



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



20 June 2018

Title V Statement of Basis

Owner: Clariant Corporation

Source: Clariant Corporation (Louisville West Plant)

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

Date Application Received: See Table 3

Date Admin Complete: 6/14/2017

Date of Draft Permit: 04/29/2018

Date of Proposed Permit: 04/29/2018

District Engineer: Jenny Rhodes

Permit No: 27755-14-TV(R2)

Plant ID: 0036

SIC Code: 2819

NAICS: 325188

Introduction:

This permit will be issued pursuant to: (1) 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.

This permit action adjusts pressure drop ranges and includes updated STAR 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), particulate matter less than 10 microns (PM₁₀); and unclassifiable for the 2012 standard 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

Compliance Summary:

- Compliance certification signed
- Source is out of compliance
- Compliance schedule included
- Source is operating in compliance

I. Source Information

1. **Product Description:** Clariant Corp. – Louisville West Plant manufactures customized precipitated catalysts and catalyst carriers.
2. **Process Description:** Catalyst production consists of tank farm loading, support synthesis, drying, mixing and forming of metal oxide catalyst, reactors, material transfer to calciners, fine grinding of rework materials, solvent regeneration, by-product isolation, waste gas treatment, and waste water treatment.
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	Equipment Description
201-W02	Sodium aluminate and sodium carbonate tanks
201-W03 and 201-W10	Powder calcining, weighing, mixing, compacting, grinding, tableting and tablet calcining
201-W04 and 201-W09	Material Transfer and #3 Rotary Calciner
201-W05	First Chemical Manufacturing; Mixing and forming of metal oxide catalysts
201-W06	Wet process system for product reaction and purification for drying and calcination
201-W07 and 201-W14	Reactors
201-W11, 201-W12 and 201-W17	#1 and #2 Spray Dryers and Slurry Manufacturing
201-W13	#3 Spray Dryer; Spray drying of slurries of metal oxides
201-W16	Sweeper System; Transfer of floor sweepings into a 55 gallon drum
201-W60	Nickel Rack Dumper and Product Drum
202-W18	Screening System; Four product screening systems and a repack

Emission Unit	Equipment Description
	station
203-W19	Alumina Grinding System; Fine grinding of rework materials
203-W22	C Kiln Manufacturing; Heat treating of catalyst carriers
203-W23	Catalyst drying
203-W24	HATA Tableting Machine
203-W25	Specialty Extrusion Manufacturing; Raw material weighing, mixing, forming, drying and calcining
203-W26	Small Quantities Manufacturing; Mixing, steam drier, ball wheel, tableting machine and extruder
204-W28, 204-W29, 204-W30 and 204-W42	Box Dryers and Sergeant Dryer System
204-W32 and 204-W39	C28 Manufacturing; Mixing, forming, drying, and fine grinding of metal oxide catalysts
204-W34 and 204-W38	Mixing and extrusion of catalyst ingredients and granulator system.
204-W35	Dipping System; Impregnation of catalyst carriers with various metal ions by spraying with metal salt solutions
204-W36	Small Eirich Mixing System; Mixing of metal oxides with additives prior to extrusion
204-W37	Extruder/Belt Dryer System; Extrusion and drying of wet metal oxides
204-W40	Pulvacron System; Fine grinding of catalyst rework and metal oxides
204-W43	Wyssmont Drying System; Extrusion and drying of wet catalyst ingredients which have been mixed in the 204-W34 System
204-W58	Product mixing system
212-W45	C84 North System; Mixing, forming and calcination of catalysts.
220-W51	Acid Unloading System
220-W52, 220-W53 and 220-W54	Nickel nitrate system, reforming catalysts, and rotary calcination.
250-W55 and 250-W56	Houdry and Houdry Screening Systems
251-W57	G84 Styrene System; Production of process catalyst pellets. Powder and liquid weighing, mixing, extrusion and pellet drying and calcining
W62	Tank Farm
W63	Support Synthesis
W64	Support Synthesis
W65	Support Synthesis
W66	Co-Isolation
W67	Waste Gas Treatment
W68	Utilities

Emission Unit	Equipment Description
W69	Waste Water Treatment
252-Boilers	Three (3) natural gas fired boilers
201-GASTK	Gasoline storage tank

5. **Fugitive Sources:** There are fugitive PM/PM₁₀/PM_{2.5}, VOC, HAP, NO_x and TAC emissions from the manufacturing of customized precipitated catalysts and catalyst carriers.

6. **Permit Revisions:**

Table 1 - Title V Permit 27755-14-TV Revisions

Revision No.	Permit No.	Date of Issuance	Public Notice Date	Change Type	Change Scope	Description
Initial	27755-14-TV	7/30/2014	6/07/2014	Initial	Entire permit	Initial permit issuance
R1	27755-14-TV(R1)	4/25/2016	NA	Admin	Emission Unit W53	Incorporation of Construction Permit 36-96-C(R1)
R2	27755-14-TV(R2)	06/20/2018	4/29/2018	Significant	Adding Emission Units 203-W70, W62 through W69 and revising Emission Units 203-W23 and 101-W26, adding source-wide federal regulation table, and revising pressure drop ranges.	Incorporation of Construction Permits F-13-1011-C, F-14-1002-36, C-0036-1000-15-V(R2), C-0036-1002-15-V(R1) and C-0036-1004-16-V; adding construction history and application tables, adding 40 CFR 63 Subpart VVVVVV to the source-wide federal regulation table, and incorporating the application dated 4/1/2016.

Table 2 - FEDOOP Permit 0073-97-F Revisions

Revision No.	Date of Issuance	Public Notice Date	Type	Emission Unit	Description
4	08/15/2003	06/08/2003	Renewal	Entire permit	Permit renewal
3	07/13/2000	06/18/2000	Minor	5-98, 6-98, 7-98, 55-00, 63-00	Attachment added
2	06/20/2000	05/14/2000	Administrative	Entire permit	Name change
1	05/30/2000	03/05/2000	Minor	General Conditions (GC), pp. 2-4	Incorporate revisions to GC 4, 11, 12, 13 and add new GC 13 and 14.
NA	04/22/1997	07/16/1997	Initial	Entire permit	Initial permit issuance

7. Construction Permit History:

Permit No.	Issue Date	Description
F-13-1011-C	3/19/2014	DD-201-W13-310, Drum Dumper, in EU 201-W13, venting to new DC-201-W13-360 (Baghouse (99.786%), Torit, Model DFT2-4) and new FIL-201-W13-360 (HEPA Filter (99.97%)), in series (Stack S-201-W13-002)
F-14-1002-36	9/3/4/2014	MX-251-W57-001, Mixmuller, in EU 251-W57, venting to SEP-251-W57-002 (Cyclone, Fisher-Klosterman), DC-251-W57-004 (Baghouse (95%), Air Pro, Model 43/54-PSTH-256), FIL-251-W57-004 (HEPA Filter (99.97%), Flex-Kleen, Model Magna-Pak), in series
C-0036-1000	11/19/2014	A catalyst plant consisting of tank farm loading, support synthesis, catalyst production, solvent regeneration, by-product isolation, waste gas treatment, waste water treatment; and utilities.
36-96-C(R1)	2/10/2015	Belt Calciner Process for nickel nitrate production, including the Emission Points on page 4. Permit revision R1 includes the addition of three HEPA filters.
C-0036-1002-15-V	6/18/2015	Process 203-W70 which will include five lines associated with catalyst manufacturing and two ovens associated with existing process 203-W23.
C-0036-1000-15-V(R1)	10/6/2015	A catalyst plant consisting of tank farm loading, support synthesis, catalyst production, solvent regeneration, by-product isolation, waste gas treatment, waste water treatment; and utilities.
C-0036-1002-15-V(R1)	1/06/2016	Process 203-W70 which will include five lines associated with catalyst manufacturing and two ovens associated with existing process 203-W23.
C-0036-1000-15-V(R2)	6/13/2016	A catalyst plant consisting of tank farm loading/unloading, support synthesis, catalyst production, solvent regeneration, co-product isolation, waste gas treatment, waste water treatment; and utilities.
C-0036-1004-16-V	11/28/2016	Box Dryer HT-203-W23-534, Box Dryer HT-203-W23-542, and Ball Wheel MX-203-W26-003.

8. Permit Renewal-Related Documents

Document Number	Date Received	Description
36374	4/07/2007	Title V Application
05350	9/7/2010	Tier 2 EA Demonstration for Nickel from W10
37154	3/23/2012	EA Demonstration for Copper
39162	5/15/2012	Revised EA Demonstration for Copper
39155	5/15/2012	Nickel EA Explanation for W12
39162	5/15/2012	EA Demonstration for W12 Revised
75844	1/7/2013	EA Demonstration Summary
60994	4/8/2013	Correspondence EA Demonstration for copper
61222	12/12/2013	Confidential Construction Application for F-13-1011-C
61223	12/12/2013	Public Construction Application for F-13-1011-C
61585	1/8/2014	Confidential Construction Application for F-14-1002-36
61586	1/8/2014	Public Construction Application for F-14-1002-36
63548	4/1/2014	Public Construction Application for C-0036-1000-15-V
65310	6/2/2014	EA Demonstration for Cobalt
70287	3/23/2015	Public Construction Application for C-0036-1002-15-V
70286	3/23/2015	Confidential Construction Application for C-0036-1002-15-V

Document Number	Date Received	Description
70429	4/1/2015	EA Demonstration for Copper
71955	6/4/2015	Cobalt Compliance Plan
71979	6/8/2015	Public Construction Application for C-0036-1000-15-V(R1)
73055	8/17/2015	Cobalt Compliance Plan
73361	9/8/2015	Public Construction Application for C-0036-1002-15-V(R1)
73362	9/8/2015	Confidential Construction Application for C-0036-1002-15-V(R1)
74297	11/10/2015	Public Application to add a new product to SD-130A.
74298	11/10/2015	Confidential Permit Application to add a new product to SD-130A.
74475	11/30/2015	Revised Confidential Permit Application to add a new product to SD-130A.
74367	11/18/2015	No Permit Required for 11/10/2015 application to add a new product to SD-130A.
75493	2/26/2016	Public Operating Application Forms (AP-100C, AP-100D, AP-100H, AP-100J, AP-100K, AP-150B) to incorporate 36-96-C(R1) into the Title V Permit and Certificate of Authority from the Kentucky Secretary of State
75494	2/26/2016	Confidential Operating Application Forms (AP-100C, AP-100D, AP-100H, AP-100J, AP-100K, AP-150B) to incorporate 36-96-C(R1) into the Title V Permit
76185	4/1/2016	Public Modification Application Control Device Range Change Request
76186	4/1/2016	Confidential Modification Application Control Device Range Change Request
76187	4/1/2016	Confidential Application for C-0036-1000-15-V(R2) (Construction and Operating)
76188	4/1/2016	Public Application for C-0036-1000-15-V(R2) (Construction and Operating)
77650	6/7/2016	Public Application to bypass SEP-201-W11-145
77651	6/7/2016	Confidential Application to bypass SEP-201-W11-145
78759	8/4/2016	Confidential Application for C-0036-1004-16-V (Construction and Operating)
78758	8/4/2016	Public Application for C-0036-1004-16-V (Construction and Operating)
79431	9/15/2016	Updated STAR EA Demonstration for Nitric Acid
79458	9/19/2016	Updated Public AP-100B Forms for C-0036-1004-16-V
79459	9/19/2016	Updated Confidential AP-100B Forms for C-0036-1004-16-V
80815	12/12/2016	Confidential Operating Application Forms (AP-100C, AP-100D, AP-100H, AP-100J, AP-100K, AP-150B) to incorporate F-14-1002 into the Title V permit.
80816	12/12/2016	Confidential Operating Application Forms (AP-100C, AP-100D, AP-100H, AP-100J, AP-100K, AP-150B) to incorporate F-13-1011-C into the Title permit.
80887	12/16/2016	Confidential Construction and Operating Application to modify the W55 Process (permitted as Construction Permit C-0036-1006-17-V)
80888	12/16/2016	Public Construction and Operating Application to modify the W55 Process (permitted as Construction Permit C-0036-1006-17-V)
80896	12/19/2016	Public Operating Application Forms (AP-100C, AP-100D, AP-100H, AP-100J, AP-100K, AP-150B) to incorporate F-13-1011 and F-14-1002 into the Title V permit.
81519	1/30/2017	Public Operating Application Forms (AP-100C, AP-100D, AP-100H, AP-100J, AP-100K, AP-150B) to incorporate C-0036-1002-15-V and C-0036-1002-15-V(R1) into the Title V permit.
81520	1/30/2017	Confidential Application Forms (AP-100C, AP-100D, AP-100H, AP-100J, AP-100K, AP-150B) to incorporate C-0036-1002-15-V and C-0036-1002-15-V(R1) into the Title V permit.
84095	5/5/2017	Justification of low pressure drop ranges for enforcement.
84748	6/14/2017	Confidential Operating Application Forms (AP-100C, AP-100D, AP-100H, AP-100J, AP-100K, AP-150B) to incorporate C-0036-1000-15-V(R2) into the Title V permit.
84747	6/14/2017	Public Operating Application Forms (AP-100C, AP-100D, AP-100H, AP-100J, AP-100K, AP-150B) to incorporate C-0036-1000-15-V(R2) into the Title V permit.
85417	7/24/2017	Correspondence regarding the Application Received 4/1/2016.

Document Number	Date Received	Description
89549	12/12/17	Confidential Application to add cobalt to 203-W24.
89550	12/12/17	Public Application to add cobalt to 203-W24.
90085	1/17/18	No Permit Required to add cobalt to 203-W24.
90401	02/06/18	Email from Company (No Longer Producing Cobalt in EU 201-W11)
91737	4/26/18	Company's informal comments on TV permit.

