Louisville Metro Air Pollution Control District
850 Barret Avenue
Louisville, Kentucky 40204-1745

Federally Enforceable District Origin Operating Permit (FEDOOP)

Permit No.: 27825-14-F-R1 Plant ID: 1231

Effective Date: 6/30/2014 Expiration Date: 6/30/2019

Permission is hereby given by the Louisville Metro Air Pollution Control District to operate the process(es) and equipment described herein which are located at:

Forth Technologies
600 Bergman Avenue
Louisville, KY 40203

The applicable procedures of District Regulation 2.17 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than twelve (12) months and no later than ninety (90) days prior to the expiration date.

Emission limitations to qualify for non-major status:

Pollutant:	PM_{10}	Total HAP	HAP
Tons/year:	25 tpy	12.5 tpy	5.0 tpy

Application No.		Application Received:
	17919	3/23/2005
	51286	11/31/2012
	62609	2/21/2014

Permit Writer: Dustin Gohs

Public Notice Date (Initial): 5/23/2014
Public Notice Date (R1): 12/09/2014

Proposed Permit Date (Initial): 5/23/2014

{manager1}
Air Pollution Control Officer
{date1}

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Permit Revisions/Changes

Revision No.	Issue Date	Public Notice Date	Type	Page No.	Description
N/A	6/30/2014	5/23/2014	Initial	Entire Permit	Initial Permit Issuance
R1	xx/xx/xxxx	xx/xx/xxxx	Significant	U1	Clarification in U1 Description of equipment and U1 Equipment table; removal of Tank #1 from U1 PM/PM_{10} Standards; changes and corrections made to U1 PM/PM_{10} Standards

Abbreviations and Acronyms

AP-42 - **AP-42,** *Compilation of Air Pollutant Emission Factors,* published by USEPA
APCD - Louisville Metro Air Pollution Control District
atm - Atmosphere
BACT - Best Available Control Technology
Btu - British thermal unit
CEMS - Continuous Emission Monitoring System
CFR - Code of Federal Regulations
CO - Carbon monoxide
District - Louisville Metro Air Pollution Control District
EA - Environmental Acceptability
HAP - Hazardous Air Pollutant
hr - Hour
lb - Pound
l - Liter
LMAPCD - Louisville Metro Air Pollution Control District
MACT - Maximum Achievable Control Technology
MM - Million
NAICS - North American Industry Classification System
NSR - New Source Review
NOx - Nitrogen oxides
NSPS - New Source Performance Standards
PM - Particulate Matter
PM_{10} - Particulate Matter less than 10 microns
ppm - Parts per million
PSD - Prevention of Significant Deterioration
PMP - Preventive Maintenance Plan
psia - Pounds per square inch absolute
RACT - Reasonably Available Control Technology
SIC - Standard Industrial Classification
SIP - State Implementation Plan
SO_2 - Sulfur dioxide
STAR - Strategic Toxic Air Reduction
TAC - Toxic Air Contaminant
tpy - Tons per year
UTM - Universal Transverse Mercator
VOC - Volatile Organic Compound
w.c. - water column
year - any period of twelve consecutive months, unless "calendar year" is specified
yr - year, or any 12 consecutive-month period, as determined by context

Preamble

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

General Conditions

1. The owner or operator shall comply with all General Conditions herein and all terms and conditions in the referenced process/process equipment list.

2. All terms and conditions in this FEDOOP are enforceable by EPA, except those terms and conditions specified as District-only enforceable, and those which are not required pursuant to the Clean Air Act Amendments of 1990 (CAAA) or any of the Act's applicable requirements.

3. All application forms, reports, compliance certifications, and other relevant information submitted to the District shall be certified by a responsible official. If a change in the responsible official (RO) occurs during the term of this permit, or if an RO is added, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of such change or addition.

4. The owner or operator shall submit an annual compliance certification, signed by the responsible official, to the District, on or before April 15 of the year following the year for which the certification applies. This certification shall include completion of District Form 9440-0.

5. Periodic testing, instrumental monitoring, or non-instrumental monitoring, which may include record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstrating continuing compliance with the terms and conditions of this permit.

6. The owner or operator shall retain all records required by the District or any applicable requirement, including all required monitoring data and supporting information, for a period of five years from the date of the monitoring, sampling, measurement, report, or application, unless a longer time period for record retention is required by the District or an applicable requirement. Records shall be retrievable within a reasonable time and made available to the District, Kentucky Division for Air Quality, or the EPA upon request.

7. The owner or operator shall provide written notification to the District, and receive approval, prior to making any changes to equipment or processes that would result in emissions of any regulated pollutant in excess of the allowable emissions specified in this permit.

8. This permit may be reissued, revised, reopened, or revoked pursuant to District Regulation 2.17. Repeated violations of permit conditions are sufficient cause for revocation of this permit. The filing of a request by the owner or operator for any reissuance, revision, revocation, termination, or a notification of planned changes in equipment or processes, or an anticipated noncompliance shall not alter any permit requirement.

9. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed either 10 tons per year, or such lesser quantity as the EPA has established by rule, of any one Hazardous Air Pollutant (HAP) or 25 tons per year of all HAPs combined. Fugitive HAP emissions shall be included in this limit. HAPs are listed in Section 112(b) of the CAAA and as amended in 40 CFR 63, Subpart C.

10. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed 100 tons per year of any regulated pollutant, including particulate matter, PM_{10}, $PM_{2.5}$, sulfur dioxide, carbon monoxide, nitrogen oxides, lead, hydrogen sulfide, gaseous fluorides, total fluorides, or Volatile Organic Compounds (VOC); any pollutant subject to any standard in District Regulation 7.02; any substance listed in sections 112(r), 602(a) and 602(b) of the CAAA; or any combination of greenhouse gasses whose combined global warming potential equals or exceeds 100,000 tons CO_2-equivalent, as defined in 40 CFR 98 (except that prior to July 21, 2014, the mass of the greenhouse gas carbon dioxide shall not include biogenic carbon dioxide emissions defined in 40 CFR 52.21(b)(49)(ii)(a)). Fugitive emissions shall be included in these limits for source categories listed in District Regulation 2.16.

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

12. Unless specified elsewhere in this permit, the owner or operator shall submit annual reports demonstrating compliance with the emission limitations specified. The report shall contain monthly and consecutive 12-month totals for each pollutant that has a federally enforceable limitation on the potential to emit. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. All annual compliance reports shall include the statement "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete" and the signature and title of a responsible official of the company. The report must be postmarked no later than March 1 of the year following the calendar year covered in the annual report.

