-S25-002 &	2 nd	--	2 nd	1 st	--	--	--	2 nd	--	--	--	

EU	EP	Co	Cr(III)	Cr(IV)	Cu	HCl	Mn	NH ₃	Ni	HNO ₃	H ₂ SO ₄	Sb	U
	PD-101-S25-001												
	HT-101-NOX-004	2 nd	--	2 nd	2 nd	--	--	--	2 nd	--	--	--	--
101-S27	T-101-S27-001, T-101-S27-009 and T-101-S27-007	--	--	--	--	--	--	--	--	*	--	--	--
101-S28	DD-101-S28-001 and MX-101-S28-001	2 nd	--	--	--	--	--	--	--	--	--	--	--
102-S30	DD-102-S30-101 & H-102-S30-101	2 nd	--	--	--	--	--	--	2 nd	--	--	--	--
	T-102-S30-104	1 st	--	--	--	--	--	--	2 nd	--	--	--	--
	T-102-S30-105	2 nd	--	--	--	--	--	--	tier 3	--	--	--	--
102-S31	DD-102-S31-101 & H-102-S31-001	2 nd	--	--	--	--	--	--	2 nd	--	--	--	--
	T-102-S31-106	1 st	--	--	--	--	--	--	2 nd	--	--	--	--
	T-102-S31-107	--	--	--	--	--	--	--	tier 3	--	--	--	--
102-S32	DD-102-S32-001 & PD-102-S32-001	--	1 st	2 nd	1 st	--	--	--	2 nd	--	--	--	--
102-S33	DD-102-S33-001 & PD-102-S33-001	--	1 st	2 nd	1 st	--	--	--	2 nd	--	--	--	--
102-S34	T-102-S34-100, T-102-S34-101, T-102-S34-102, T-102-S34-103, T-102-S34-104 & T-101-AQNH-001	--	--	--	--	--	--	*	--	--	--	--	--
102-S35	T-102-S35-108, T-102-S35-109, V-102-S35-001, SSD-102-S35-001, PT-102-S35-001 and PD-102-S35-001	--	--	--	--	--	--	--	2 nd	--	--	--	--
102-S36	T-102-S36-008, T-102-S36-009, T-102-S36-018 &	--	--	--	--	--	--	*	--	--	--	--	--

EU	EP	Co	Cr(III)	Cr(IV)	Cu	HCl	Mn	NH ₃	Ni	HNO ₃	H ₂ SO ₄	Sb	U
	T-102-S36-019												
102-S37	T-102-S37-001	--	--	--	--	*	--	--	--	--	--	--	--
102-S38	T-102-S38-001, T-102-S38-004 & T-102-S38-005	--	--	--	--	--	--	1 st	--	--	--	--	--
	T-102-S38-002 & T-102-S38-003	--	--	--	--	--	--	tier 3	2 nd	--	--	--	--
102-S39	MX-102-S39-001	1 st	--	--	--	--	--	--	1 st	--	--	--	--
104-S41	T-104-S41-002	--	--	--	--	--	--	--	--	--	*	--	--
	EQ-104-S41-001	--	--	--	--	--	--	*	--	--	--	--	--

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	Issuance Date	Penalty	Status
05/21/2007	12/21/2010	\$2000	In compliance

6. **Insignificant Activities:**

Description	Quantity	Basis (Regulation 1.02, Appendix A)
Combustion sources < 10 MMBtu/hr	23	Section 1.1
Internal combustion engines, fixed or mobile ²	3	Section 2.
Brazing, soldering, or welding equipment	7	Section 3.4
Lab ventilating and exhausting systems for nonradioactive materials	27	Section 3.11
Research & Development facilities	1	Section 3.27

- 1) Insignificant activities identified in District Regulation 1.02 Appendix A may be subject to size or production rate disclosure requirements.
- 2) Insignificant activities identified in District Regulation 1.02 Appendix A shall comply with generally applicable requirements.
- 3) Activities identified in District Regulation 1.02, Appendix A, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the permit.
- 4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.

² These engines are not subject to 40 CFR 60 Subpart IIII, 40 CFR 60 Subpart JJJJ, or 40 CFR 63 Subpart ZZZZ.

- 5) In lieu of recording annual throughputs and calculating actual annual emissions, the owner or operator may elect to report the pollutant Potential To Emit (PTE) quantity listed in the Insignificant Activities table, as the annual emission for each piece of equipment, since the emissions from the source's Insignificant Activities are very minor in comparison to the plant wide emissions.
- 6) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- 7) The owner or operator shall submit an updated list of insignificant activities whenever changes in equipment located at the facility occur that cause changes to the plant wide emissions.