9. Emission Summary:

Pollutant	District Calculated Actual Emissions (tpy) 2016 Data	Major Source Pollutants (based on PTE)
CO	13.57	No
NO _x	60.38	*Yes
SO ₂	1.09	No
PM ₁₀	33.8	*Yes
VOC	1.98	*Yes
Total HAPs	3.32	*Yes
Single HAP		
Chromium Compounds	1.23	*Yes
Hexane	0.29	*Yes
Nickel Compounds	1.70	*Yes

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

10. Applicable Requirements:

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

11. Referenced MACT Federal Regulations:

40 CFR 63 Subpart VVVVVV, *National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources*

40 CFR 63 Subpart CCCCCC, *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities*

12. Referenced non-MACT Federal Regulations:

40 CFR Part 60 Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

II. Regulatory Analysis

- Acid Rain Requirements:** This facility is not subject to the Acid Rain Program.
- 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):** This 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:** 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. 40 CFR 63 VVVVVV requires Clariant West to obtain a Title V permit.
5. **Basis of Regulation Applicability**

- a. **Plantwide**

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.

EU 212-W47 was demolished beginning in 2015 and EU and 212-W48 was demolished beginning in 2014.

b. **Emission Unit 201-W02** – Sodium aluminate and sodium carbonate tanks

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
T-201-W02-002	Sodium Silicate Premix tank, 1000 gal	2004	7.08, STAR
T-201-W02-003	Sodium Carbonate Tank, 7000 gal	1961	6.09, STAR

ii. **Standards/Operating Limits**

1) **Opacity**

Regulation 6.09, section 3.3.1 and Regulation 7.08, section 3.1.1 establish a standard for opacity to not equal or exceed 20%.

2) **PM/PM₁₀/PM_{2.5}**

(a) Regulation 6.09, section 3.2 establishes PM standards for process equipment.

(b) 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.

3) **TAC**

Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs)

c. **Emission Unit 201-W02** – Sodium aluminate and sodium carbonate tanks

i. **Equipment:**

EU	Emission Point	Description	Construction Date	Applicable Regulations
201-W03	FR-201-W03-450	Filter Receiver	2005	7.08, STAR, 40 CFR 63 VVVVVV
	H-201-W03-455	Hand Addition Hopper	2005	
	MX-201-W03-460	Mixer/Blender	2005	
	H-201-W03-462	Hopper	2005	
	H-201-W03-465	Compact Hopper	2005	
	COM-201-W03-465/ M-201-W03-465/ M-201-W03-466	Compactor System (Compactor and 2 Compactor Mills)	2005	
	H-201-W03-470	Hopper	2005	
	TM-201-W03-470	Tabletting Machine	2005	
	DU-201-W03-475/476	2 Dedusters	2005	
	CV-201-W03-480	Conveyor/Hopper	2005	

EU	Emission Point	Description	Construction Date	Applicable Regulations	
	H-201-W03-471/ CV-201-W03-476	Conveyor/Hopper	2005		
	H-201-W03-476/ PA-201-W03-490	Tablet Hopper/Packager	2005		
	FR-201-W03-467	Filter Receiver (99.489%)	2005		
201-W10	FR-201-W10-400	Filter Receiver (99.489%)	2005		
	DD-201-W10-410/H- 201-W10-410	Drum Dumper/ Powder Hopper	2005		
	HT-201-W10-420	Rotary Calciner #4	2005		NA
		Rotary Calciner #4, heating zone, 2.5 MMBTU/hr			
	H-201-W10-440/442	2 Hoppers	2005		7.08, STAR, 40 CFR 63 VVVVVV
PA-201-W10-420	Drumming/ Packaging Station	2005			

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled hourly PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control devices are required to be in operation at all times the process is in operation.
- (c) Except where a tier 2 or 3 analysis is noted, the potential TAC emissions for the emission points in the table below are less than the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control; therefore, the control device is required to be in operation at all times the process is in operation.

EU	EP	Cu	Mn	Ni
201-W03	FR-201-W03-450, MX-201-W03-460	2 nd	2 nd	2 nd
	H-201-W03-455	--	1 st	--
	H-201-W03-462, H-201-W03-465, H-201-W03-470, DU-201-W03-475/476, CV-W03-480, H-W03-471/ CV-201-W03-476, H-W03-476/ PA-W03-490	1 st	1 st	1 st
	COM-201-W03-465, M-201-W03-465, M-201-W03-466, TM-201-W03-470	2 nd	1 st	1 st
	FR-201-W03-467	2 nd	2 nd	2 nd
201-W10	FR-201-W10-400, D-201-W10-410/H-201-W10-410	2 nd	2 nd	2 nd
	HT-201-W10-420 and H-201-W10-440 & 442	Tier 3	1 st	Tier 2

--" This emission point has no emissions of the specified TAC.

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

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.

4) **TAC**

- (a) From EP HT-201-W10-420 and H-201-W10-440 & 442, the potential controlled TAC emissions of nickel are above the averaging period *de minimis* levels. Therefore, the source performed a tier 2 analysis for Nickel (EA Demonstration dated 1/7/2013) and a tier 3 analysis for copper, resulting in the following hazard quotients.
- (b) Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.
- (c) Copper emissions from HT-201-W10-420, H-201-W10-440, H-201-W10-442, and PA-201-W10-420 combined were modeled at a controlled emission rate of 0.02 lb/hr; therefore, emissions are limited to 175.2 lb per 12 consecutive months (0.02 lb/hr x 8760 hr/year) per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.
- (d) Nickel emissions from HT-201-W10-420, H-201-W10-440, H-201-W10-442, and

PA-201-W10-420 combined were modeled at a controlled emission rate of 0.0023 lb/hr; therefore, emissions are limited to 2.01 lb per 12 consecutive months (0.0023 lb/hr x 8760 hr/year) per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.

EU	EP	TAC	Location	Risk	Status	HQ	Status
201-W10	HT-201-W10-420 and H-201-W10-440 & 442	Cu	unadjusted	--	--	0.202	≤ 1.0
		Ni	unadjusted	0.20	≤ 1.0	0.02	≤ 1.0

d. **Emission Unit 201-W04 and 201-W09 – Material Transfer and #3 Rotary Calciner**

i. **Equipment:**

EU	Emission Point	Description	Construction Date	Applicable Regulations
201-W04	FR-201-W04-001	Filter Receiver	2008	7.08, STAR, 40 CFR 63 VVVVVV
	PD-201-W04-001	Product Drum	2008	
201-W09	DD-201-W09-001 / H-201-W09-001	Drum Dumper/ Feed Hopper	1966	6.09, STAR, 40 CFR 63 VVVVVV
	HT-201-W09-001	Rotary Calciner #3, inlet	1990	7.08, STAR, 40 CFR 63 VVVVVV
Rotary Calciner #3 heating zone, 2 MMBTU/hr		NA		

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled hourly PM emissions meet the applicable emission standard in Regulations 6.09 and 7.08 after the first control device; therefore, the control devices are required to be in operation at all times the process is in operation.
- (c) Except where a tier 3 analysis is noted, the potential TAC emissions for the following emission points are less than the *de minimis* levels in Regulations

5.00 and 5.21, with the listed levels of control; therefore, the control device is required to be in operation at all times the process is in operation.

EU	Emission Point	Cr(VI)	Cu	Ni
201-W04	FR-201-W04-001	--	--	2 nd
	PD-201-W04-001	--	--	1 st
201-W09	DD-201-W09-001	2 nd	2 nd	2 nd
	H-201-W09-001	2 nd	1 st	2 nd
	HT-201-W09-001	Tier 3	1 st	Tier 3

“--” This emission point has no emissions of the specified TAC.

2) **Opacity**

- (a) Regulation 6.09, section 3.3.1 and Regulation 7.08, section 3.1.1 establish a standard for opacity to not equal or exceed 20%.

3) **PM/PM₁₀/PM_{2.5}**

- (a) Regulation 6.09, section 3.2 establishes PM standards for process equipment. Per Table 1 to Regulation 6.09, the maximum allowable emission rate is 2.58 lb PM/hr for equipment with a process weight rate of less than or equal to 1,000 pounds per hour.
- (b) 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.

4) **TAC**

- (a) Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.
- (b) Chromium VI emissions from HT-201-W09-001 were modeled at a controlled emission rate of 0.00000568 lb/hr; therefore, emissions are limited to 0.05 lb per 12 consecutive months (0.00000568 lb/hr x 8760 hr/year) per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.
- (c) Nickel emissions from HT-201-W09-001 were modeled at a controlled emission rate of 0.00036 lb/hr; therefore, emissions are limited to 3.15 lb per

12 consecutive months (0.00036 lb/hr x 8760 hr/year) per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.

- (d) Regulation 5.22 establishes the procedures for determining the maximum ambient concentration of a TAC. Because the potential controlled emissions of hexavalent chromium and nickel from EP HT-201-W09-001 are above the *de minimis* levels, in accordance with Regulations 5.00 and 5.21, the source determined the maximum ambient concentrations in order to calculate the following risks and hazard quotients.

EU	Emission Point	TAC	Location	Risk	Status	HQ	Status
201-W09	S-201-W09-002 (HT-201-W09-001)	Ni	unadjusted	0.098	≤ 1.0	0.027	≤ 1.0
			Industrial	0.094	≤ 10.0	0.026	≤ 3.0
		Cr(VI)	unadjusted	0.071	≤ 1.0	0.00074	≤ 1.0
			industrial	0.068	≤ 10.0	0.0007	≤ 3.0

- b. **Emission Unit 201-W05** – First Chemical Manufacturing; Mixing and forming of metal oxide catalysts

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
H-201-W05-111	Bag Dump Station	1998	7.08
FR-201-W05-115	Filter Receiver, Premier Pneumatics	1998	7.08
FR-201-W05-102	Filter Receiver, Vac-U-Max	1998	7.08
T-201-W05-102	Precipitator Tank, 12,000 gal	1998	7.08
HT-201-W05-101	Box Dryer, 2 MMBtu/hr	1998	7.25
DD-201-W05-101	Rack Dumper	1998	7.08, STAR, 40 CFR 63 VVVVVV
M-201-W05-101	Lump Breaker	1998	
M-201-W05-102	Hammermill	1998	
VS-201-W05-101	Sweco Screener	1998	
MX-201-W05-101	Eirich Mixer	1998	
DD-201-W05-102	Rack Dumper	1998	
H-201-W05-101	Powder Storage Hopper	1998	
FR-201-W05-103	Filter Receiver, Vac-U-Max	1998	7.08
FR-201-W05-104	Filter Receiver, Vac-U-Max	1998	7.08, STAR, 40 CFR 63 VVVVVV

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR

63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.

- (b) The potential controlled PM emissions from EP DD-201-W05-101, M-201-W05-101, M-201-W05-102, VS-201-W05-101, H-201-W05-101, MX-201-W05-101 and DD-201-W05-102 meet the applicable emission standard in Regulation 7.08 after the first control device. The potential controlled PM emissions from EP H-201-W05-111, FR-201-W05-115, FR-201-W05-102, T-201-W05-102, FR-201-W05-103 and FR-201-W05-104 meet the applicable emission standard in Regulation 7.08 after the second control device; therefore, the control devices are required to be in operation at all times the process is in operation.
- (c) The potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21. The control devices needed are listed in the table below; therefore, the control device is required to be in operation at all times the process is in operation.

EU	EP	Cu	Ni
201-W05	DD-201-W05-101, M-201-W05-101, M-201-W05-102, VS-201-W05-101, MX-201-W05-101, DD-201-W05-102	2 nd	2 nd
	FR-201-W05-103	1 st	--
	H-201-W05-101	2 nd	--
	FR-201-W05-104	1 st	1 st

--" This emission point has no emissions of the specified TAC.

2) **Opacity**

- (a) Regulation 7.08, section 3.1.1 establish a standard for opacity to not equal or exceed 20%.

3) **PM/PM₁₀/PM_{2.5}**

Regulation 7.08, section 3.1.2 establishes PM standards for process equipment.

4) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

5) **VOC**

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.

c. **Emission Unit 201-W06** – Wet process system for product reaction and purification for drying and calcination

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
SSU-201-W06-005/ H-201-W06-005	Supersack Unloader/ Supersack Unloading Hopper	2005	7.08
FR-201-W06-008	Filter Receiver (99.489%)	2005	7.08
T-201-W06-010	Sodium Aluminate Tank	2005	7.08
T-201-W06-022	Metering Tank, 150 gal	2005	STAR
T-201-W06-025	Sodium Carbonate Tank, 660 gal	2005	7.08, STAR

ii. **Standards/Operating Limits**

1) **Control Device Operation**

(a) The potential controlled hourly PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device, with the exception of EP T-201-W06-025, which can meet the PM standard uncontrolled; therefore, the control devices are required to be in operation at all times the process is in operation.

2) **Opacity**

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

3) **PM/PM₁₀/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.

4) **TAC**

- (a) For EP T-201-W06-022 and T-201-W06-025, the potential uncontrolled TAC emissions of nitric acid are *de minimis* therefore in accordance with Regulations 5.00 and 5.21, there are no specific nitric acid limits for STAR.

d. **Emission Unit 201-W07 and 201-W14 – Reactors**

i. **Equipment:**

EU	Emission Point	Description	Construction Date	Applicable Regulations
201-W07	T-201-W07-500	Nitric Acid Tank, 10,000 gal	1984	STAR
	T-201-W07-501	Nitric Acid Tank, 10,000 gal	1984	
	T-201-W07-505	Nitric Acid Batch Tank, 2100 gal	1997	
	T-201-W07-510	Copper Nitrate Reactor	1984	7.08
	T-201-W07-520	Copper Nitrate Reactor	1987	7.08
	T-201-W07-550	Zinc Nitrate Reactor	1987	7.08
201-W14	DD-201-W14-001	Drum Dumper	2007	7.08, STAR, 40 CFR 63 VVVVVV
	T-201-W14-003	Specialty Reactor	1990	

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled hourly PM emissions from EP T-201-W14-003 meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control devices are required to be in operation at all times the process is in operation.
- (c) The potential TAC emissions from EU 201-W14 are below the *de minimis* levels in Regulations 5.00 and 5.21. The control devices needed are listed in the table below.

EU	EP	Mn	HNO ₃
201-W14	DD-201-W14-001	2 nd	--
	T-201-W14-003	2 nd	*

*This emission point can meet the *de minimis* value without a control device.

-- This emission point has no emissions of the specified TAC.