13. The owner or operator shall comply with all applicable requirements of the following federally enforceable District Regulations:

Regulation	Title
1.01	General Application of Regulations and Standards
1.02	Definitions
1.03	Abbreviations and Acronyms
1.04	Performance Tests
1.05	Compliance with Emissions Standards and Maintenance Requirements
1.06	Source Self-Monitoring, Emissions Inventory Development and Reporting
1.07	Excess Emissions During Startups, Shutdowns, and Upset Conditions
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention
1.11	Control of Open Burning
1.14	Control of Fugitive Particulate Emissions
2.01	General Application (Permit Requirements)
2.02	Air Pollution Regulation Requirements and Exemptions
2.03	Permit Requirements - Non-Title V Construction and Operating Permits and Demolition/Renovation Permits
2.07	Public Notification for Title V, PSD, and Offset Permits; SIP Revisions; and Use of Emission Reduction Credits
2.09	Causes for Permit Modification, Revocation, or Suspension
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
2.17	Federally Enforceable District Origin Operating Permits
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.07	Episode Reporting Requirements
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (New Affected Facilities)

14. The owner or operator shall comply with all applicable requirements of the following District-only enforceable regulations:

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

15. The owner or operator shall submit emission inventory reports, as required by Regulation 1.06, if so notified by the District.

16. The owner or operator shall submit timely reports of abnormal conditions or operational changes that may cause excess emissions, as required by Regulation 1.07.

17. Applications, reports, test data, monitoring data, compliance certifications, and any other document required by this permit shall be submitted to:

Air Pollution Control District
Room 205
850 Barret Ave
Louisville, KY 40204-1745

Emission Unit U1

U1 Unit Description: Operation Equipment

Dryers

E1 One (1) Troy tray dryer/oven, model TD-1, and a drum for the drummed pigment transportation to the grinder

E2 One (1) Troy tray dryer/oven, model TD-2, and a drum for the drummed pigment transportation to the grinder

E3 One (1) spray dryer process consisting of a Bowen Model BB6 spray dryer (SD-1), with an associated process cyclone separator (C1), wet scrubber (C2), and Tanks T-21 (E3a) and T-22 (E3b) for storage of raw material, pigment slurry

E4 One (1) spray dryer process consisting of a Bowen Model BB6 spray dryer (SD-2), with an associated process cyclone separator (C3), wet scrubber (C4), and Tanks T-25 (E4a) and T-26 (E4b) for storage of raw material, pigment slurry

Salt Grinding (E7 – E12)

One (1) Attritor process containing of:

Six (6) attritors

- E7 Attritor A-1
- E8 Attritor A-2
- E9 Attritor A-5
- E10 Attritor A-7
- E11 Attritor A-8
- E12 Attritor A-9

C7 One (1) wet scrubber (SBM01SC01) to control VOC emissions from the attritors

C8 One (1) dust collector (SBM01DC01) to control PM emissions from the attritors

AP Process (E13 – E16)

E13 One (1) 6,400 gallon storage tank (Tank #31)

E14 One (1) 500 gallon storage tote

E15 One (1) 3,500 gallon mix tank (Tank #35)

E16 One (1) 3,500 gallon finished product storage tank (Tank #36)

C9 One (1) eductor (venturi scrubber), AP Scrubber 1, used to control emissions from Tank #31, Tank #35, and Tank #36

1236 Process

E17 One (1) stainless steel reactor process consisting of a stainless steel reactor (R-30) with a capacity of 1,500 gallons, with an associated process reflux condenser, vacuum pump, and knock out point

E18 One (1) Monel Reactor process consisting of a reactor (R-33) with a capacity of 1,500 gallons and an associated process condenser

PM1/PM2 Process

E19 One (1) Pfaulder Reactor Tank (Tank #30), model 316SS, with a capacity of 2,000 gallons (Also used with the *1236 Process*)

E20 One (1) Air Products Fiberglass Mix Tank (Tank #7), with a capacity of 9,300 gallons

E21 One (1) Air Products Fiberglass Mix Tank (Tank #9), with a capacity of 7,500 gallons
E22 One (1) Filter Press #7, with a capacity of 120 ft^3
E23 One (1) Eimco-Shriver Filter Press #8, with a capacity of 80 ft^3
E24 One (1) Air Products Fiberglass Mix Tank (Tank #10), with a capacity of 12,869 gallons
E25 One (1) Air Products Fiberglass Mix Tank (Tank #11), with a capacity of 12,869 gallons

One Pot Process
E26 One (1) Pfaulder Reactor Tank (Reactor 32), model G/L SA2000, with a capacity of 2,000 gallons
E27 One (1) Fiberglass Mix Tank (Tank #4), with a capacity of 9,300 gallons
C10 One (1) packed-bed wet scrubber (S-33) for reactor room, with an efficiency of 95%

Pigment Manufacturing
E30 One (1) Scott Equipment ribbon blender, model GHM4812, with a capacity of 150 ft^3
E31 One (1) IDH hammermill, with a capacity of 1,000 lb/hr
E32 One (1) LIBCO tote dumper, with a capacity of 20 ft^3
E33 One (1) separation vessel, with a working capacity of 20 ft^3
E34 One (1) JETFLOW bagging unit, model 800 Jetflow Impeller Packer, with a capacity of 44 lb/min
C11 One (1) Torit DownFlo dust collector, model 3DF-6
C12 One (1) MFA dust collector, model MFA-01-B2

Flushers
E35 One (1) Sigma Blade mixer (Flusher #1), with a capacity of 300 gallons
E36 One (1) Sigma Blade mixer (Flusher #2), with a capacity of 300 gallons
E37 One (1) Schold mixing system, with a capacity of 500 gallons
E38 One (1) Schold mixing system, with a capacity of 250 gallons
E39 One (1) Schold mixing system, with a capacity of 100 lb/hr

Salt Attrition for Pigment Manufacturing
E40 One (1) Homrich/Freudenberg double blade Sigma mixer salt attritor, with a capacity of 750 gallons
E41 One (1) salt extraction tank (Tank #6), with a capacity of 2,500 gallons
C13 One (1) Ceilcote packed-bed wet scrubber, with a capacity of 1,000 cfm
C14 One (1) TIGG activated carbon adsorber, model N150, used to collect VOC emissions from Tank #6

U12
E42 One (1) Pioneer blender, model FM100B, with a capacity of 500 lb/hr
E43 One (1) Aaron Equipment ribbon blender, with a capacity of 2,000 lb/hr
E44 One (1) custom ribbon blender, with a capacity of 1,000 lb/hr
Three (3) Hayes electric tray dryers, model LTO-E
C15 One (1) Donaldson Torit baghouse, model 3-6

U13
E45 One (1) Abbe Sigma Blade mixer, with a capacity of 1,000 lb/hr
One (1) Hayes electric tray dryer, model LTO-E

E46 One (1) Mikropul hammermill, with a capacity of 800 lb/hr
C16 One (1) Donaldson Torit baghouse, model 3-6

Basic Dye Pigment Production
E48 One (1) complex filtration tank, with a capacity of 3,000 gallons
E49 One (1) dye solution tank, with a capacity of 3,000 gallons
E50 One (1) basic dye make tank, with a capacity of 5,700 gallons
E51 One (1) dye filtration tank, with a capacity of 9,300 gallons