- 2) **NO_x**
 - (a) Regulation 7.08, section 4.1 establishes a standard for NO_x not to exceed 300 ppmv expressed as NO₂.
- 3) **Opacity**
 - (a) Regulation 7.08, section 3.1.1 establishes a standard for opacity to not equal or exceed 20%.
- 4) **PM/PM₁₀/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.
- 5) **TAC**
 - (a) Uncontrolled potential manganese emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.
 - (b) The potential uncontrolled TAC emissions are above the averaging period *de minimis* levels from EP T-201-W07-505, T-201-W07-501 and T-201-W07-500. Regulation 5.22 establishes the procedures for determining the maximum ambient concentration of a TAC. In accordance with Regulations 5.00 and 5.21, Clariant submitted an updated EA demonstration on September 16, 2016 for Nitric Acid from emission points T-201-W07-500, T-201-W07-501, T-201-W07-505, HT-203-W23-534, HT-203-W23-542, and T-250-W55-102 modeled together uncontrolled using tier 4 AERMOD.

EU	EP	TAC	Unadjusted HQ (≤ 1.0)	Industrial HQ (≤ 3.0)
201-W07	T-201-W07-505	HNO ₃	0.48	1.85
	T-201-W07-501			
	T-201-W07-500			
250-W55	S-250-W55-001 (T-250-W55-102)			

- e. **Emission Unit 201-W11, 201-W12, and 201-W17 – #1 and #2 Spray Dryers and Slurry Manufacturing**

i. **Equipment:**

EU	Emission Point	Description	Construction Date	Applicable Regulations
201-W11	DD-201-W11-110	Drum Dumper	1965	7.08, STAR, 40 CFR 63 VVVVVV
	SD-201-W11-130 and SD-201-W11-130A	#1 Spray Dryer (83.99%), 6 MMBTU/hr #1 Spray Dryer (83.99%), 6 MMBtu/hr, product A	1965	
	SEP-201-W11-180	Separator/ Elutriator	1988	7.08, STAR
	PD-201-W11-001	Product Drum	1988	7.08, STAR
201-W12	SD-201-W12-230a/ SEP-201-W12-240 and SD-201-W12-230b/ SEP-201-W12-240	#2 Spray Dryer (83.99%)/ Cyclone	1966	7.08, STAR, 40 CFR 63 VVVVVV
201-W12	PD-201-W12-001	Spray Dryer Product Drum, 55 gal	1966	7.08, STAR, 40 CFR 63 VVVVVV
	PD-201-W12-002	Cyclone Fines Drum, 55 gal		7.08
	SEP-201-W12-280	Elutriator	2003	7.08
	PD-201-W12-003	Elutriator Product Drum, 55 gal	2003	
	H-201-W12-295	Baghouse Hopper	2004	
	DD-201-W12-210	Baghouse Drum Dumper	2003	7.08, STAR, 40 CFR 63 VVVVVV
	T-201-W12-210	Mix Tank		
201-W17	T-201-W17-001	Formic Acid Tank	1990	7.25
	T-201-W17-002	Mixing Tank	1990	7.08
	T-201-W17-005	Mixing Tank		
	T-201-W17-004	Mixing Tank		
	DD-201-W17-001	Drum Dumper	1997	7.08
	T-201-W17-008	Mixing Tank		
	FR-201-W17-001	Filter Receiver	2006	7.08

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the

owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.

- (b) The potential controlled hourly PM emissions for EP DD-201-W11-110, SD-201-W11-130, SEP-201-W11-180, SD-201-W12-230a/ SEP-201-W12-240, SD-201-W12-230b/ SEP-201-W12-240, SEP-201-W12-280, T-201-W12-210, DD-201-W12-210, and T-201-W17-005 meet the applicable emission standards in Regulation 7.08; therefore, the control devices is required to be in operation at all times the process is in operation.
- (c) Except where a tier 1, 2 or 3 analyses is noted, the potential TAC emissions for the emission points in the table below are less than the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control. The company stopped producing high-copper products in 201-W11.

EU	EP	Cr(III)	Cu	Mn	Ni	NH ₃
201-W11	DD-201-W11-110	--	---**	Tier 3	1 st	--
	SD-201-W11-130	--	---**	--	--	--
	SD-201-W11-130A	2 nd	--	2 nd	--	*
201-W12	SD-201-W12-230a/SEP-201-W12-240	--	**	--	5 th	--
	SD-201-W12-230b /SEP-201-W12-240	--	Tier 3	5 th	Tier 2	--
	PD-201-W12-001	--	1 st	1 st	1 st	--
	T-201-W12-210 and DD-201-W12-210	--	Tier 3	1 st	Tier 3	--

*This emission point can meet the *de minimis* value without a control device.

** Clariant submitted a compliance plan for Copper on April 8, 2013. Additional modeling did not demonstrate environmental acceptability; therefore, Clariant stopped producing high-copper products in emission unit 201-W11.

“--” This emission point has no emissions of the specified TAC.

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

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.

4) **TAC**

- (a) Uncontrolled potential chromium III emissions can exceed *de minimis* levels from SD-201-W11-130A; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.
- (b) As part of their compliance plan for STAR required by Regulation 5.21, section 4, the company no longer produces cobalt containing products from EU 201-W11 per email dated 2/6/2018; and EU 201-W12 per the email dated 6/4/2015.
- (c) As part of their compliance plan for STAR required by Regulation 5.21, section 4, the company no longer produces copper containing products from EU 201-W11 per the email dated 4/1/2015.
- (d) Uncontrolled potential copper emissions can exceed *de minimis* levels from SD-201-W12-230a/SEP-201-W12-240; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.
- (e) Copper emissions from SD-201-W12-230b/SEP-201-W12-240 combined were modeled at a controlled emission rate of 0.00146 lb/hr; therefore, emissions are limited to 12.26 lb per 12 consecutive months (0.00146 lb/hr x 8760 hr/year) per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.
- (f) Copper emissions from DD-W12-210 and T-W12-210 combined were modeled at a controlled emission rate of 0.018 lb/hr; therefore, emissions are limited to 157.68 lb per 12 consecutive months (0.018b/hr x 8760 hr/year) per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.
- (g) Uncontrolled potential manganese emissions can exceed *de minimis* levels from SD-201-W11-130A, SD-201-W12-230b /SEP-201-W12-240, PD-201-W12-001, T-201-W12-210, and DD-201-W12-210 each; therefore, limiting

emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

- (h) Manganese emissions of 0.026 lb/hr were modeled controlled; therefore, emissions are limited to 285.97 lb per 12 consecutive month period per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.
- (i) Uncontrolled potential nickel emissions can exceed *de minimis* levels from DD-201-W11-110, SD-201-W12-230b /SEP-201-W12-240, and PD-201-W12-001 each; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.
- (j) Nickel emissions from SD-201-W12-230b/SEP-201-W12-240 combined were modeled at a controlled emission rate of 0.0003 lb/hr; therefore, emissions are limited to 2.6 lb per 12 consecutive months (0.0003 lb/hr x 8760 hr/year) per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.
- (k) Nickel emissions from DD-201-W12-210 and T-201-W12-210 combined were modeled at a controlled emission rate of 0.001682 lb/hr; therefore, emissions are limited to 14.73 lb per 12 consecutive months (0.001682 lb/hr x 8760 hr/year) per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.
- (l) For the emission points with emissions above the averaging period *de minimis* levels in Regulations 5.00 and 5.21, the source performed a tier 1, 2 or 3 analysis pursuant to Regulation 5.22, resulting in the following risks and hazard quotients. Clariant submitted a compliance plan for copper on April 8, 2013.

EU	EP	TAC	Location	Risk	Status	HQ	Status
201-W11	DD-201-W11-110	Cu	unadjusted	--	--	--	--
		Mn	unadjusted	--	--	0.66	≤ 1.0
	SD-201-W11-130	Cu	unadjusted	--	--	--	--
		Mn	unadjusted	--	--	--	--
	SD-201-W11-130A	Co	unadjusted	--	--	--	--

EU	EP	TAC	Location	Risk	Status	HQ	Status
201-W12	SD-201-W12-230b /SEP-201-W12-240	Cu	unadjusted	--	--	0.01	≤ 1.0
		Ni	unadjusted	0.11	≤ 1.0	0.031	≤ 1.0
	DD-201-W12-210 and T-201-W12-210	Co	unadjusted	--	--	--	--
		Cu	unadjusted	--	--	0.258	≤ 1.0
		Ni	unadjusted	0.57	≤ 1.0	0.156	≤ 1.0

5) **VOC**

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.

- f. **Emission Unit 201-W13** – #3 Spray Dryer; Spray drying of slurries of metal oxides

i. **Equipment:**

EP	Description	Construction Date	Applicable Regulations
SD-201-W13-330	#3 Spray Dryer (95%)	1990	7.08, STAR, 40 CFR 63 VVVVVV
VS-201-W13-330/Product Drum	Vibratory Screener/Product Drum	1990	
DD-201-W13-310	Drum Dumper	2014	
T-201-W13-310	Mix Tank	1990	

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.
- (c) The potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21. The control devices needed are listed in the table below.

EU	EP	Cu	Ni
201-W13	DD-201-W13-310, VS-201-W13-330/Product drum and T-201-W13-310	1 st	2 nd
	SD-201-W13-330	2 nd	2 nd

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

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.

4) **TAC**

Uncontrolled potential copper emissions can exceed *de minimis* levels from DD-201-W13-310, VS-201-W13-330/Product drum and T-201-W13-310, or SD-201-W13-330 each; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

g. **Emission Unit 201-W16** – Sweeper System; Transfer of floor sweepings into a 55 gallon drum

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
H-201-W16-001	Receiving Hopper	1973	6.09, STAR, 40 CFR 63 VVVVVV
PD-201-W16-001	Product Drum		

ii. **Standards/Operating Limits**

1) **Control Device Operation**

(a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.

- (b) The potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21. The control devices needed are listed in the table below.

EU	EP	Co	Cr(III)	Cu	Ni
201-W16	H-201-W16-001	*	*	1 st	1 st
	PD-201-W16-001	*	*	1 st	1 st

*This emission point can meet the *de minimis* value without a control device.

2) **Opacity**

Regulation 6.09, section 3.3.1 establishes a standard for opacity to not equal or exceed 20%.

3) **PM/PM₁₀/PM_{2.5}**

Regulation 6.09, section 3.2 establishes PM standards for process equipment. Per Table 1 to Regulation 6.09, the maximum allowable emission rate is 2.58 lb PM/hr for equipment with a process weight rate of less than or equal to 1,000 pounds per hour.

4) **TAC**

Uncontrolled potential copper and nickel emissions can exceed *de minimis* levels from H-201-W16-001 or PD-201-W16-001 each; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

h. **Emission Unit 201-W60 – Nickel Rack Dumper and Product Drum**

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
DD-201-W60-001	Nickel Rack Dumper (was DD-204-W39-400)	2007	7.08, STAR, 40 CFR 63
PD-201-W60-001	Product Drum (was 204-W39)	2008	VVVVVV

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through

a closed-vent system to any combination of control devices.

- (b) The potential controlled hourly PM emissions meet the applicable emission standard in Regulation 7.08 after DC-201-W60-001; therefore, the control device is required to be in operation at all times the process is in operation.
- (c) The potential controlled TAC emissions of nickel compounds for EU 201-W60 after the HEPA filter are *de minimis* in Regulations 5.00 and 5.21; therefore, the control device is required to be in operation at all times the process is in operation per Regulation 5.21, section 4.3.

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

Regulation 7.08, section 3.1.2 establishes PM standards for process equipment.

4) **TAC**

Uncontrolled potential nickel emissions can exceed *de minimis* levels from DD-201-W60-001 or PD-201-W60-001 each; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

i. **Emission Unit 202-W18** – Screening System; Four product screening systems and a repack station

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
DD-202-W18-001	Drum Dumper 1	1967	6.09, STAR, 40 CFR 63 VVVVVV
H-202-W18-001	Hopper 1		
FD-202-W18-001	Feeder 1		
VS-202-W18-001	Screener 1		
PD-202-W18-001	Product Drum 1		
DD-202-W18-002	Drum Dumper 2		
H-202-W18-002	Hopper 2		
BD-202-W18-002	Big Bagger 2		
DD-202-W18-003	Drum Dumper 3		
H-202-W18-003	Hopper 3		
FD-202-W18-003	Feeder 3		
VS-202-W18-003	Screener 3		
PD-202-W18-003	Product Drum 3		

Emission Point	Description	Construction Date	Applicable Regulations
DD-202-W18-004	Drum Dumper 4	1975	6.09, STAR, 40 CFR 63 VVVVVV
H-202-W18-004	Hopper 4		
FD-202-W18-004	Feeder 4		
VS-202-W18-004	Screener 4		
PD-202-W18-004	Product Drum 4		
DD-202-W18-005	Drum Dumper 5		
H-202-W18-005	Hopper 5		
VS-202-W18-005	Screener 5		
FD-202-W18-005	Feeder 5		
PD-202-W18-005	Product Drum 5		

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled hourly PM emissions meet the applicable emission standard in Regulation 6.09 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.
- (c) The potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21. The control devices needed are listed in the table below.

EU	Emission Point	Co	Cr(III)	Cr(VI)	Cu	Mn	Ni
202-W18	BD-202-W18-002; DD-202-W18-001, -002, -003, -004 and -005; FD-202-W18-005; H-202-W18-001, -002, -003, -004 and -005; PD-202-W18-001, -003, -004 and -005; VS-202-W18-005	3rd	3rd	3rd	--	3rd	3rd
	FD-202-W18-001, -003 and -004; VS-202-W18-001, -003 and -004	3rd	3rd	3rd	3rd	3rd	3rd

--” This emission point has no emissions of the specified TAC.

2) **Opacity**

Regulation 6.09, section 3.3.1 establishes a standard for opacity to not equal or exceed 20%.

3) **PM/PM₁₀/PM_{2.5}**

Regulation 6.09, section 3.2 establishes PM standards for process equipment.

4) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

j. **Emission Unit 203-W19 – Alumina Grinding System; Fine grinding of rework materials**i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
DD-203-W19-200/H-203-W19-201	Drum Dumper/Feed Hopper	2001	7.08
M-203-W19-201/FD-203-W19-200	Crusher/Screw Feeder		
M-203-W19-201/FD-203-W19-204	Crusher/Fitz Mill Feeder		
M-203-W19-202	Fine Grinder		
M-203-W19-205	Fitz Mill Grinder		
PD-203-W19-001	Product Drum		

ii. **Standards/Operating Limits**1) **Control Device Operation**

The potential controlled hourly PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.

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}**

Regulation 7.08, section 3.1.2 establishes PM standards for process equipment.

k. **Emission Unit 203-W22 – C Kiln Manufacturing; Heat treating of catalyst carriers**i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
HT-203-W22-900	Tunnel Kiln, 8 MMBtu/hr	2000	7.08, 7.09, 7.25
VS-203-W22-901	Vibrating Screener	2000	7.08
SH-203-W22-905	Sagger Loader/Unloader	2000	7.08, STAR
DD-203-W22-906	Drum Dumper	2000	

Emission Point	Description	Construction Date	Applicable Regulations
CV-203-W22-903	Accumulator Table	2000	
SL-203-W22-916	Soft Loader	2000	7.08

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) The potential controlled hourly PM emissions from EP VS-203-W22-901 and SH-203-W22-905 meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.
- (b) Regulation 7.25 establishes Best Available Control Technology (BACT) level of control to reduce VOCs emissions for plant-wide VOC emissions greater than 5 tons per year. The District has determined that the thermal oxidizer TO-203-W22-900 represents BACT level of control for VOC for Regulation 7.25 for HT-203-W22-900; therefore, the control device is required to be in operation at all times the process is in operation.

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

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.

4) **SO₂**

Regulation 7.09, section 4 establishes a standard of 28.63 grains per 100 dscf at 0% excess oxygen for process gas streams that commenced on or after April 19, 1972.

5) **TAC**

The potential uncontrolled TAC emissions of ammonia from EP HT-203-W22-900 and nitric acid from EP SH-203-W22-905, DD-203-W22-906 and CV-203-W22-903 are below the *de minimis* levels in Regulations 5.00 and 5.21; therefore, there are no specific STAR limits for ammonia or nitric acid.

6) **VOC**

Regulation 7.25 establishes Best Available Control Technology (BACT) level of control to reduce VOCs emissions for plant-wide VOC emissions greater than 5 tons per year. The District has determined that the thermal oxidizer TO-203-W22-900 with a 99.90% control efficiency represents BACT level of control for VOC for HT-203-W22-900.

1. **Emission Unit 203-W23 – Catalyst Drying**

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
HT-203-W23-534	Box Dryer, Wisconsin Oven, 2.5 MMBTU/hr	2003	STAR, 7.25
HT-203-W23-542	Box Dryer, Wisconsin Oven, 2.5 MMBTU/hr		

ii. **Standards/Operating Limits**

1) **Control Device Operation**

The potential controlled ammonia emissions from EP HT-203-W23-534 and HT-203-W23-542 meet the *de minimis* levels in Regulations 5.00 and 5.21. The potential nitric acid emission rate from the EA demonstration submitted September 15, 2016, was modeled controlled by ED-203-W23-150 and SC-203-W23-550 in series; therefore, the control device is required to be in operation at all times the process is in operation.

2) **NOx**

Regulation 7.08, section 4.1 establishes a standard for NOx not to exceed 300 ppmv expressed as NO₂.

3) **TAC**

(a) Uncontrolled potential triethylamine emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

(b) The production limit of 369 pounds per hour and 898 hours per 12-consecutive month from HT-203-W23-534 or HT-203-W23-542 was requested in the construction application pursuant to Regulation 5.21, section 4.3 as an alternative measure to maintain triethylamine emissions below pound per year *de minimis* levels.

- (c) Nitric acid emissions from box dryer HT-203-W23-534 and HT-203-W23-542 each were modeled at a controlled emission rate; therefore, emissions are limited to 1.44 lb per 8 hour period per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.

4) **VOC**

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.

m. **Emission Unit 203-W24 – HATA Tableting Machine**

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
DD-203-W24-001	Drum Dumper	2009	7.08, STAR, 40 CFR 63 VVVVVV
H-203-W24-001	Hopper	2009	
TM-203-W24-001	Tableting Machine	2008	
DU-203-W24-001	Deduster	2008	
DB-203-W24-001	Deburring Machine	2011	
PD-203-W24-001	Product Drumming Station	2008	

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) From EP DD-203-W24-001, H-203-W24-001 and TM-203-W24-001, the potential controlled hourly PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.
- (c) The potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21. The

control devices needed are listed in the table below; therefore, the control device is required to be in operation at all times the process is in operation.

EU	Emission Point	Co	Cu	Ni
203-W24	DD-203-W24-001, H-203-W24-001, TM-203-W24-001, DU-203-W24-001, DB-203-W24-001, PD-203-W24-001	2 nd	1 st	2 nd

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

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.

4) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

n. **Emission Unit 203-W25** – Specialty Extrusion Manufacturing; Raw material weighing, mixing, forming, drying and calcining

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
FR-203-W25-100	Fines Filter Receiver	2001	7.08, STAR
H-203-W25-101	Bag Dump Station	2001	7.08
H-203-W25-102	Bag Dump Station	2001	7.08, STAR
H-203-W25-103	Bag Dump Station	2001	7.08
H-203-W25-104 - 105	2 Supersack Unloading Hoppers	2001	7.08, STAR
FR-203-W25-113	Filter Receiver (99.786%)	2001	7.08
H-203-W25-112	Hopper		
H-203-W25-113	Hopper		
FR-203-W25-114	Filter Receiver (99.786%)		
H-203-W25-114	Hopper		
H-203-W25-115	Hopper		
FR-203-W25-115	Filter Receiver (99.786%)		
MX-203-W25-100	Mixer		
FR-203-W25-125	Filter Receiver (99.489%)	2001	7.08
T-203-W25-117	Liquid Weigh Tank	2001	7.25, STAR
HT-203-W25-100HZ	Belt Dryer, heating zone, 1.2 MMBtu/hr	2001	7.08, 7.25, STAR
HT-203-W25-106HZ	Precalciner Heating Zone	2001	7.08, STAR

Emission Point	Description	Construction Date	Applicable Regulations
T-203-Acid-801	Acetic Acid Day Tank	2001	7.25
T-203-Acid-802	HNO ₃ Day Tank	2001	STAR
H-203-W25-129	Bag Dump Station	2001	7.08
FD-203-W25-129	Screw Conveyor	2001	7.08
CV-203-W25-123	Belt Conveyor		
SDR-203-W25-100	Spherodizer Drum		
HT-203-W25-100CZ-D	Belt Dryer Cooling Zone/Dryer Discharge	2001	7.08, STAR
BE-203-W25-111 & 115	2 Bucket Elevators	2001	7.08, STAR
CV-203-W25-134	Belt Conveyor	2001	7.08, STAR
CV-203-W25-112	Belt Conveyor	2001	7.08, STAR
RS-203-W25-134 & 135	2 Rotary Screeners	2001	7.08
FD-203-W25-134	Belt Conveyor	2001	7.08
H-203-W25-134 & 135	2 Hoppers	2001	7.08
PA-203-W25-134 & 135	2 Packagers	2001	7.08
H-203-W25-136	Feed Hopper	2001	7.08, STAR
DD-203-W25-131	Drum Dumper	2001	7.08
HT-203-W25-106D	Precalciner	2001	7.08
FD-203-W25-135	Belt Feeder	2001	7.08
GR-203-W25-101	Granulator	2009	7.08, STAR
VS-203-W25-102	Ajax Screener	2009	7.08, STAR
VS-203-W25-101	Ajax Screener	2009	7.08, STAR

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) The potential hourly PM emissions meet the applicable PM emission standards in Regulation 7.08, with the controls needed as identified in the following table; therefore, the control device is required to be in operation at all times the process is in operation.

Emission Point	Control Needed
FR-203-W25-100, H-203-W25-101, H-203-W25-102, H-203-W25-103, H-203-W25-104, H-203-W25-105, H-203-W25-113, H-203-W25-114, H-203-W25-115, FR-203-W25-125, T-203-W25-117, MX-203-W25-100, CV-203-W25-123, SDR-203-W25-100, HT-203-W25-100HZ, HT-203-W25-100CZ-D, BE-203-W25-111, BE-203-W25-115, RS-203-W25-134, RS-203-W25-135, CV-203-W25-112, H-203-W25-135, H-203-W25-136, DD-203-W25-131, HT-203-W25-106HZ, HT-203-W25-106D, GR-203-W25-101, VS-203-W25-102, VS-203-W25-101	1st control
FR-203-W25-113, FR-203-W25-114, FR-203-W25-115, H-203-W25-129, FD-203-W25-129, CV-203-W25-134, FD-203-W25-134, H-203-W25-134, PA-203-W25-134, PA-203-W25-135, FD-203-W25-135, T-203-Acid-801, T-203-Acid-802	Uncontrolled

(b) The potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21. The control devices needed are listed in the table below; therefore, the control device is required to be in operation at all times the process is in operation.

EU	Emission Point	HNO ₃	NH ₃
203-W25	HT-203-W25-100HZ	2 nd	--
	HT-203-W25-100CZ-D, T-203-Acid-802, GR-203-W25-101, VS-203-W25-102, VS-203-W25-101	1 st	--
	T-203-W25-117, BE-203-W25-111, CV-203-W25-134, CV-203-W25-112, H-203-W25-136	*	--
	HT-203-W25-106HZ	--	1 st

*This emission point can meet the *de minimis* value without a control device.

-- This emission point has no emissions of the specified TAC.

2) **NO_x**

Regulation 7.08, section 4.1 establishes a standard for NO_x not to exceed 300 ppmv expressed as NO₂.

3) **Opacity**

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

4) **PM/PM₁₀/PM_{2.5}**

Regulation 7.08, section 3.1.2 establishes PM standards for process equipment.

5) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

6) **VOC**

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.

- o. **Emission Unit 203-W26** – Small Quantities Manufacturing; Mixing, steam drier, ball wheel, tableting machine and extruder

- i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
T-203-W26-001	Acid Tank, 10 gallon	2001	7.25
T-203-W26-002	Acid Tank, 10 gallon	2001	7.25
FR-203-W26-001	Filter Receiver	2001	7.08, STAR
MX-203-W26-001	Eirich Mixer	2001	7.08, STAR
DR-203-W26-001	Thermal Screw	2001	7.08
VS-203-W26-001	Vibrating Screen	2001	7.08
PD-203-W26-001	Screen Product Drum	2001	7.08
MX-203-W26-003	Ball Wheel	2001	STAR, 7.08, 7.25
MX-203-W26-004	Impregnator	2012	7.08
EXR-203-W26-001	Extruder	2001	5.21
TR-203-W26-001	Tray Rack		

- ii. **Standards/Operating Limits**

- 1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
 - (b) From EP FR-203-W26-001, MX-203-W26-001, MX-203-W26-003 and MX-203-W26-004, the potential controlled hourly PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

Regulation 7.08, section 3.1.2 establishes PM standards for process equipment.

4) **TAC**

(a) The potential uncontrolled TAC emissions of nitric acid and antimony from EP MX-203-W26-001 cannot exceed *de minimis* levels in Regulations 5.00 and 5.21 uncontrolled.

(b) The potential uncontrolled TAC emissions of ammonia from EP MX-203-W26-001, TR-203-W26-001, EXR-203-W26-001 are below the *de minimis* levels in Regulations 5.00 and 5.21.

5) **VOC**

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.

p. **Emission Unit 203-W70**

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
T-203-W70-101	Chilled Mixing Tank	2016	7.08, 7.25, STAR
T-203-W70-102	Chilled Mixing Tank	2016	
T-203-W70-104A	Agitator Tank, 55 Liters (14.5 gallons)	2016	7.08, STAR
T-203-W70-104B	Agitator Tank, 100 Liters (26.4 gallons)	2016	7.08
M-203-W70-101	Netzsch Mill #1	2016	Sealed Equipment
M-203-W70-102	Netzsch Mill #2	2016	
TT-203-W70-101	Washcoat Tote, 92 gal	2016	7.25, STAR
TT-203-W70-102	Washcoat Tote, 92 gal	2016	
TT-203-W70-103	Washcoat Tote, 92 gal	2016	
TT-203-W70-104	Washcoat Tote, 92 gal	2016	
TT-203-W70-105	Washcoat Tote, 92 gal	2016	
TT-203-W70-106	Washcoat Tote, 92 gal	2016	
TT-203-W70-201	Washcoat Tote, 185 gal	2016	7.25, STAR
TT-203-W70-202	Washcoat Tote	2016	
DR-203-W70-201	Drying Table	2016	
TR-203-W70-201	Trays and Racks	2016	7.08, 7.25, STAR
HT-203-W70-201	Oven 7 (2 MM BTU/hr)	2016	

Emission Point	Description	Construction Date	Applicable Regulations
TT-203-W70-203	Washcoat Bench	2016	7.25, STAR
CV-203-W70-201	Auto-Dip Conveyor	2016	
TT-203-W70-204	Tote, 26 gallons	2016	
TT-203-W70-302	Spiker Tote	2016	STAR
TB-203-W70-301	Catalyst Table	2016	
TR-203-W70-301	Trays and Racks	2016	7.25, STAR
HT-203-W70-301	Oven 6 (2 MM BTU/hr)	2016	7.08, 7.25, STAR
TT-203-W70-303	Catalyst Bench	2016	7.25, STAR
DR-203-W70-302	Drying Table	2016	
CV-203-W70-301	Auto-Conveyor	2016	
VS-203-W70-401	Vibratory Screener	2016	7.08
TT-203-W70-401	Catalyst Tote, 80 gal	2016	STAR
TT-203-W70-402	Pressure Tote, 10 gal	2016	STAR
MX-203-W70-401	Mixer	2016	STAR
FD-203-W70-401	Vibratory Feeder	2016	7.08
TT-203-W70-403	Washcoat Tote, 55 gal	2016	7.25, STAR
CF-203-W70-401	Centrifuge	2016	
TT-203-W70-404	Catalyst Tote, 20 gal	2016	STAR
TT-203-W70-501	DPF Washcoat Tote	2016	7.25, STAR
DR-203-W70-501A	Vacuum Table	2016	
DR-203-W70-501B	Vacuum Table	2016	
DR-203-W70-301	Drying Table	2016	
TR-203-W70-501	Trays and Racks	2016	
HT-203-W70-501	Oven 4 (1 MM BTU/hr)	2016	7.08, 7.25, STAR
TT-203-W70-502	DPF Catalyst Table	2016	STAR
DR-203-W70-502	Vacuum Dryer	2016	
TT-203-W70-701	Nitric Acid Dilution Tote	2016	
TS-203-W70-701	Table Saw	2016	7.08
CS-203-W70-701	Ceramic Saw	2016	7.08, STAR

ii. **Standards/Operating Limits**

1) **NO_x**

Regulation 7.08, section 4.1 establishes a standard for NO_x not to exceed 300 ppmv expressed as NO₂.