Diazo Dye Pigment Production
E52 One (1) reactor dissolution vessel (T-33), model 315 SS, with a capacity of 2,000 gallons
E53 One (1) diazotitation tank (T-36) FRP, with a capacity of 5,500 gallons
E54 One (1) strike tank FRP, with a capacity of 9,300 gallons

Grinding and Blending Operations
One (1) grinding operation consisting of:
- E55 One (1) Mikro Pulverizer hammermill, model 2DH, with a capacity of 1,150 lb/hr, with an associated separation vessel
- E55a One (1) associated bagging unit
- C17 One (1) Donaldson Torit baghouse, model 9PJD6, used to control emissions from both the hammermill and bagging unit

One (1) grinding operation consisting of:
- E56 One (1) Mikro Pulverizer hammermill, model 2DH, with a capacity of 1,150 lb/hr, with an associated separation vessel
- E56a One (1) associated bagging unit
- C18 One (1) Donaldson Torit baghouse, model 9PJD6, used to control emissions from both the hammermill and bagging unit

One (1) ribbon blending operation consisting of:
- E57 One (1) custom ribbon blender with a capacity of 80 ft^3
- E57a One (1) associated bagging unit
- C19 One (1) Donaldson Torit baghouse, model 3DF6, used to control emissions from both the ribbon blender and bagging unit

One (1) ribbon blending operation consisting of:
- E58 One (1) custom ribbon blender with a capacity of 250 ft^3
- E58a One (1) associated bagging unit

Small Batch Operation (E59)
E59 One (1) NIRO spray dryer, with a capacity of 40 lb/hr

U1 Applicable Regulations

Regulation	Title	Applicable Sections
2.17	Federally Enforceable District Origin Operating Permit	All (1 – 9)
7.08	Standards of Performance for New Process Operations	All (1 – 4)
7.12	Standard of Performance for New Storage Vessels for Volatile Organic Compounds	All (1 – 8)
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	All (1 – 5)

U1 Equipment

Emission Point ID	Description Make/Model	Maximum Capacity	Applicable Regulation	Control Device (Control ID)	Stack ID	Application Date
Dryers						
E1[1]	Tray Dryer, TD-1	5,000 lb/load	7.08	N/A	E-16	10/21/1996
E2[1]	Tray Dryer, TD-2	5,000 lb/load	7.08	N/A	E-3	10/21/1996
E3[2]	Spray Dryer, SD-1, with process cyclone	165 lb/hr	7.08	C2	E2	10/21/1996
E3a	Tank #21	1,500 gallons	7.08	N/A	N/A	10/21/1996
E3b	Tank #22	1,500 gallons	7.08	N/A	N/A	10/21/1996
E4[3]	Spray Dryer, SD-2, with process cyclone	165 lb/hr	7.08	C4	E4	12/22/1997
E4a	Tank #25	1,500 gallons	7.08	N/A	N/A	12/22/1997
E4b	Tank #26	1,500 gallons	7.08	N/A	N/A	12/22/1997
Salt Grinding						

1 This equipment was previously permitted in operating permit 303-07-O.
2 This equipment was previously permitted in operating permit 304-07-O.
3 This equipment was previously permitted in operating permit 305-07-O.

Emission Point ID	Description Make/Model	Maximum Capacity	Applicable Regulation	Control Device (Control ID)	Stack ID	Application Date
E7[4]	Attritor, A-1	200 lb/batch	7.08, 7.25	C7, C8	E6	2/5/1999
E8[4]	Attritor, A-2	200 lb/batch	7.08, 7.25	C7, C8	E6	2/5/1999
E9[4]	Attritor, A-5	200 lb/batch	7.08, 7.25	C7, C8	E6	2/5/1999
E10[4]	Attritor, A-7	200 lb/batch	7.08, 7.25	C7, C8	E6	2/5/1999
E11[4]	Attritor, A-8	200 lb/batch	7.08, 7.25	C7, C8	E6	2/5/1999
E12[4]	Attritor, A-9	200 lb/batch	7.08, 7.25	C7, C8	E6	2/5/1999
AP Process						
E13[5]	Tank #31	6,400 gallons	7.12, 7.25	C9	E20	1/11/2006
E14[5]	Storage Tote	500 gallons	7.25	N/A	N/A	1/11/2006
E15[5]	Tank #35	3,500 gallons	7.25	C9	E20	1/11/2006
E16[5]	Tank #36	3,500 gallons	7.25	C9	E20	1/11/2006
1236 Process						
E17[6]	Reactor, R-30, with a process condenser	1,500 gallons	7.25	N/A	E7	2/5/1999
E18[6]	Monel Reactor, R-33, with a process condenser	1,500 gallons	7.25	N/A	E7	2/5/1999
PM1/PM2 Process						
E19[7]	Tank #30	2,000 gallons	7.08, 7.25	N/A	E7, E10	9/27/2002

4 This equipment was previously permitted in operating permit 307-07-O.
5 This equipment was previously permitted in operating permit 160-08-O.
6 This equipment was previously permitted in operating permit 308-07-O.
7 This equipment was previously permitted in operating permit 415-05-O.

Emission Point ID	Description Make/Model	Maximum Capacity	Applicable Regulation	Control Device (Control ID)	Stack ID	Application Date
E20[7]	Tank #7	9,300 gallons	7.08, 7.25	N/A	E10	9/27/2002
E21[7]	Tank #9	7,500 gallons	7.08, 7.25	N/A	E10	9/27/2002
E22[7]	Filter Press #7	120 ft^3	7.08, 7.25	N/A	E10	9/27/2002
E23[7]	Filter Press #8	80 ft^3	7.08, 7.25	N/A	E10	9/27/2002
E24[7]	Tank #10	12,689 gallons	7.08, 7.25	N/A	N/A	9/27/2002
E25[7]	Tank #11	12,689 gallons	7.08, 7.25	N/A	N/A	9/27/2002
One Pot Process						
E26[8]	Reactor 32	2,000 gallons	7.08, 7.25	C10	E9	12/19/2001
E27[8]	Tank #4	9,300 gallons	7.08, 7.25	C10	E9	12/19/2001
Pigment Manufacturing						
E30[9]	Scott Equipment Ribbon Blender/ GHM4812	150 ft^3	7.08	C12	E21	1/20/2005
E31[9]	IDH Hammermill	1,000 lb/hr	7.08	C11	E22	1/20/2005
E32[9]	LIBCO Tote Dumper	20 ft^3	7.08	N/A	N/A	1/20/2005
E33[9]	Separation Vessel	20 ft^3	7.08	C11	E22	1/20/2005
E34[9]	JETFLOW Bagging Unit/ 800 Jetflow	44 lb/min	7.08	C12	E21	1/20/2005
Flushers						
E35[10]	Sigma Blade Mixer (Flusher #1)	300 gallons	7.08, 7.25	N/A	E15	6/29/2007
E36[10]	Sigma Blade Mixer (Flusher #2)	300 gallons	7.08, 7.25	N/A	E15	6/29/2007

8 This equipment was previously permitted in operating permit 310-07-O.
9 This equipment was previously permitted in operating permit 416-05-O.
10 This equipment was previously permitted in operating permit 312-07-O.