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

(a) Regulation 7.08, section 3.1.2 establishes PM standards for process equipment.

(b) The potential PM emissions from Emission points T-203-W70-101, T-203-W70-102, and FD-203-W70-401 cannot exceed the PM standard controlled; therefore, this equipment is required to be controlled at all times the process is operating.

4) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

5) **VOC**

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.

q. **Emission Unit 204-W28, 204-W29, 204-W30 and 204-W42 – Box Dryers and Sergeant Dryer System**

i. **Equipment:**

EU	Emission Point	Description	Construction Date	Applicable Regulations
204-W28	HT-204-W28-001	Box Dryer 1, 2.0 MMBtu/hr	1967	6.24, STAR
204-W29	HT-204-W29-001	Box Dryer 2, 2.0 MMBtu/hr	1993	7.25, STAR
204-W30	HT-204-W30-001	Box Dryer 3, 1.0 MMBtu/hr	1996	7.25
204-W42	T-204-W42-001	Potassium Carbonate Tank, 50 gal	1980	7.08, STAR
	H-204-W42-001	Feed Hopper	1980	7.08, STAR, 40 CFR 63 VVVVVV
	PD-204-W42-001	Product Drumming		
	HT-204-W42-001	Electric Belt Calciner	1980	7.08, 7.09, STAR, 40 CFR 63 VVVVVV

ii. **Standards/Operating Limits**

1) **Control Device Operation**

(a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.

(b) Except where a tier 1 or 2 analysis is noted, the potential TAC emissions for the emission points in the table below are less than the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control.

EU	EP	Co	Cu	Ni	NH ₃
204-W42	H-204-W42-001	Tier 1	1 st	1 st	--
	HT-204-W42-001		Tier 3	Tier 3	*
	PD-204-W42-001		1 st	1 st	--

*This emission point can meet the *de minimis* value without a control device.

-- This emission point has no emissions of the specified TAC.

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

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.

4) **SO₂**

Regulation 7.09, section 4 establishes a standard of 28.63 grains per 100 dscf at 0% excess oxygen for process gas streams that commenced on or after April 19, 1972.

5) **TAC**

- (a) Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.
- (b) Copper emissions from HT-204-W42-001 were modeled at a controlled emission rate of 0.0239 lb/hr; therefore, emissions are limited to 209.36 lbs per 12 consecutive month period per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.
- (c) Nickel emissions from HT-204-W42-001 were modeled at a controlled emission rate of 0.0018 lb/hr; therefore, emissions are limited to 15.78 lbs per 12 consecutive month period per Regulation 5.22, sections 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.
- (d) From EP HT-204-W42-001, the potential controlled TAC emissions of copper and nickel are above the averaging period *de minimis* levels in Regulations 5.00 and 5.21. Therefore, the source performed a

tier 3 analysis pursuant to Regulation 5.22, resulting in the following hazard quotients.

EU	EP	TAC	Location	Risk	Status	HQ	Status
204-W42	HT-204-W42-001 (Stack S-204-W42-001)	Cu	unadjusted	--	--	0.767	≤ 1.0
		Ni	unadjusted	1.00	≤ 1.0	--	--
			industrial	1.38	≤ 10.0	--	--

6) **VOC**

- (a) Regulation 6.24, section 3 establishes standards for Class III solvents for equipment used employing or applying any organic material that had a construction permit prior to 6/13/1979.
- (b) 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.

r. **Emission Unit 204-W32 and 204-W39** – C28 Manufacturing; Mixing, forming, drying, and fine grinding of metal oxide catalysts

i. **Equipment:**

EU	Emission Point	Description	Construction Date	Applicable Regulations
204-W32	T-204-W32-001	Acetic Acid Tank	1995	7.25
	FR-204-W31-402	Batch Weigh Hopper Filter Receiver	1995	7.08, STAR, 40 CFR 63 VVVVVV
	FR-204-W32-001	Filter Receiver	1995	7.08
	T-204-W32-002	Gel Tank	1995	7.08, 7.25
	DR-204-W32-001	Belt Dryer, 6.3 MMBtu/hr	1995	7.08, 7.25, STAR, 40 CFR 63 VVVVVV
	MX-204-W32-001	Eirich Mixer	1995	7.08, STAR, 40 CFR 63 VVVVVV
	PD-204-W32-001	Product Drum	1995	
	H-204-W32-001	Hopper	2007	
	VS-204-W32-001	Screener	2007	
	DR-204-W32-408	Belt Dryer	2007	
	VS-204-W32-409	Screener	2007	7.08, STAR, 40 CFR 63 VVVVVV
	H-204-W32-409	Hopper	2007	
	H-204-W32-405	Hopper	2007	
	H-204-W32-408	Feed Hopper	2007	
	MX-204-W32-404	Eirich Mixer	2007	
	H-204-W32-400	Bag Dump Station Hopper	2000	7.08

EU	Emission Point	Description	Construction Date	Applicable Regulations
204-W39	FR-204-W39-415 from FD-204-W39-411/M-204-W39-413	Filter Receiver, venting Screw Feeder and Fine Grinder	2000, 2008, 2008	7.08, STAR, 40 CFR 63 VVVVVV
	DD-204-W39-410/ H-204-W39-410	Drum Dumper/ Feed Hopper	2000	7.08, STAR, 40 CFR 63 VVVVVV
	M-204-W39-412/ H-204-W39-411	Crusher /Feed Hopper	2000	
	PD-204-W39-001	Product Drum for M-412	2000	
	H-204-W39-416	Hopper	2000	
	PD-204-W39-002	Product Drum for H-416	2000	
	H-204-W39-417	Hopper	2000	7.08, STAR, 40 CFR 63 VVVVVV

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential TAC emissions for the emission points in the table below are less than the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control.

EU	Emission Point	Cu	Ni
204-W32	MX-204-W32-001, H-204-W32-409, H-204-W32-405, MX-204-W32-404	2 nd	2 nd
	FR-204-W32-402, DR-204-W32-001, PD-204-W32-001, H-204-W32-001, VS-204-W32-001, DR-204-W32-408, VS-204-W32-409, H-204-W32-408	1 st	2 nd
204-W39	DD-204-W39-410/H-204-W39-410, M-204-W39-412/H-204-W39-411, FR-204-W39-415, DD-204-W39-400	2 nd	2 nd
	PD-204-W39-001, PD-204-W39-002, H-204-W39-416	1 st	2 nd

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

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.

4) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

5) **VOC**

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.

s. **Emission Unit 204-W34 and 204-W38 – Mixing and extrusion of catalyst ingredients and Granulator System**

i. **Equipment:**

EU	Emission Point	Description	Construction Date	Applicable Regulations	Control Device	Stack ID
204-W34	T-204-W34-001	Acid Tank, 300 gal	1970	6.24, STAR	NA	Fugitive
	T-204-W34-002	Acid Batch Tank, 50 gal		6.24, STAR	NA	Fugitive
	DD-204-W34-001	Drum Dumper		6.09, STAR, 40 CFR 63 VVVVVV	DC-204-W3 4-001 FIL-204-W 34-001	S-204-W3 4-001
	H-204-W34-001	Bag Dump Hopper				
	MX-204-W34-001	Simpson Mix Muller				
204-W38	H-204-W38-002	Hopper				
	DD-204-W38-002	Drum Dumper				
	FD-204-W38-001	Feeder				
	M-204-W38-001	Granulator				
	VS-204-W38-001	Screener				
	PD-204-W38-001/ PD-204-W38-002	Product Drumming				

ii. **Standards/Operating Limits**

1) **Control Device Operation**

(a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.

- (b) From EU 204-W34, the potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21. The control devices needed are listed in the table below.

EU	EP	Cr(III)	Cu	Ni	HNO ₃
204-W34	T-204-W34-001, T-204-W34-002	--	--	--	*
	MX-204-W34-001, DD-204-W34-001	2 nd	2 nd	2 nd	--
	H-204-W34-001	2 nd	--	--	--
204-W38	H-204-W38-002, DD-204-W38-002, VS-204-W38-001, PD-204-W38-001/ PD-204-W38-002	--	1 st	2 nd	--
	FD-204-W38-001	--	1 st	1 st	--
	M-204-W38-001	--	2 nd	2 nd	--

*This emission point can meet the *de minimis* value without a control device.

-- This emission point has no emissions of the specified TAC.

2) **Opacity**

Regulation 6.09, section 3.3.1 and Regulation 7.08, section 3.1.1 establish a standard for opacity to not equal or exceed 20%.

3) **PM/PM₁₀/PM_{2.5}**

Regulation 6.09, section 3.2 establishes PM standards for process equipment. Per Table 1 to Regulation 6.09, the maximum allowable emission rate is 2.58 lb PM/hr for equipment with a process weight rate of less than or equal to 1,000 pounds per hour.

4) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

5) **VOC**

Regulation 6.24, section 3 establishes standards for Class III solvents for equipment used employing or applying any organic material that had a construction permit prior to 6/13/1979.

- t. **Emission Unit 204-W35** – Dipping System; Impregnation of catalyst carriers with various metal ions by spraying with metal salt solutions

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
T-204-W35-004	Metal Nitrates Tank (H ₂ SO ₄), 500 gal	1967	STAR
T-204-W35-011	Blow Tank (H ₂ SO ₄)	1967	STAR

Emission Point	Description	Construction Date	Applicable Regulations
MX-204-W35-001	Rotary Impregnator	1967	6.09, STAR, 40 CFR 63 VVVVVV

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) Except where a tier 1 analysis is noted, the potential TAC emissions for the emission points in the table below are less than the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control.

EU	EP	Cr(VI)	Co	Ni	H ₂ SO ₄
204-W35	T-204-W35-004 and T-204-W35-011	--	--	--	*
	MX-204-W35-001	1 st	--	1 st	*

*This emission point can meet the *de minimis* value without a control device.

-- This emission point has no emissions of the specified TAC.

2) **Opacity**

Regulation 6.09, section 3.3.1 and Regulation 7.08, section 3.1.1 establish a standard for opacity to not equal or exceed 20%.

3) **PM/PM₁₀/PM_{2.5}**

Regulation 6.09, section 3.2 establishes PM standards for process equipment.

4) **TAC**

- (a) Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.
- (b) The company has stopped producing cobalt containing products from MX-204-W35-001 as part

of their compliance plan for STAR per Regulation 5.21, section 4.

- u. **Emission Unit 204-W36** – Small Eirich Mixing System; Mixing of metal oxides with additives prior to extrusion

- i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations	Control Device	Stack ID
T-204-W36-001	Mix Tank, 25 gal	1999	7.25, STAR	NA	Fugitive
FR-204-W36-001	Filter Receiver	1999	7.08, STAR, 40 CFR 63 VVVVVV	FIL-204-W36-001	S-204-W36-001
MX-204-W36-001	Eirich Mixer	1999		DC-204-W36-001 FIL-204-W36-002	S-204-W36-002

- ii. **Standards/Operating Limits**

- 1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
 - (b) The potential controlled PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.
 - (c) Except where a tier 1 analysis is noted, the potential TAC emissions for the emission points in the table below are less than the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control.

EU	EP	Co	Cr(III)	Ni	HNO ₃
204-W36	MX-204-W36-001	--	1 st	2 nd	--
	FR-204-W36-001	--	--	1 st	--
	T-204-W36-001	--	--	--	*

*This emission point can meet the *de minimis* value without a control device.

--” This emission point has no emissions of the specified TAC.

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

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.

4) **TAC**

(a) Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

(b) The company has stopped producing cobalt products in emission unit W36 as part of their compliance plan for STAR per Regulation 5.21, section 4.

5) **VOC**

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.

v. **Emission Unit 204-W37** – Extruder/Belt Dryer System; Extrusion and drying of wet metal oxides

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
CV-204-W37-001 - 004	4 Belt Conveyors	1998	7.08, STAR
BU-204-W37-001	Belt Dryer Burner, 0.50 MMBtu/hr	1998	
PD-204-W37-001	Product Drum	1998	
HT-204-W37-001	Belt Dryer	1998	7.08, 7.25

ii. **Standards/Operating Limits**

1) **Opacity**

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

2) **PM/PM₁₀/PM_{2.5}**

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.

3) **TAC**

The company stopped producing cobalt containing products in emission unit 204-W37 as part of their compliance plan for STAR per Regulation 5.21, section 4.

4) **VOC**

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.

w. **Emission Unit 204-W40** – Pulvacron System; Fine grinding of catalyst rework and metal oxides

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
H-204-W40-001	Feed Hopper	1976	7.08, STAR, 40 CFR 63 VVVVVV
DD-204-W40-001	Drum dumper		
PD-204-W40-001	Rework Drum (Cyclone Product Drum)		
PD-204-W40-002	Rework Drum (Dust Collector Product Drum)		
M-204-W40-001	Pre-Grinder	1976	

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled hourly PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.
- (c) The potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21. The control devices needed are listed in the table below.

EP	Cu	Ni	Mn
DD-204-W40-001, H-204-W40-001, PD-204-W40-001, PD-204-W40-002	2 nd	2 nd	2 nd
M-204-W40-001	3 rd	3 rd	3 rd

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

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.

4) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

x. **Emission Unit 204-W43** – Wyssmont Drying System; Extrusion and drying of wet catalyst ingredients which have been mixed in the 204-W34 System

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
HT-204-W43-001	Wyssmont Dryer	1973	6.09, 7.25
PD-204-W43-001	Product Drumming	1973	6.09

ii. **Standards/Operating Limits**

1) **Control Device Operation**

The potential controlled hourly PM emissions from EP HT-204-W43-001 meet the applicable emission standard in Regulation 6.09 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.

2) **Opacity**

Regulation 6.09, section 3.3.1 and Regulation 7.08, section 3.1.1 establish a standard for opacity to not equal or exceed 20%.

3) **PM/PM₁₀/PM_{2.5}**

Regulation 6.09, section 3.2 establishes PM standards for process equipment.

4) **VOC**

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.

y. **Emission Unit 204-W58 – Product mixing system**

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
DD-204-W58-001	Drum Dumper	2001	7.08
MX-204-W58-002	Sigma Mixer		

ii. **Standards/Operating Limits**

1) **Control Device Operation**

The potential controlled hourly PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required at all times the process is in operation.

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}**

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.

z. **Emission Unit 212-W45 – C84 North System; Mixing, forming and calcination of catalysts. Phosphoric acid and diatomaceous earth (silicon dioxide) are mixed together, extruded, calcined and screened to form a catalyst**

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
DD-212-W45-001	Drum Dumper	1981	7.08, STAR, 40 CFR 63 VVVVVV
HT-212-W45-001a	Belt Calciner, 2 MM Btu/hr	1981	
HT-212-W45-001b	Belt Calciner, 2 MM Btu/hr		

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled hourly PM emissions meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.
- (c) Except where a tier 3 analysis is noted, the potential TAC emissions for the emission points in the table below are less than the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control.

EU	EP	Cr(III)	Cu	Ni
212-W45	DD-212-W45-001	1 st	--	--
	HT-212-W45-001a	1 st	Tier 3	Tier 3
	HT-212-W45-001b	2 nd	2 nd	2 nd

“--” This emission point has no emissions of the specified TAC.

2) **Opacity**

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

3) **PM/PM₁₀/PM_{2.5}**

Regulation 7.08, section 3.1.2 establishes PM standards for process equipment.

4) **TAC**

- (a) Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.
- (b) From EP HT-212-W45-001a, the potential controlled TAC emissions of copper and nickel are

above the averaging period *de minimis* levels. Therefore, the source performed a tier 3 analysis, resulting in the following hazard quotients. Copper and nickel emissions are limited to the controlled modeled emission rate lb/hr multiplied by 8760 hours per year per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.

EU	EP	TAC	Location	Risk	Status	HQ	Status
212-W45	HT-212-W45-001a(Stack S-212-W45-006)	Cu	unadjusted	--	--	--	--
		Ni	unadjusted	0.44	≤ 1.0	0.033	≤ 1.0
			adjusted	1.69	≤ 10.0	0.13	≤ 3.0

5) **VOC**

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.

- aa. **Emission Unit 220-W51** – Acid Unloading System; Unloading of nitric acid and acetic acid from tanker trucks for storage in Building 20 and other locations within the plant

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
T-220-W51-001	HNO ₃ Storage Tank (unloading and breathing), 10,576 gal	1996	STAR
T-220-Acid-800	Acetic Acid Storage Tank, 9,770 gal	2000	7.12

ii. **Standards/Operating Limits**

1) **Control Device Operation/TAC**

The potential controlled nitric acid emissions from EP T-220-W51-001 are below the *de minimis* levels in Regulations 5.00 and 5.21; therefore, the control device is required to be in operation at all times the process is in operation.

2) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

3) **VOC**

Regulation 7.12, section 1 applies to each storage vessel for VOC compounds that has a storage capacity greater than 250 gallons.

bb. **Emission Unit 220-W52, 220-W53, and 220-W54** –Nickel Nitrate System, Reforming Catalysts Manufacturing, Rotary Calcination

i. **Equipment:**

EU	Emission Point	Description	Construction Date	Applicable Regulations
220-W52	T-220-W52-004	Acid Batch (HNO ₃) Tank	1996	STAR
	T-220-W52-003	Recovered Acid (HNO ₃) Tank	1996	STAR
	T-220-W52-012	Acid Weight (HNO ₃) Tank	1996	STAR
	T-220-W52-005	Reactor, 9,770 gal	1996	7.08, STAR
220-W53	DD-220-W53-006	Drum Dumper	1996	7.08, STAR, 40 CFR 63 VVVVVV
	H-220-W53-011	Hopper		
	FD-220-W53-005	Feeder		
	BE-220-W53-001	Belt Elevator		
	FD-220-W53-020	Feeder		
	SL-220-W53-012	Soft Loader		
	H-220-W53-012	Hopper		
220-W53	SL-220-W53-013	Soft Loader	1996	7.08, STAR, 40 CFR 63 VVVVVV
	H-220-W53-013	Hopper		
	CV-220-W53-002	Conveyor		
	CV-220-W53-003	Conveyor		
	CV-220-W53-005	Conveyor		
	VS-220-W53-003	Screener		
	FD-220-W53-019	Feeder		
	HT-220-W53-002	Belt Calciner, 3.0 MMBtu/hr		
	H-220-W53-016	Hopper		
	FD-220-W53-007	Feeder		
	SSD/SL-220-W53-003	Supersack Drum Loader		
	BE-220-W53-002	Belt elevator		
	VS-220-W53-004	Screener		
220-W54	DD-220-W54-001	Drum Dumper	1996	7.08, STAR, 40 CFR 63 VVVVVV
	H-220-W54-001	Hopper		
	DD-220-W54-002	Drum Dumper		
	H-220-W54-002	Hopper		
	DD-220-W54-004	Drum Dumper		
	DD-220-W54-005	Drum Dumper		
	H-220-W54-006	Hopper		
	FD-220-W54-003	Feeder		
	DD-220-W54-020	Drum Dumper		
CV-220-W54-020	Conveyor			
220-W54	HT-220-W54-001a	Rotary Calciner	1996	7.08, STAR, 40 CFR 63 VVVVVV
	HT-220-W54-001b	Rotary Calciner	1996	
	CV-220-W54-004	Conveyor	1996	
	H-220-W54-007	Hopper		
	FD-220-W54-004	Feeder		
	FD-220-W54-006	Feeder		
	VS-220-W54-002	Screener		
	VS-220-W54-020	Screener		
	H-220-W54-008	Hopper		

EU	Emission Point	Description	Construction Date	Applicable Regulations
	SSD-220-W54-002	Super Sack Drummer		
	H-220-W54-020	Hopper		

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled hourly PM emissions from HT-220-W54-001b meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.
- (c) Except where a tier 3 analysis is noted, the potential TAC emissions for the emission points in the table below are less than the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control.

EU	EP	NH ₃	Co	Cr(III)	Cu	Mn	Ni
220-W53	DD-220-W53-006, FD-220-W53-005 and -007, BE-220-W53-001, SL-220-W53-012, -013, and -016, H-220-W53-011, -012 and -013, CV-220-W53-002 and -003, VS-220-W53-003, FD-W53-019 and -020, HT-220-W53-002, and CV-220-W53-005	--	2 nd	*	1 st	1 st	2 nd
	VS-220-W53-004, SSD/SL-220-W53-003 and BE-220-W53-002	--	2 nd	*	1 st	1 st	1 st
220-W54	DD-220-W54-001 and -002, H-220-W54-001 and -002	--	--	--	--	--	2 nd
220-W54	DD-220-W54-004	--	--	--	--	1 st	2 nd
	DD-220-W54-005, H-220-W54-006, FD-220-W54-003	--	--	--	--	1 st	1 st
	DD-220-W54-020	--	2 nd	--	--	--	2 nd
	CV-220-W54-020	--	1 st	--	--	--	1 st
	HT-220-W54-001b	1 st	4 th	*	2 nd	2 nd	2 nd
	CV-220-W54-004	--	2 nd	*	1 st	1 st	2 nd
	VS-220-W54-002, H-220-W54-008,	--	1 st	*	1 st	1 st	2 nd

EU	EP	NH ₃	Co	Cr(III)	Cu	Mn	Ni
	FD-220-W54-006, SSD-220-W54-002						
	H-220-W54-007, FD-220-W54-004	--	1 st	*	1 st	1 st	2 nd
	VS-220-W54-020, H-220-W54-020	--	2 nd	--	1 st	--	2 nd

*This emission point can meet the *de minimis* value without a control device.

--” This emission point has no emissions of the specified TAC.

2) **NOx**

Regulation 7.08, section 4.1 establishes a standard for NOx not to exceed 300 ppmv expressed as NO₂.

3) **Opacity**

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

4) **PM/PM₁₀/PM_{2.5}**

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.

5) **TAC**

(a) Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

(b) The potential uncontrolled TAC emissions of nitric acid from EP T-220-W52-004, T-220-W52-003, and T-220-W52-012 are below the *de minimis* levels in Regulations 5.00 and 5.21; therefore, there are no limits for nitric acid.

(c) For emission points with potential controlled TAC emissions of nickel above the averaging period *de minimis* levels, the source performed a tier 3 analysis, resulting in the following risks. Nickel emissions are limited to the controlled modeled emission rate lb/hr multiplied by 8760 hours per year per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.

EU	EP	TAC	Location	Risk	Status
220-W53	DD-220-W53-006, H-220-W53-011, -012, -013 and -016, FD-220-W53-005 and -007, BE-220-W53-001, SL-220-W53-012 and -013, CV-220-W53-002, -003 and -005, VS-220-W53-003, FD-220-W53-019 and -020,	Ni	unadjusted	0.46	≤ 1.0

HT-220-W53-002				
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cc. **Emission Unit 250-W55 and 250-W56** – Houdry and Houdry Screening Systems

i. **Equipment:**

EU	Emission Point	Description	Construction Date	Applicable Regulations	
250-W55	DD-250-W55-101 / T-250-W55-105	Hi-Level Drum Dumper/ Chromium Makeup Tank, 5639 gal	1993	7.08, STAR, 40 CFR 63 VVVVVV	
	T-250-W55-102	HNO ₃ Storage Tank & Unload, 10,576 gal	1993	STAR	
	AS-250-W55-201	Airslide Conveyor	1993	7.08	
	V-250-W55-202	Alumina Truck/ Silo			
	V-250-W55-204	Dense Phase Transport System			
	CV-250-W55-403	Belt Conveyor	1996	STAR	
	CV-250-W55-404/405	Belt Conveyors, only one operated at a time	1993		
	DD-250-W55-301	Drum Dumper	1993	7.08	
	DD-250-W55-302	Drum Dumper	1993	7.08, STAR	
	FD-250-W55-301	Vibratory Feeder	1993	7.08, STAR	
	FD-250-W55-403	L/W Feeder Fines			
	GR-250-W55-301	Rework Grinder			
	H-250-W55-305	Rework Fines Hopper			
	H-250-W55-302	In Use Hopper	1993	7.08	
	H-250-W55-303	Hercoflat Hopper	1993	7.08	
	H-250-W55-304	Rework Surge Hopper	1993	7.08, STAR	
	H-250-W55-402/403	2 Feed Hoppers	1993	STAR	
	MM-250-W55-401/402	2 Mix Mullers, only one operated at a time	1993	7.08, STAR	
	HT-250-W55-401	Proctor & Schwartz Belt Dryer, 940,000 BTU/hr			
	PE-250-W55-401/402	Pellet Mills, only one operated at a time	1993	STAR	
	MS-250-W55-401	Material Spreader			
	250-W55	CV-250-W55-401	Screw Conveyor	1993	7.08, STAR, 40 CFR 63 VVVVVV
		CV-250-W55-402	Vibratory Conveyor		
EPD-250-W55-401		Emergency Drumout			
DD-250-W55-401		Drum Dumper	1993	7.08, STAR, 40 CFR 63 VVVVVV	
FD-250-W55-406		Vibratory Feeder			
H-250-W55-401		Refeed Surge Hopper	1993	7.08, STAR, 40 CFR 63 VVVVVV	
BE-250-W55-501		Bucket Elevator			
CV-250-W55-501		Rework Screw Conveyor			
H-250-W55-501		Dehydrator Feed Hopper			
VS-250-W55-501		Vibratory Screener			
BE-250-W55-601		Bucket Elevator			
CV-250-W55-502		Metering Conveyor Reversible	1993	7.08, STAR, 40 CFR 63 VVVVVV	
CV-250-W55-601		Metering Conveyor			
EPD-250-W55-501		Emergency Drumout			
EPD-250-W55-601	Emergency Drumout				
DD-250-W55-501	Drum Dumper	1993	7.08, STAR, 40 CFR 63		

EU	Emission Point	Description	Construction Date	Applicable Regulations
	DD-250-W55-601	Refeed Drum Dumper		VVVVVV
	FD-250-W55-501	Vibratory Feeder		
	FD-250-W55-601	Vibratory Feeder		
	H-250-W55-502	Hopper		
	H-250-W55-601	Heat Treater Feed Hopper		
	H-250-W55-602	Refeed Surge Hopper		
	VS-250-W55-601	Vibratory Screener		
	BE-250-W55-701	Bucket Elevator		
	HE-250-W55-701	Product Cooler		
	HT-250-W55-501	Dehydrator Vessel		
	HT-250-W55-601	Heat Treater	1993	7.08
	EPD-250-W55-801	Emergency Drumout	1993	7.08, STAR, 40 CFR 63 VVVVVV
	CV-250-W55-801	Metering Conveyor		
	FD-250-W55-901	Vibratory Feeder		
	FD-250-W55-702	Vibratory Feeder	1993	7.08, STAR, 40 CFR 63 VVVVVV
	FD-250-W55-703	Vibratory Feeder		
	HT-250-W55-701	Wyssmont Heat Treat Furnace		
	V-250-W55-703	Impregnator Hopper	1993	7.08, STAR, 40 CFR 63 VVVVVV
	DD-250-W55-701	Drum Dumper		
	BE-250-W55-801	Bucket Elevator		
H-250-W55-703	Refeed Surge Hopper			
H-250-W55-801	Chrome Heat Treater Feed Hopper			
BE-250-W55-901	Bucket Elevator			
HE-250-W55-901	Product Cooler	1993	7.08, STAR	
V-250-W55-701	Measure Pot			
VS-250-W55-701	Vibratory Screen	1993		
250-W55	HT-250-W55-801	Chrome Heat Treater	1993	7.08, STAR, 40 CFR 63 VVVVVV
	FD-250-W55-902	Feeder	1993	
	H-250-W55-901	Final Product Surge Hopper		
	SS-250-W55-901	Packager		
	VS-250-W55-901	Vibratory Screen		
	H-250-W55-306	Hopper	2009	7.08, STAR
	SSU-250-W55-201	Supersack Unloader	2009	7.08, STAR, 40 CFR 63 VVVVVV
	V-250-W55-205	Dense Phase Transfer Pot		
	SSU-250-W55-301	Supersack Unloader		
	FD-250-W55-407	Batch Feeder		
	FD-250-W55-408	Batch Feeder	2013	7.08, STAR
	BE-250-W55-1020	Bucket elevator		
	VS-250-W55-1020	Vibratory screen		
	PA-250-W55-1020	Packager		
	H-250-W55-1020	Hopper	2013	7.08, STAR, 40 CFR 63 VVVVVV
	DD-250-W55-1015	Drum dumper		
	SSU-250-W55-1016	Supersack unloader	2013	7.08, STAR, 40 CFR 63 VVVVVV
	SSB-250-W55-1017	Supersack baler		
	CV-250-W55-1015	Conveyor	2013	7.08, STAR, 40 CFR 63 VVVVVV
	BE-250-W55-801B	Bucket elevator		
FD-250-W55-902B	Feeder			

EU	Emission Point	Description	Construction Date	Applicable Regulations
	VS-250-W55-901B	Vibratory screen		
	H-250-W55-901B	Final product surge hopper		
	SS-250-W55-901B	Supersack filler		
	HT-250-W55-801B-801	Chrome heat treater as 801 carrier ht tr.		
	HT-250-W55-801B-601	Chrome heat treater as 601 carrier ht tr.	2013	7.08, STAR
	H-250-W55-801B	Chrome heat treater feed hopper	2013	7.08, STAR, 40 CFR 63 VVVVVV
	H-250-W55-802B	Hopper		
	CV-250-W55-801B	Metering conveyor	2013	7.08, STAR, 40 CFR 63 VVVVVV
	BE-250-W55-901B	Bucket elevator		
	FB-250-W55-801B	Firebox, 1.5 MMBtu/hr	2013	7.06
250-W56	DD-250-W56-950	Drum Dumper	1994	7.08, STAR, 40 CFR 63 VVVVVV
	DD-250-W56-951	Drum Dumper		
	H-250-W56-952	Hopper		
	H-250-W56-953	Hopper		
	CV-250-W56-954	Feed Conveyor		
	CV-250-W56-955	Feed Conveyor		
	VS-250-W56-956	Vibratory Screener		
	SS-250-W56-957	Super Sack Packager		

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled NO_x emissions from EP HT-250-W55-501 and HT-250-W55-801B-801 meet the applicable NO_x emission standard in Regulation 7.08; therefore, the control device is required to be in operation at all times the process is in operation.
- (c) The potential controlled hourly PM emissions from EP AS-250-W55-201, H-250-W55-301, CV-250-W55-502, meet the applicable emission standard in Regulation 7.08 after the second control device. The potential controlled hourly PM

emissions from EP CV-250-W55-801, 401, 402, 601, 1015, and 801B, FD-250-W55-901, 902, 406, 601, 702, 703, 408, 407, and 902B, EPD-250-W55-801, 401, 501, and 601, VS-250-W55-901, 501, 601, 701, 1020, and 901B, H-250-W55-901, 801, 302, 303, 401, 501, 601, 703, 306, 1020, 801B, 802B, and 901B, SS-250-W55-901 and 901B, HT-250-W55-801, 401, 501, 601, 701, and 801B, HE-250-W55-901, and 701, BE-250-W55-901, 801, 501, 601, 701, 1020, 801B, and 901B, PA-250-W55-1020, DD-250-W55-101/T-250-W55-105, V-250-W55-204 and 703, 701, and 205, DD-250-W55-301, 401, 701, and 1015, MM-W55-401/402, SSU-250-W55-201, 301 and 1016, SSB-W55-1017, DD-250-W56-950 and 951, H-250-W56-952 and 953, CV-250-W56-954 and 955, VS-250-W56-956, and SS-250-W56-957 meet the applicable emission standard in Regulation 7.08 after the first control device; therefore, the control device is required to be in operation at all times the process is in operation.

- (d) Except where a tier 3 analysis is noted in the table below, the potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control.

EU	Emission Point	Cr(III)	Cr(VI)	Cu	HNO ₃
250-W55	SS-250-W55-901, H-250-W55-802B, CV-250-W55-801B, BE-250-W55-901B, FD-250-W55-902B, VS-250-W55-901B, H-250-W55-901B, SS-250-W55-901B	1 st	2 nd		--
	EPD-250-W55-801, FD-250-W55-702	--	2 nd		--
	HT-250-W55-801	*	Tier 3		--
	H-250-W55-801, BE-250-W55-801, DD-250-W55-701, V-250-W55-703, H-250-W55-703	--	*		--
	HE-250-W55-901, BE-250-W55-901	*	*		--
	DD-250-W55-101/T-250-W55-105	--	Tier 3		--
	T-250-W55-102	--	--		Tier 3
	DD-250-W55-302, H-250-W55-304, FD-250-W55-301, GR-250-W55-301, H-250-W55-305, FD-250-W55-403, CV-250-W55-401, CV-250-W55-403, CV-250-W55-404/405, PE-250-W55-401/402, MS-250-W55-401, H-250-W55-402/403, CV-250-W55-501, DD-250-W55-1015	--	--		*
	MM-250-W55-401/402, CV-250-W55-402, EPD-250-W55-401, DD-250-W55-401, H-250-W55-401, FD-250-W55-406, VS-250-W55-501, BE-250-W55-501, H-250-W55-501, BE-250-W55-1020, VS-250-W55-1020, H-250-W55-1020	--	--		1 st
	HT-250-W55-401	--	--		2 nd

EU	Emission Point	Cr(III)	Cr(VI)	Cu	HNO ₃
	FD-250-W55-703, SSU-250-W55-1016, SSB-250-W55-1017	--	1 st		--
	CV-250-W55-1015, BE-250-W55-801B, H-250-W55-801B		1 st		*
	HT-250-W55-801B as 801 carrier	3 rd	Tier 3		--
250-W56	DD-250-W56-950, DD-250-W56-951, H-250-W56-952, H-W56-953, VS-250-W56-956, SS-250-W56-957	1 st	2 nd	2 nd	--
	CV-250-W56-954, CV-250-W56-955	1 st	2 nd	1 st	--

*This emission point can meet the *de minimis* value without a control device.

“--” This emission point has no emissions of the specified TAC.

2) **NOx**

Regulation 7.08, section 4.1 establishes a standard for NOx not to exceed 300 ppmv expressed as NO₂.

3) **Opacity**

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

(b) Regulation 7.06, section 4.2 establishes a standard for opacity to not equal or exceed 20% for indirect heat exchangers having input capacity of more than one million BTU per hour.

4) **PM/PM₁₀/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) Regulation 7.06, section 4.1.3 establishes PM standards for indirect heat exchangers having input capacity of more than one million BTU per hour.

5) **SO₂**

Regulation 7.06, section 5.1.2 establishes SO₂ standards for indirect heat exchangers having input capacity of more than one million BTU per hour.

6) **TAC**

(a) Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

(b) For emission points with potential controlled TAC emissions above the *de minimis* levels, the source performed a tier 3 analysis, resulting in the

following risks and hazard quotients. Emissions are limited to the controlled modeled emission rate lb/hr multiplied by 8760 hours per year per Regulations 5.22, section 1.4 and 5.21, section 4.3 to ensure emissions remain environmentally acceptable.

Emission Point	TAC	Location	Risk	Status	HQ	Status
HT-250-W55-701	Cr(VI)	industrial	0.18	≤ 10.0	0.0018	≤ 3.0
		unadjusted	0.097	≤ 1.0	0.001	≤ 1.0
HT-250-W55-702	Cr(VI)	industrial	0.18	≤ 10.0	0.0018	≤ 3.0
		unadjusted	0.097	≤ 1.0	0.001	≤ 1.0
HT-250-W55-703	Cr(VI)	industrial	0.18	≤ 10.0	0.0018	≤ 3.0
		unadjusted	0.097	≤ 1.0	0.001	≤ 1.0
HT-250-W55-801	Cr(VI)	industrial	1.59	≤ 10.0	0.017	≤ 3.0
		unadjusted	0.88	≤ 1.0	0.009	≤ 1.0
HT-250-W55-801B	Cr(VI)	industrial	0.41	≤ 10.0	0.0042	≤ 3.0
		unadjusted	0.22	≤ 1.0	0.0023	≤ 1.0
T-250-W55-102	HNO ₃	industrial	--	--	1.85	≤ 3.0
		unadjusted	--	--	0.48	≤ 1.0

dd. **Emission Unit 251-W57 – G84 Styrene System**

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
T-251-W57-001	Dilution Tank, 500 gal	2006	7.08
BD-251-W57-001	Cerium Carbonate Bag Dump	2006	7.08
H-251-W57-001	Hopper		
TT-251-W57-001	Cerium Carbonate Tote		
BD-251-W57-002	Iron Oxide Bag Dump		
H-251-W57-002	Hopper		
TT-251-W57-003	Iron Oxide Tote		
BD-251-W57-003	Potassium Carbonate Bag Dump		
H-251-W57-003	Hopper		
TT-251-W57-004	Potassium Carbonate Tote		
BD-251-W57-005	Bulk Lime Bag Dump		
FD-251-W57-005	L-I-W Feeder		
TT-251-W57-002	Gypsum/Lime Tote		
BD-251-W57-004 venting	Bag Dump, also venting Ribbon Blender	2006	7.08, STAR, 40 CFR 63 VVVVVV
BL-251-W57-001	Blender 1 Tote	2010	7.08
BD-251-W57-006	Bulk Cerium Carbonate Bag Dump		
FD-251-W57-006	L-I-W Feeder		
TT-251-W57-006	Wet Cerium Tote	2014	7.08, STAR, 40 CFR 63 VVVVVV
MX-251-W57-001	Plow Mixer		
MX-251-W57-002	Mixmuller		
DR-251-W57-001	Fluid Bed Dryer	2006	

Emission Point	Description	Construction Date	Applicable Regulations
PD-251-W57-001	Dryer Product Drum	2006	
VS-251-W57-001	Vibratory Screener	2006	
CV-251-W57-100	Bucket Conveyor	2010	
H-251-W57-007	Surge Hopper	2006	
FD-251-W57-003	Tote Feeder	2010	
HT-251-W57-001	Belt Calciner	2006	
CV-251-W57-003	Belt Conveyor	2006	
H-251-W57-008	Hopper	2006	
VS-251-W57-002	Vibratory Screener	2006	
H-251-W57-009	Hopper	2006	
CV-251-W57-005	Belt Conveyor	2006	
SSD-251-W57-001	Packaging System	2006	
DD-251-W57-001/ H-251-W57-004	Rework Drum Dumper/Hopper	2006	
M-251-W57-004	Rework Grinder		
FD-251-W57-004	Rework Feeder		
CV-251-W57-006	Rework Conveyor		
TT-251-W57-005	Portable Ground Rework Tote		

ii. **Standards/Operating Limits**

1) **Control Device Operation**

- (a) For all metal HAP process vents from each CMPU with collective uncontrolled metal HAP emissions equal to or greater than 400 lb/year, 40 CFR 63.11495(f) establishes the requirement for the owner operator to reduce collective uncontrolled emissions of total metal HAP emissions by ≥ 95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices.
- (b) The potential controlled hourly PM emissions from EP BD-251-W57-002, H-251-W57-002, TT-251-W57-003, MX-251-W57-001, MX-251-W57-002, DR-251-W57-001, PD-251-W57-001, VS-251-W57-001, CV-251-W57-100, H-251-W57-007, HT-251-W57-001, FD-251-W57-003, CV-251-W57-003, H-251-W57-008, VS-251-W57-002, H-251-W57-009, CV-251-W57-005, CV-251-W57-006, SSD-251-W57-001, DD-251-W57-001/H-251-W57-004, M-251-W57-004, FD-251-W57-004 and TT-251-W57-005 meet the applicable emission

standard in Regulation 7.08 after the first control device.

- (c) The potential TAC emissions are below the *de minimis* levels in Regulations 5.00 and 5.21, with the listed levels of control.

Emission Point	Cr(III)	Cu
BD-251-W57-004, BL-251-W57-001	2 nd	1 st
BT-251-W57-001, CV-251-W57-006	2 nd	2 nd
MX-251-W57-001, MX-251-W57-002, DR-251-W57-001, PD-251-W57-001, VS-251-W57-001, CV-251-W57-100, H-251-W57-007, HT-251-W57-001, FD-251-W57-003, CV-251-W57-003, H-251-W57-008, VS-251-W57-002, H-251-W57-009, CV-251-W57-005, CV-251-W57-006, SSD-251-W57-001, DD-001/H-004, M-251-W57-004, FD-251-W57-004, TT-251-W57-005	1 st	2 nd

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}**

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.

4) **TAC**

Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

ee. **Emission Unit W62- W69 – Catalyst Plant**

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
W62 - Tank Farm			
V100.70	Mobile Temporary Container, ¹ 5,283 gal	2016 through 2017	7.12
C100.1	Dryer, 110 gph		7.25
V100.30	Dryer Vessel, 110 gph		7.25
V100.31	Dryer Vessel, 110 gph		7.25
V101.1	Storage Tank ² (Submerged Fill) 7,836 gal		7.12

¹ Mobile Temporary containers (V100.70, V110.70, and V140.70) will be filled offsite and will only be used onsite to transfer material out of the containers; therefore, submerged fill is not applicable.