Emission Point ID	Description Make/Model	Maximum Capacity	Applicable Regulation	Control Device (Control ID)	Stack ID	Application Date
E37[10]	Schold Mixing System	500 gallons	7.08, 7.25	N/A	E15	6/29/2007
E38[10]	Schold Mixing System	250 gallons	7.08, 7.25	N/A	E15	6/29/2007
E39[10]	Schold Mixing System	100 lb/hr	7.08, 7.25	N/A	E15	6/29/2007
Salt Attrition for Pigment Manufacturing						
E40[11]	Homrich/ Freudenberg Attritor	750 gallons	7.08, 7.25	C13	E13	5/11/2011
E41[11]	Tank #6	2,500 gallons	7.08, 7.25	C13, C14	E13, E14	5/11/2011
U12						
E42	Pioneer Blender/ FM100B	500 lb/hr	7.08	C15	N/A	11/21/2011
E43	Aaron Equipment Ribbon Blender	2,000 lb/hr	7.08	C15	N/A	11/21/2011
E44	Custom Ribbon Blender	1,000 lb/hr	7.08	C15	N/A	11/21/2011
U13						
E45	Sigma Blade Mixer	1,000 lb/hr	7.08	C16	N/A	11/21/2011
E46	Mikropul Hammermill	800 lb/hr	7.08	C16	N/A	11/21/2011
Basic Dye Pigment Production						
E48	Complex Filtration Tank	3,000 gallons	7.08, 7.25	N/A	N/A	4/1/2014
E49	Dye Solution Tank	3,000 gallons	7.08, 7.25	N/A	N/A	4/1/2014
E50	Basic Dye Make Tank	5,700 gallons	7.08, 7.25	N/A	N/A	4/1/2014
E51	Dye Filtration Tank	9,300 gallons	7.08, 7.25	N/A	N/A	4/1/2014
Diazo Dye Pigment Production						

11 This equipment was previously permitted in operating permit 32949-11-C.

Emission Point ID	Description Make/Model	Maximum Capacity	Applicable Regulation	Control Device (Control ID)	Stack ID	Application Date
E52	Reactor Dissolution Vessel (T-33)	2,000 gallons	7.08, 7.25	N/A	N/A	4/1/2014
E53	Diazotitation Tank (T-36)	5,500 gallons	7.08, 7.25	N/A	N/A	4/1/2014
E54	Strike Tank FRP	9,300 gallons	7.08, 7.25	N/A	N/A	4/1/2014
Grinding and Blending Operations						
E55	Mikro Pulverizer Hammermill	1,150 lb/hr	7.08	C17	N/A	4/1/2014
E55a	Bagging Unit	1,150 lb/hr	7.08	C17	N/A	4/1/2014
E56	Mikro Pulverizer Hammermill	1,150 lb/hr	7.08	C18	N/A	4/1/2014
E56a	Bagging Unit	1,150 lb/hr	7.08	C18	N/A	4/1/2014
E57	Ribbon Blender	80 ft^3	7.08	C19	N/A	4/1/2014
E57a	Bagging Unit	1,150 lb/hr	7.08	C19	N/A	4/1/2014
E58	Ribbon Blender	250 ft^3	7.08	N/A	N/A	4/1/2014
E58a	Bagging Unit	1,150 lb/hr	7.08	N/A	N/A	4/1/2014
Small Batch Operation						
E59	NIRO Spray Dryer	40 lb/hr	7.08	N/A	N/A	4/1/2014

U1 Control Devices

Control ID	Description	Make/Model	Pollutant Controlled	Application Date
C2[12]	SD-1 Wet Scrubber	American Air Filter	PM, PM_{10}	10/21/1996
C4[13]	SD-2 Wet Scrubber	Venturi Scrubber	PM, PM_{10}	12/22/1997
C7[14]	Attritor Process Wet Scrubber	SBM01SC1	VOC	2/5/1999
C8[14]	Attritor Process Dust Collector	SBM01DC01	PM, PM_{10}	2/5/1999
C9[15]	AP Scrubber 1	Venturi Scrubber	VOC	1/11/2006
C10[16]	Scrubber S-33	Scrubber	VOC	12/19/2001
C11[17]	Dust Collector	Torit/3Df6	PM, PM_{10}	1/20/2005
C12[17]	Dust Collector	MFA/01-B2	PM, PM_{10}	1/20/2005
C13[18]	Packed-bed Wet Scrubber	Ceilcote	VOC	5/11/2011
C14[18]	Activated Carbon Adsorber	TIGG/N150	VOC	5/11/2011
C15	Dust Collector	Donaldson Torit/3-6	PM, PM_{10}	11/21/2011
C16	Dust Collector	Donaldson Torit/3-6	PM, PM_{10}	11/21/2011
C17	Dust Collector	Donaldson Torit/9PJD6	PM, PM_{10}	4/1/2014
C18	Dust Collector	Donaldson Torit/9PJD6	PM, PM_{10}	4/1/2014
C19	Dust Collector	Donaldson Torit/3DF6	PM, PM_{10}	4/1/2014

12 This equipment was previously permitted in operating permit 313-07-O.
13 This equipment was previously permitted in operating permit 314-07-O.
14 This equipment was previously permitted in operating permit 316-07-O.
15 This equipment was previously permitted in operating permit 161-08-O.
16 This equipment was previously permitted in operating permit 311-07-O.
17 This equipment was previously permitted in operating permit 417-05-O.
18 This equipment was previously permitted in operating permit 32949-11-C.

U1 Specific Conditions

S1. **Standards** (Regulation 2.17, section 5.1)

a. **PM/PM_{10}**

i. The owner or operator shall not allow the *plant-wide* PM_{10} emissions to equal or exceed 25 tons during any consecutive 12-month period. (Regulation 2.17, section 5.1)

ii. The owner or operator shall not allow PM emissions to exceed 3.00 lb/hr for spray dryer SD-1 (E3). (Regulation 7.08, section 3.1.2)

iii. The owner or operator shall utilize the wet scrubber (C2) to meet the emission standards for spray dryer SD-1 when the process is in operation. (Regulation 2.03, section 6.1)

iv. The owner or operator shall not allow PM emissions to exceed 3.00 lb/hr for spray dryer SD-2 (E4). (Regulation 7.08, section 3.1.2)[19]

v. The owner or operator shall not allow PM emissions to exceed 3.59 lb/hr for the Aaron Equipment Ribbon Blender (E43). (Regulation 7.08, section 3.1.2)[19]

vi. The owner or operator shall not allow PM emissions to exceed 2.55 lb/hr for each of the following pieces of equipment in the Grinding and Blending Operation: (Regulation 7.08, section 3.1.2)[19]

1) Mikro Pulverizer hammermills (E55 and E56);

2) Hammermill bagging units (E55a and E56a);

3) Ribbon blenders (E57 and E58); and

4) Ribbon blender bagging units (E57a and E58a)

vii. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr or 5 tons/year for each of the following pieces of equipment in the Pigment Manufacturing Operation: (Construction Permit 85-05-C) (Regulation 7.08, section 3.1.2)[20]

1) Scott Equipment ribbon blender (E30);

2) LIBCO tote dumper (E32);

3) Separation vessel (E33); and

4) JETFLOW bagging unit (E34)

19 A one-time compliance demonstration has been performed for each one of these pieces of equipment for PM, and the lb/hr standards cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, or reporting requirements with respect to the PM lb/hr standard.