² Submerged fill is not required since the stored vapor pressure is less than 1.5 psia.

Emission Point	Description	Construction Date	Applicable Regulations
V110.70	Mobile Temporary Container ^{Error! Bookmark not defined.} 5,283 gal	2016 through 2017	STAR ³ , 7.12
C110.1	Dryer, 112 gph		STAR, 7.25
V110.30	Dryer Vessel, 112 gph		
V110.31	Dryer Vessel, 112 gph		7.25
V131.1	Processing Tank, 758 gallons		7.12
V132.1	Storage Tank, ^{Error! Bookmark not defined.} 4,043 gallons		7.25
V136.1	Processing Tank, 758 gallons		7.12
V137.1	Storage Tank ^{Error! Bookmark not defined.} 1,475 gallons		STAR, 7.12
V140.70	Mobile Temporary Container ^{Error! Bookmark not defined.} 5,283 gal		STAR, 7.25
C140.1	Dryer, 110 gph		
V140.30	Dryer Vessel, 110 gph		STAR
V140.31	Dryer Vessel, 110 gph		STAR
V150.1	Storage Tank 1, 15,648 gallons		STAR, 7.25
V151.1	Storage Tank II, 15,648 gallons		STAR, 7.12
V160.1	Vessel, 7,785 gallons		
V161.1	Storage Tank, 7,785 gallons		
W63 – Support Synthesis			
PU203	Bag Emptying Unit	2016 through 2017	7.08
R200.1	Reactor 1		7.08, 7.25
R201.1	Reactor 2		
R220.1	Reactor		STAR, 7.25
P230.80	Decanter		
V231.1	Re-suspension Storage Tank 1 ⁴ 2,358 gal		
V232.1	Re-suspension Storage Tank 2, 2,358 gal		2016 through 2017
V234.1	SRS Transfer Tank, 1,340 gal	STAR, 7.25, 7.08	
D240.1/E240.40	Dryer with Heat Exchanger	STAR, 7.25	
V240.30	Transfer Vessel, 238 gallons	STAR, 7.25, 7.08	
V244.1	Blender		
F244.51	Vibrating Sieve		
244.90	Container/Drum Filling Unit		
244.91	Container/Drum Filling Unit		
PU244	Drum Emptying Unit		
W64 – Catalyst Production			
PU300.80	Container Emptying Unit – Line 1	2016 through 2017	STAR, 7.25, 7.08
PU305.80	Container Emptying Unit – Line 2		
R300.1	Reactor – Line 1		
R305.1	Reactor – Line 2	2016 through 2017	STAR, 7.25
R310.1	Reactor I – Line 1		

³ STAR Regulations are 5.00, 5.01, 5.20, 5.21, 5.22, & 5.23.

⁴ Re-suspension Tanks are identified as process tanks instead of storage tanks since these tanks are washing/slurry tanks with agitation that are filled and emptied each batch; therefore, these tanks are subject to Regulation 7.25 instead of Regulation 7.12.

Emission Point	Description	Construction Date	Applicable Regulations
R315.1	Reactor I – Line 2		
F320.1	Filter – Line 1		
F325.1	Filter – Line 2		
R311.1	Reactor II – Line 1		
R316.1	Reactor II – Line 2		
V321.1	Recycled Storage Tank with agitation – Line 1; 2,355 gallons		
V326.1	Recycled Storage Tank with agitation – Line 2; 2,355 gallons		
V322.1	Recycled Storage Tank – Line 1; 3,207 gal		
V323.1	SRC Transfer Tank – Line 1; 1,334 gal		
V327.1	Recycled Storage Tank – Line 2; 3,207 gal		
V328.1	SRC Transfer Tank – Line 2; 1,334 gal		
D330.1/ E330.40	Dryer with Heat Exchanger – Line 1		
V330.30	Transfer Vessel, 239 gallons	STAR & 7.25	
D335.1/ E335.40	Dryer with Heat Exchanger – Line 2	STAR, 7.25, 7.08	
V335.30	Transfer Vessel, 239 gallons	STAR, 7.25	
V332.1	Blender – Line 1	STAR, 7.25, 7.08	
V337.1	Blender – Line 2		
F332.51	Vibrating Sieve – Line 1	2016 through 2017	STAR, 7.25, & 7.08
F337.51	Vibrating Sieve – Line 2		
PU332.81	Drum Filling Unit – Line 1		
PU337.81	Drum Filling Unit – Line 2		
332.90	Off Spec Drum Filling Unit – Line 1		
337.90	Off Spec Drum Filling Unit – Line 2		
PU332.82	Drum Emptying Unit – Line 1		
PU337.82	Drum Emptying Unit – Line 2		
W65- Solvent Regeneration			
V400.1	SRS Storage Tank (Submerged Fill) 20,296 gallons	2016 through 2017	STAR, 7.12, 40 CFR 60 Subpart Kb
E403.41/ C403.10/ E403.40/ E403.42	Reboiler with Column, Overhead Interchange and Condenser		STAR, 7.25
V403.30	Reflux Vessel		
E403.43/ C403.20/ E403.44	Reboiler with Column and Condenser		
V403.31	Reflux Vessel		STAR
V404.1	Storage Tank (Submerged Fill) 20,296 gallons		STAR, 7.12, 40 CFR 60 Subpart Kb
C406.1/C406.2	Dryer		2016 through 2017

Emission Point	Description	Construction Date	Applicable Regulations
V406.30	Dryer Vessel		
V407.1	Storage Tank, 2,629 gallons ⁵		STAR & 7.12
V410.1	SRC Storage Tank 1 (Submerged Fill) 20,248 gallons	2016 through 2017	STAR, 7.12, 40 CFR 60 Subpart Kb
V420.1	SRC Storage Tank II (Submerged Fill) 20,248 gallons		
C413.10/ E413.40/ E413.41	1 st Stage Distillation Column and Falling Film Evaporator with Condenser		STAR & 7.25
V413.30	Reflux Drum, 383 gallons		
C414.10/ E414.40/ E414.41	2 nd Stage Distillation Column and Falling Film Evaporator with Condenser		STAR, 7.25
V414.30	Reflux Drum, 180 gallons		STAR, 7.25
C415.10/ E415.40/ E415.41	3 rd Stage Distillation Column and Falling Film Evaporator with Condenser		STAR, 7.25
V415.30	Reflux Drum, 90 gallons		STAR, 7.25
V447.1	Storage Tank (Submerged Fill) 20,278 gal		STAR, 7.12, 40 CFR 60 Subpart Kb
V448.1	Storage Tank (Submerged Fill) 20,278 gal		
V427.1	Storage Tank (Submerged Fill) 7,862 gal		STAR, 7.12
V428.1	Storage Tank (Submerged Fill) 7,862 gal		STAR, 7.25
V437.1	Recycle Storage Tank/Mixing Vessel 1,982 gal		
V417.1	Storage Tank, ⁶ 5,285 gallons	2016 through 2017	STAR, 7.12
V417.2	Storage Tank,6 5,285 gallons		STAR, 7.12
W66 – Co-Product Isolation			
V600.1	SRC Storage (Surge/Transfer Vessel with Agitation) and Cooling Tank, 6,835 gallons	2016 through 2017	STAR, 7.25
V601.1	Tank, 3,246 gallons		STAR, 7.25
P602.80	Decanter	2016 through 2017	STAR, 7.25
V602.1	Tank1, 3,246 gallons		STAR, 7.25
V603.1	Tank 2, 3,252 gallons		STAR, 7.25
V608.1	SRC Transfer Tank, 1,309 gallons		STAR, 7.25
D606.1/ E606.40	Dryer with Heat Exchanger		STAR, 7.25, 7.08
V606.30	Transfer Vessel, 680 gallons		STAR, 7.25
PU607	Big-Bag Filling Unit		STAR, 7.25, 7.08
W67 – Waste gas Treatment			
V610.1	Recovered Solvent Storage (Transfer Vessel) Tank 1,500 gal	2016 through 2017	STAR, 7.25
V624.1	Recovered Solvent Storage (Transfer Vessel) Tank 1,500 gal		

⁵ Submerged fill is not required since the stored vapor pressure is less than 1.5 psia.

⁶ Submerged fill is not required since the stored vapor pressure is less than 1.5 psia.

Emission Point	Description	Construction Date	Applicable Regulations
V626.1	Recovered Solvent Storage (Transfer Vessel) Tank 1,500 gal		
W68 - Utilities			
E011.1/E011.2	Cooling Tower (Insignificant Activity)	2016 through 2017	7.08
PU075	Emergency Generator, Kohler, Model 250REOZJE, Tier 3 Engine, 255 KW, 342 HP, Displacement 9 liters ⁷		40 CFR 60 Subpart III, 40 CFR 63 Subpart ZZZZ
P-0001	Fire Pump, Clarke, 86 HP, Displacement 4.5 Liters ⁸		STAR, 7.25
NA	Valves and Flanges		
W69 – Waste Water Treatment⁹			
V691.1	Emergency Drainage Tank, 12,764 gallons	2016 through 2017	STAR
V650.1	Phase Separator, 3,600 gallons		STAR, 7.25
V650.30	Phase Separator, 15 gallons		
V651.1	Waste Water Tank 1, 8,000 gal		
V651.2	Waste Water Tank 2, 8,000 gal		

ii. **Standards/Operating Limits**

1) **Fuel Requirements/Unit Operation**

- (a) 40 CFR 60 Subpart III applies to stationary CI internal combustion engines that commence construction after July 11, 2005.
- (b) 40 CFR 63 Subpart ZZZZ applies to existing, new, and reconstructed stationary engines located at an area source of HAP emissions.

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}**

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.

4) **TAC**

The potential HCl emissions from emission points R310.1, R311.1, R315.1, and R316.1, can exceed the *de minimis*

⁷ There is a 472 gallon storage tank (insignificant activity) associated with PU075.

⁸ There is 185 gallon storage tank (insignificant activity) associated with P-0001.

⁹ V690.1 is a Blow-Down Tank (ST 690.190) that does not generate emissions.

levels for HCl uncontrolled. Reactors 310.1 & R315.1 will be required to be controlled to be *de minimis* on an annual basis and an hourly basis. R311.1 & R316.1 will be required to be controlled to be *de minimis* on an annual basis. The uncontrolled potential emissions from reactors R311.1 & R316.1 are below the pound per hour *de minimis* level. Uncontrolled potential TAC emissions can exceed *de minimis* levels; therefore, limiting emissions to *de minimis* per Regulation 5.21, section 4.3 ensures emissions remain environmentally acceptable.

5) **VOC**

- (a) For V131.1, 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.
- (b) 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. The Company submitted a BACT analysis dated June 8, 2015; updated August 7, 2015; and updated April 11, 2016. The District accepted the BACT determination.
- (c) Regulation 7.12, section 1 applies to each storage vessel for VOC compounds that has a storage capacity greater than 250 gallons.
- (d) 40 CFR 60 Subpart Kb applies to tanks that are greater than or equal to (75 m³) 19,812.9 gallons.

ff. **Emission Unit 252-Boilers – Three (3) Natural Gas Fired Boilers**

i. **Equipment:**

Emission Point	Description	Construction Date	Applicable Regulations
Boiler 7	Natural gas fired boiler, 25.2 MMBtu/hr	1973	7.06, STAR
Boiler 8	Natural gas fired boiler, 58 MMBtu/hr	1988	7.06, STAR
Boiler 9	Natural gas fired boiler, 72.2 MMBtu/hr	1995	7.06, STAR, 40 CFR 60 Subpart Dc

i. **Standards/Operating Limits**

1) **Opacity**

Regulation 7.06, section 4.2 establishes a standard for opacity to not equal or exceed 20% for indirect heat exchangers having input capacity of more than one million BTU per hour.

2) **PM/PM₁₀/PM_{2.5}**

Regulation 7.06, section 4.1.3 establishes PM standards for indirect heat exchangers having input capacity of more than one million BTU per hour.

3) **SO₂**

(a) Regulation 7.06, section 5.1.2 establishes SO₂ standards for indirect heat exchangers having input capacity of more than one million BTU per hour.

(b) 40 CFR 60 Subpart Dc applies to boilers greater than or equal to 10 million BTU per hour constructed after June 9, 1989.

4) **TAC**

The TAC emissions from the combustion of natural gas are considered to be “*de minimis* emissions” per Regulation 5.21, section 2.7. 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.

gg. **Emission Unit 201-GASTK – Gasoline Storage Tank**

i. **Equipment:**

Description	Applicable Regulations
Gasoline Storage Tank, 2000 gal	6.15, STAR, 40 CFR 63 Subpart CCCCC

ii. **Standards/Operating Limits**

1) **HAP**

40 CFR 63 Subpart CCCCC applies to the loading of gasoline storage tanks at gas dispensing facilities.

2) **TAC**

Pursuant to Regulation 5.21, Section 2.6, emissions from motor vehicle fueling or refueling is *de minimis* by definition.

3) **VOC**

Reg. 6.15 establishes requirements for the transfer of volatile organic compounds from transport vehicle tanks into storage tanks greater than 250 gallons at service stations and the equipment involved.

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. **Alternative Operating Scenarios:** The source did not request any alternative operating scenarios.
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 NO _x plume	\$14,250	In compliance
10/27/2015	Visible NO _x plume		In compliance

6. **Calculation Methodology or Other Approved Method:**

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.

7. **Insignificant Activities**

Description	Quantity	Basis (Regulation 1.02)
EU 215-W50, Wastewater Treatment System; Collection, chemical precipitation, pH adjustment and equalization of plant wastewater prior to discharge to MSD	1	Section 1.38.1.1
Lab ventilating and exhausting systems for nonradioactive materials	7	Appendix A, Section 3.11
Research & Development	1	Appendix A, Section 3.27

- 1) Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.
- 2) Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.
- 3) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- 4) The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16 section 4.3.5.3.6.

- 5) The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions or use Potential to Emit (PTE) to be reported on the annual emission inventory.
- 6) The District has determined pursuant to Regulation 2.16 section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.