20 A one-time compliance demonstration has been performed for each one of these pieces of equipment for PM, and both the lb/hr and 5 tpy standards cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, or reporting requirements with respect to the lb/hr and 5 tpy standards.

viii. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for each Sigma blade mixer (Flusher) (E35 and E36). (Construction Permit 312-07-C) (Regulation 7.08, section 3.1.2)[21]

ix. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for the Homrich/Freudenberg attritor (E40) or Tank #6 (E41). (Construction Permit 32949-11-C) (Regulation 7.08, section 3.1.2)[21]

x. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for each of the following pieces of equipment: (Regulation 7.08, section 3.1.2)[21]

1) Tray dryers (E1 and E2);

2) Tanks #21 (E3a) and #22 (E3b);

3) Tanks #25 (E4a) and #26 (E4b);

4) Attritors (E7 – E12);

5) PM1/PM2 Process equipment (E19 – E25);

6) One Pot Process equipment (E26 and E27);

7) IDH hammermill (E31);

8) Schold mixing systems (E37 – E39);

9) Pioneer blender (E42);

10) Custom ribbon blender (E44);

11) U13 equipment (E45 and E46);

12) Basic Dye Pigment Production equipment (E48 – E51);

13) Diazo Dye Pigment Production equipment (E52 – E54); and

14) NIRO spray dryer (E59)

b. **Opacity**

The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

c. **NO_x**

For each dryer, the owner or operator shall not allow NO_x emissions to exceed 300 ppm by volume expressed as NO_2. (Regulation 7.08, section 4.1)[22]

d. **VOC**

i. The owner or operator shall not allow or cause *plant-wide* VOC emissions, including all coatings, additives, catalysts, solvents, thinners, and cleaners

21 A one-time compliance demonstration has been performed for each one of these pieces of equipment for PM, and the lb/hr standards cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, or reporting requirements with respect to the PM lb/hr standard.

22 A one-time compliance demonstration has been performed for this equipment for NO_x, and the standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, or reporting requirements with respect to the NO_x standard.

from the plant to equal or exceed 5 tons during any 12 consecutive month period, unless modeling or a BACT is submitted and approved by the District. (Regulation 7.25, sections 2.1 and 3.1)[23]

ii. For Storage Tank #31, the owner or operator shall not store materials with an as stored vapor pressure of greater than or equal to 1.5 psia. (Construction Permit 165-06-C, Effective Date 6/21/2006) (Regulation 7.12, section 3)

e. **HAP**

i. The owner or operator shall not allow or cause the *plant-wide* emissions of total HAPs combined to equal or exceed 12.5 tons during any consecutive 12-month period. (Regulation 2.17, section 5.1)

ii. The owner or operator shall not allow or cause the *plant-wide* emissions of any individual HAP to equal or exceed 5 tons during any consecutive 12-month period. (Regulation 2.17, section 5.1)

S2. **Monitoring and Record Keeping** (Regulation 2.17, section 5.2)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **PM/PM_{10}**

i. The owner or operator shall maintain records, monthly, of the type and amount of product transferred.

ii. The owner or operator shall calculate and maintain monthly records that show the *plant-wide* PM_{10} emissions during each calendar month and the rolling 12-month total *plant-wide* PM_{10} emissions.

iii. The owner or operator shall maintain daily records of any periods of time where the spray dryer SD-1 was operating and the wet scrubber was not operating or a declaration that the wet scrubber operated at all times that day when the process was operating.

iv. If there is any time that the control devices are bypassed or not in operation when the spray dryer SD-1 is operating, then the owner or operator shall keep a record of the following for each bypass event:

1) Date;

2) Start time and stop time;

3) Identification of the control device and process equipment;

4) PM emissions during the bypass, in lb/hr;

5) Summary of the cause or reason for each bypass event;

23 A one-time compliance demonstration has been performed for this facility for VOC emissions, and the standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, or reporting requirements with respect to the VOC standard.

6) Corrective action taken to minimize the extent or duration of the bypass event; and

7) Measures implemented to prevent recurrence of the situation that resulted in the bypass event.

v. The owner or operator shall, monthly, perform a visual inspection of the structural and mechanical integrity of all control devices for signs of damage, leakage, corrosion, etc. and repair as needed. The owner or operator shall maintain monthly records of the results.

b. **Opacity**

i. For all pieces of equipment in this emission unit subject to Regulation 7.08, the owner or operator shall conduct a monthly one-minute visible emissions survey, during normal operation, of the emission points. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.

iii. The owner or operator shall maintain records, monthly, of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what, if any, corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. **NO_x**

There are no compliance monitoring or record keeping requirements for this pollutant. (See Comment 2)

d. **VOC**

i. There are no monitoring or record keeping requirements for any equipment not specifically referred to in this pollutant section.

ii. For Tank #31, the owner or operator shall maintain records, monthly, of the material stored. If the contents of the storage vessel are changed, a record shall be made of the new contents, the new vapor pressure, and the date of the change in order to demonstrate compliance with Specific Condition S1.d.ii.

e. **HAP**

i. The owner or operator shall maintain records, monthly, of the quantity of each HAP containing material used during each calendar month and the rolling 12-month total quantity of each HAP containing material used.

ii. The owner or operator shall maintain records, monthly, including calculations that show the calendar month and rolling 12-month total *plant-wide* emissions of total HAP emissions.

iii. The owner or operator shall maintain records, monthly, including calculations that show the calendar month and rolling 12-month total *plant-wide* emissions of each individual HAP.

iv. The owner or operator shall maintain a copy of the Material Safety Data Sheet (MSDS) for each HAP containing material used at the plant.

S3. **Reporting (Regulation 2.17, section 5.2)**

The owner or operator shall submit annual compliance reports that include the information in this section. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement. The compliance reports shall be postmarked within 60 days following the end of each reporting period. All compliance reports shall include the following certification statement per Regulation 2.17, section 3.5:

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

The Annual Compliance Report is due on or before the following date of each calendar year:

Reporting Period	Report Due Date
January 1st through December 31st	March 1st

The Annual Compliance Certification is due on or before the following date of each calendar year:

Reporting Period	Report Due Date
January 1st through December 31st	April 15th

If a change in the "Responsible Official" (RO) occurs during the term of this permit, the owner or operator shall provide notification (Form 100A) to the District within 30 calendar days following the date a change in the designated RO occurs for this facility.

a. **PM/PM_{10}**

i. The calendar month and consecutive 12-month *plant-wide* PM_{10} emissions for each month in the reporting period.

ii. For spray dryer SD-1: The owner or operator shall clearly identify all deviations from permit requirements in the annual report and include the following information:

1) Emission Unit ID number and emission point ID number;

2) Identification of all times the control devices are not in operation and the emissions exceed the lb/hr PM limit;

3) Calculated lb/hr PM emissions during the event;

4) Reason for excess emissions;

5) Description of corrective action taken to prevent future exceedances;

6) A negative declaration if no deviations occur during the reporting period;

7) Identification of all times the monthly control device inspections are missed; and

8) A negative declaration if all the control device inspections are completed.

b. **Opacity**

The following information shall be included in the annual reports:

i. The date, time and results of each visible emissions survey conducted that resulted in visible emissions being observed. If no visible emissions were observed during the reporting period, the owner or operator shall submit a negative declaration;

ii. The date, time and results of each Method 9 that exceeded the opacity standard; and

iii. A description of any corrective action taken for each exceedance.

c. **NO_x**

There are no routine compliance reporting requirements for this pollutant.

d. **VOC**

For Storage Tank #31, the following shall be included in the annual report:

i. Emission Unit number and Emission Point number;

ii. The beginning and ending date of the reporting period;

iii. Identification of the operating parameters being monitored;

iv. Identification of all periods of exceedance of the VOC standard and the operating parameters. If no exceedances occur during the reporting period, the owner or operator shall submit a negative declaration;

v. Description of any corrective action taken for each exceedance. If no corrective action was taken during the reporting period, the owner or operator shall submit a negative declaration;

e. **HAP**

i. The total *plant-wide* emissions of each individual HAP for each calendar month in the reporting period; and

ii. The total *plant-wide* consecutive 12-month emissions of each individual HAP for each month in the reporting period.

S4. **Testing (Regulation 2.17, section 5.2)**

The owner or operator shall operate all equipment in such a manner that the following testing requirements can be performed.

a. **PM/PM_{10}**

i. The owner or operator shall retest all control devices and process equipment within 10 years since the most recent District accepted performance test or within 180 days after the effective date of the permit if no previous test has been performed. For equipment which has been tested but not within ten years prior to the effective date of this permit, the company may submit within 90 days of the effective date of this permit, contingent on approval by the District, a schedule which shall at a minimum propose testing for all affected devices at least once every 10 years. Devices of adequately similar design and filter media may be represented by a common performance test contingent upon review and approval by the District of the testing protocol. In lieu of the control efficiency testing, unless required by a Federal Regulation, the owner or operator may submit a signature guarantee from the control device manufacturer stating the control device efficiency or accept the District pre-approved control device efficiency listed in Appendix A.

ii. The compliance test plan shall be furnished to the District at least 30 days prior to the actual date of the performance test. Attached to the permit is a "Protocol Checklist for Performance Test" for the information to be submitted in the protocol. (Appendix B)

iii. The owner or operator shall use the most recent District accepted performance test results to demonstrate compliance with the emission limits and in the annual emission inventory reporting.

iv. The owner or operator shall submit written performance test plans (protocol)_ for the control efficiency and capture efficiency. The plans shall include the EPA test methods to be used for performance testing, the process operating parameters to be monitored during the performance test, and the control device performance indicators (e.g., pressure drop, temperature) to be monitored during the performance test. The owner or operator shall provide the District at least 10 days prior notice of any performance test to afford the District the opportunity to have an observer present.

v. The owner or operator shall furnish the District with a written report of the results of the performance test within 60 days following the actual date of the performance test.

vi. If performance testing is not completed by the required date, the company shall calculate emissions using expired test result data or methods such as EPA approved emission factors and guidance documents such as EIIP and AP-42 or other methods upon written approval by the District, whichever results in the greater (more conservative) emissions.

b. **Opacity**

The owner or operator shall perform Method 9 test at the same time as the Method 5 PM performance test. The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which resulted in the greatest emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit. The maximum 6-minute average opacity exhibited during the test period shall be used to determine whether the affected source is in initial compliance with the standard. The duration of the Method 9 performance test shall be 3 hours (30 6-minute averages).

c. **NO_x**

There are no testing requirements for this pollutant.

d. **VOC**

There are no testing requirements for this pollutant.

e. **HAP**

There are no testing requirements for this pollutant.

Permit Shield

The owner or operator is hereby granted a permit shield that shall apply as long as the owner or operator demonstrates ongoing compliance with all the conditions of this permit. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements of the regulations cited in this permit as of the date of issuance.

Off-Permit Documents

There are no off-permit documents associated with this permit.

Alternative Operating Scenario

The company requested no alternate operating scenario in its FEDOOP Application.

Insignificant Activities

Equipment	Quantity	PTE (tpy)	Basis for Exemption
Natural Gas Boiler	1	3.59 (NO_x)	Regulation 1.02, Appendix A
Indirect Heat Exchanger[24]	1	0.12 (NO_x)	Regulation 1.02, Appendix A
Propane Internal Combustion Engines (Industrial Trucks)	8	0.8 (NO_x)	Regulation 1.02, Appendix A
Emergency Relief Vents	5	0.0	Regulation 1.02, Appendix A
Laboratory Hoods	3	0.279 (VOC)	Regulation 1.02, Appendix A
Parts Washer equipped with secondary reservoirs[25]	1	0.762 (VOC)	Regulation 1.02, Appendix A
Baker/Perkins Flusher	1	0.039 (VOC)	Regulation 1.02, Appendix A
Custom Flusher (5 gal)	1	1.95×10^{-3} (VOC)	Regulation 1.02, Appendix A
Custom Flusher (2 gal)	1	7.81×10^{-4} (VOC)	Regulation 1.02, Appendix A
DH Hammermill	1	0.377 (PM_{10})	Regulation 1.02, Appendix A
30” SWECO Screener	1	0.292 (PM_{10})	Regulation 1.02, Appendix A
Roll Mills	3	0.0	Regulation 1.02, Appendix A
Post Mixer	1	0.0	Regulation 1.02, Appendix A
Stainless Steel Reactor	1	0.051 (VOC)	Regulation 1.02, Appendix A

24 The capacity of the indirect heat exchanger is 0.27 MMBTU/hr. Therefore, it is not subject to Regulation 7.06 because it is less than 1 MMBTU/hr.

25 The parts washer in this emission unit is subject to Regulation 6.18. The owner or operator is required to operate and maintain the parts washer according to the requirements of this regulation.

Equipment	Quantity	PTE (tpy)	Basis for Exemption
Glass Lined Reactor	1	0.051 (VOC)	Regulation 1.02, Appendix A
Rotary Dryer with Condenser	1	0.788 (PM_{10})	Regulation 1.02, Appendix A
Oil Warmer	1	0.0	Regulation 1.02, Appendix A
Dyno Horizontal Media Mill	2	0.377 (PM_{10})	Regulation 1.02, Appendix A
Neutralization Tanks	2	1.88×10^{-5} (VOC)	Regulation 1.02, Appendix A
Wastewater Clarifiers	2	0.106 (VOC)	Regulation 1.02, Appendix A
Sludge Tank	1	6.37×10^{-5} (VOC)	Regulation 1.02, Appendix A
Filter Press #12	1	0.056 (VOC)	Regulation 1.02, Appendix A
Various Filter Presses	9	0.056 (VOC)	Regulation 1.02, Appendix A

IA Comments

1) Insignificant Activities identified in District Regulation 1.02 Appendix A may be subject to size or production rate disclosure requirements.

2) Insignificant Activities identified in District Regulation 1.02 Appendix A shall comply with generally applicable requirements.

3) Activities identified in Regulation 1.02, Appendix A, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the permit.

4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.

5) In lieu of recording annual throughputs and calculating actual annual emissions, the owner or operator may elect to report the pollutant Potential To Emit (PTE) quantity listed in the Insignificant Activities table, as the annual emission for each piece of equipment.

6) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.

7) The owner or operator shall submit an updated list of Insignificant Activities whenever changes in equipment located at the facility occur that cause changes to the plant wide emissions.

Emission Unit IA1

IA1 Unit Description: Natural Gas Combustion

One (1) natural gas boiler rated at 8.369 MMBTU/hr

IA1 Applicable Regulations:

Regulation	Title	Applicable Sections
2.17	Federally Enforceable District Origin Operating Permit	All (1 – 9)
7.06	Standards of Performance for New Indirect Heat Exchangers	All (1 – 5)

IA1 Equipment

Emission Point ID	Description Make/Model	Maximum Capacity	Applicable Regulation	Control Device (Control ID)	Stack ID	Application Date
IA1	Natural Gas Boiler	8.369 MMBTU/hr	7.06	N/A	N/A	4/1/2014

IA1 Specific Conditions

S1. **Standards (Regulation 2.17, section 5.2)**

a. **PM**

i. The owner or operator shall not allow the *plant-wide* PM_{10} emissions to equal or exceed 25 tons during any consecutive 12-month period. (Regulation 2.17, section 5.1)

ii. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility particulate matter in excess of 0.56 pounds per million BTU actual total heat input. (Regulation 7.06, section 4.1.4)[26]

b. **Opacity**

The owner or operator shall not cause to be discharged into the atmosphere from any affected facility particulate matter emissions which exhibit greater than 20% opacity.[27]

c. **SO_2**

The owner or operator shall not cause to be discharged into the atmosphere from that affected facility any gases which contain sulfur dioxide in excess of 1.0 pounds per million BTU actual total heat input for combustion of gaseous fuels. (Regulation 7.06, section 5.1.1)[26]

S2. **Monitoring and Record Keeping (Regulation 2.17, section 5.2)**

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **PM**

i. The owner or operator shall calculate and maintain monthly records that show the *plant-wide* PM_{10} emissions during each calendar month and the rolling 12-month total *plant-wide* PM_{10} emissions.

ii. There are no monitoring or record keeping requirements for PM compliance with respect to the emission standard.

26 A one-time compliance demonstration has been performed for PM and SO_2 for the boiler using AP-42 emission factors and combusting natural gas, and the pound per million BTU emission standards cannot be exceeded. Therefore, there are no monitoring, record keeping, or reporting requirements for this boiler with respect to the PM or SO_2 emission limits.

27 The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.

b. **Opacity**

There are no monitoring or record keeping requirements for Opacity compliance.

c. **SO_2**

There are no monitoring or record keeping requirements for SO_2 compliance.

S3. **Reporting (Regulation 2.17, section 5.2)**

a. **PM**

There are no routine compliance reporting requirements for this equipment.

b. **Opacity**

There are no routine compliance reporting requirements for this equipment.

c. **SO_2**

There are no routine compliance reporting requirements for this equipment.

Emission Unit IA2

IA2 Unit Description: Small Batch Operation

Three (3) laboratory hoods
One (1) Baker/Perkins flusher
One (1) custom flusher, with a capacity of 5 gallons
One (1) custom flusher, with a capacity of 2 gallons
One (1) DH hammermill
One (1) 30" SWECO screener
One (1) stainless steel reactor
One (1) glass lined reactor
One (1) rotary dryer with an associated condenser
Two (2) Dyno horizontal media mills
Two (2) neutralization tanks
Two (2) wastewater clarifiers
One (1) sludge tank
One (1) filter press #12
Various filters presses

IA2 Applicable Regulations:

Regulation	Title	Applicable Sections
2.17	Federally Enforceable District Origin Operating Permit	All (1 – 9)
7.08	Standards of Performance for New Process Operations	1 – 3
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	All (1 – 5)

IA2 Equipment

Emission Point ID	Description Make/Model	Maximum Capacity	Applicable Regulation	Control Device (Control ID)	Stack ID	Application Date
IA2	Laboratory Hood 1	N/A	7.25	N/A	N/A	4/1/2014
IA3	Laboratory Hood 2	N/A	7.25	N/A	N/A	4/1/2014
IA4	Laboratory Hood 3	N/A	7.25	N/A	N/A	4/1/2014
IA5	Baker/Perkins Flusher	100 gal.	7.08, 7.25	N/A	N/A	4/1/2014
IA6	Custom Flusher (5 gal.)	5 gal.	7.08, 7.25	N/A	N/A	4/1/2014
IA7	Custom Flusher (2 gal.)	2 gal.	7.08, 7.25	N/A	N/A	4/1/2014
IA8	DH Hammermill	287 lb/hr	7.08	N/A	N/A	4/1/2014
IA9	30” SWECO Screener	65 lb/hr	7.08	N/A	N/A	4/1/2014
IA10	Stainless Steel Reactor	100 gal.	7.25	N/A	N/A	4/1/2014
IA11	Glass Lined Reactor	100 gal.	7.25	N/A	N/A	4/1/2014
IA12	Rotary Dryer	10 gal.	7.08	N/A	N/A	4/1/2014
IA13	Dyno Horizontal Media Mill 1	287 lb/hr	7.08	N/A	N/A	4/1/2014
IA14	Dyno Horizontal Media Mill 2	287 lb/hr	7.08	N/A	N/A	4/1/2014
IA15	Neutralization Tank 1	1,000 gal.	7.25	N/A	N/A	4/1/2014
IA16	Neutralization Tank 2	1,000 gal.	7.25	N/A	N/A	4/1/2014
IA17	Clarifier 1	60 ft^2	7.25	N/A	N/A	4/1/2014
IA18	Clarifier 2	36 ft^2	7.25	N/A	N/A	4/1/2014
IA19	Sludge Tank	1,000 gal.	7.25	N/A	N/A	4/1/2014
IA20	Filter Press #12	10 ft^2	7.25	N/A	N/A	4/1/2014
IA21	Various Filter Presses	10 ft^2	7.25	N/A	N/A	4/1/2014

IA2 Specific Conditions

S1. **Standards (Regulation 2.17, section 5.2)**

a. **PM**

i. The owner or operator shall not allow the *plant-wide* PM_{10} emissions to equal or exceed 25 tons during any consecutive 12-month period. (Regulation 2.17, section 5.1)

ii. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for each piece of equipment in this IA emission unit subject to Regulation 7.08. (Regulation 7.08, section 3.1.2)[28]

b. **Opacity**

The owner or operator shall not cause to be discharged into the atmosphere from any affected facility particulate matter emissions which exhibit greater than 20% opacity. (Regulation 7.08, section 3.1.1)

c. **VOC**

The owner or operator shall not allow or cause *plant-wide* VOC emissions, including all coatings, additives, catalysts, solvents, thinners, and cleaners from the plant to equal or exceed 5 tons during any 12 consecutive month period, unless modeling or a BACT is submitted and approved by the District. (Regulation 7.25, sections 2.1 and 3.1)[29]

S2. **Monitoring and Record Keeping (Regulation 2.17, section 5.2)**

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **PM**

i. The owner or operator shall calculate and maintain monthly records that show the *plant-wide* PM_{10} emissions during each calendar month and the rolling 12-month total *plant-wide* PM_{10} emissions.

ii. There are no monitoring or record keeping requirements for PM compliance with respect to the lb/hr emission standards.

b. **Opacity**

There are no monitoring or record keeping requirements for Opacity compliance.

c. **VOC**

28 A one-time compliance demonstration has been performed for each piece of equipment for PM, and the lb/hr standards cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, or reporting requirements with respect to the PM lb/hr standard.

29 A one-time compliance demonstration has been performed for this facility for VOC emissions, and the standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, or reporting requirements with respect to the VOC standard.

There are no monitoring or record keeping requirements for VOC compliance.

S3. **Reporting (Regulation 2.17, section 5.2)**

a. **PM**

There are no routine compliance reporting requirements for this equipment.

b. **Opacity**

There are no routine compliance reporting requirements for this equipment.

c. **VOC**

There are no routine compliance reporting requirements for this equipment.

Appendix A – Process/Control Device Efficiencies and Determination Methods

1. Emission Points equipped with Control Devices

Unit ID	Emission Point ID	Emission Point Description	Control ID	Efficiency	Determination Method
U1	E3	Spray Dryer, SD-1	C2	70%	Option 1
	E4	Spray Dryer, SD-2	C4	85.7%	Option 3
	E7 – E12	Salt Grinding Attritors	C7	95%	Option 1
	E7 – E12		C8	95%	Option 1
	E13, E15, E16	Tank #31, Tank #35, and Tank #36	C9	70%	Option 1
	E26, E27	Reactor 32 and Tank #4	C10	70%	Option 1
	E31, E33	IDH Hammermill and Separation Vessel	C11	95%	Option 1
	E30, E34	Scott Equipment Ribbon Blender and JETFLOW Bagging Unit	C12	95%	Option 1
	E40, E41	Homrich/Freudenberg Attritor and Tank #6	C13	70%	Option 1
	E41	Tank #6	C14	75%	Option 1
	E42 – E44	Pioneer Blender, Aaron Equipment Ribbon Blender, and Custom Ribbon Blender	C15	95%	Option 1
	E45, E46	Sigma Blade Mixer and Mikropul Hammermill	C16	95%	Option 1
	E55, E55a	Mikro Pulverizer Hammermill and Bagging Unit	C17	95%	Option 1
	E56, E56a	Mikro Pulverizer Hammermill and Bagging Unit	C18	95%	Option 1
	E57, E57a	Ribbon Blender and Bagging Unit	C19	95%	Option 1

2. Emission Points equipped with Process Cyclones and Condensers

Unit ID	Emission Point ID	Emission Point Description	Process Device ID	Efficiency	Determination Method
U1	E3	Spray Dryer, SD-1	C1	90%	Option 1
	E4	Spray Dryer, SD-2	C2	97.9%	Option 3
	E17	Reactor, R-30	C-E-17	95%	Option 1
	E18	Monel Reactor, R-33	C-E-18	95%	Option 1

Note:

1. Options for control efficiency determination:
   - Option 1: Use District pre-approved control efficiency
   - Option 2: Submit a signature guarantee from the control device manufacturer stating the control device efficiency
   - Option 3: Performed a stack test. See Testing Specific Conditions S4.a in Emission Unit 1 for general testing requirements.
2. Until the District receives a signature guarantee from the control device manufacturer stating the control device efficiency is higher (Option 2), or an approved stack test (Option 3), the pre-approved efficiency (Option 1) will be used in all calculations to demonstrate compliance with applicable standards and calculations for emission inventory.

Appendix B - Protocol Checklist for a Performance Test

A completed protocol should include the following information:

- ☐ 1. Facility name, location, and ID #;
- ☐ 2. Responsible Official and environmental contact names;
- ☐ 3. Permit numbers that are requiring the test to be conducted;
- ☐ 4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
- ☐ 5. Alternative test methods or description of modifications to the test methods to be used;
- ☐ 6. Purpose of the test including equipment and pollutant to be tested; the purpose may be described in the permit that requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
- ☐ 7. Tentative test dates (These may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation.);
- ☐ 8. Maximum rated production capacity of the system;
- ☐ 9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate, based on limits);
- ☐ 10.Method to be used for determining rate of production during the performance test;
- ☐ 11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
- ☐ 12. Description of normal operation cycles;
- ☐ 13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
- ☐ 14. Process flow diagram;
- ☐ 15. The type and manufacturer of the control equipment, if any;
- ☐ 16. The control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test. Note that this data will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
- ☐ 17. How quality assurance and accuracy of the data will be maintained, including;
    - Sample identification and chain-of-custody procedures
    - If audit samples are required for this test method, audit sample provider and number of audit samples to be used
- ☐ 18. Pipe, duct, stack, or flue diameter to be tested;
- ☐ 19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
- ☐ 20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60;
    - Method 1 if stack diameter is >12"
    - Method 1a if stack diameter is greater than or equal to 4" and less than 12"
    - Alternate method of determination for <4"
    - If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative procedure is available for determining the acceptability of a measurement location. This procedure described in Method 1, Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.
- ☐ 21. The Stack Test Review fee shall be submitted with each stack test protocol.