MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION

September 9, 2024

PERMIT TO INSTALL
109-24

ISSUED TO
Pharmacia & Upjohn Company LLC, as Subsidiary of Pfizer, Inc.

LOCATED AT
7000 Portage Road
Kalamazoo, Michigan 49001

IN THE COUNTY OF
Kalamazoo

STATE REGISTRATION NUMBER
B3610

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **July 23, 2024**	
DATE PERMIT TO INSTALL APPROVED: **September 9, 2024**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H_2S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO_x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO_2	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUCR466-S3	All equipment in or around Building 66 located in API Region IV	01-01-1951 / 12-28-1995 / TBD	FGCRALLPART-S3 FGCRALLTOX-S3 FGCFUG-S3 FGPHARMAMACT-S3

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

EUCR466-S3
EMISSION UNIT CONDITIONS

DESCRIPTION

All equipment in or around Building 66 located in API Region IV.

Flexible Group ID: FGCRALLPART-S3, FGCRALLTOX-S3, FGCFUG-S3, FGPHARMAMACT-S3

POLLUTION CONTROL EQUIPMENT

HEPA Filter on FANE1119, FANE1120, FILT3114, dry filter HEPE1517 in line to SCRB1001, and FILT1543; Condensers connected to TOX.

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate	475 lbs per month[1]	Calendar month	All process vents combined	SC VI.1	R 336.1225
2. Particulate	Limits in the table below:	Hourly	EUCR466-S3	SC VI.1	R 336.1225 R 336.1331

Exhaust ID	Lbs Particulate Per Hour By Size Category			Lbs Particulate Per 1000 Lbs Of Dry Exhaust Gas			Maximum Gas Flow Rate
	A	B	C	A	B	C	(dscfm)
3. FANE1119	0.42	0.30	0.18	0.009	0.007	0.001	14,000
4. FANE1120	0.18	0.13	0.08	0.004	0.003	0.0006	600
5. SCRB1001	0.21	0.10	0.05	0.008	0.004	0.002	6,000
6. FILT3114	0.02	0.01	0.01	0.013	0.010	0.006	250
7. FILT1543	0.39	0.28	0.17	0.013	0.010	0.006	6,500

II. MATERIAL LIMITS

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Lots of product produced in TSP processes.	190 lots per month[1]	Calendar month	EUCR466-S3	SC VI.1	R 336.1225

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate equipment located in EUCR466-S3 in vacuum service, while processing a VOC, unless a vacuum pump connected to the thermal oxidizer control is installed and operated properly. **(R 336.1224, R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3)))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall calculate and record the actual particulate emission rates on a monthly basis using the method specified in Appendix 4-S3. All records must be kept on file at the facility and made available to the Department upon request. **(R 336.1225, R 336.1331)**

See Appendix 4-S3

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVC66FANE1119	32	57	R 336.1225 40 CFR 52.21(c) & (d)
2. SVC66FANE1120	8	52	R 336.1225 40 CFR 52.21(c) & (d)
3. SVC66SCRB1001	16	80	R 336.1225 40 CFR 52.21(c) & (d)
4. SVC66FILT3114	5	50	R 336.1225 40 CFR 52.21(c) & (d)
5. SVC66FILT1543	24	50	R 336.1225 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGCRALLPART-S3	All particulate control equipment located in Region I, Buildings 38, 127, 155, 166, 195; Region II, Buildings 44, 149; Region III, Buildings 73, 173, 207, 225; Region IV, Buildings 66, 76, 91 commercial, 335; and Region VI, Buildings 38 and 120.	EUCR138-S3 EUCR1127-S3 EUCR1155-S3 EUCR1166-S3 EUCR1195-S3 EUCR244-S3 EUCR2149-S3 EUCR373-S3 EUCR3173-S3 EUCR3207-S3 EUCR3225-S3 EUCR466-S3 EUCR476-S3 EUCR491COM-S3 EUCR4335-S3 EUC38R6ALL-S3 EUC120R6ALL-S3

FGCRALLPART-S3
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

All particulate control equipment located in Region I Buildings 38, 127, 155, 166, 195; Region II Buildings 44, 149; Region III Buildings 73, 173, 207, 225; Region IV Buildings 66, 76, 91 commercial, 335 and Region VI Building 120.

Emission Units: EUCR138-S3, EUCR1127-S3, EUCR1155-S3, EUCR1166-S3, EUCR1195-S3, EUCR244-S3, EUCR2149-S3, EUCR373-S3, EUCR3173-S3, EUCR3207-S3, EUCR3225-S3, EUCR466-S3, EUCR476-S3, EUCR491COM-S3, EUCR4335-S3, EUC38R6ALL-S3, EUC120R6ALL-S3

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate the equipment in FGCRALLPART-S3, which is a source of particulate matter emissions, unless the exhaust gases are vented to the proper particulate control device as specified, and the control devices are installed, maintained and operated properly. **(R 336.1224, R 336.1910)**

2. The permittee shall exhaust crystalline silica containing materials through a particulate control device permitted to control category size A materials (See Appendix10-S3). **(R 336.1901)**

3. The permittee shall not operate the particulate emitting equipment exhausted through the W-Rotoclones when the water pressure is measured below the values listed in Appendix 12-S3. **(R 336.1910)**

4. The permittee shall not operate the particulate emitting equipment exhausted through the N-Rotoclones when the water level is measured below the values listed in Appendix 12-S3. **(R 336.1910)**

5. The permittee shall not operate the particulate emitting equipment exhausted through the scrubber when the water flow rate is measured below the values listed in Appendix 12-S3. **(R 336.1910)**

6. The permittee shall not operate the particulate emitting equipment exhausted through the bag houses, dust collectors, fabric filters or HEPA filter systems when the differential pressure is outside the values listed in Appendix 12-S3. **(R 336.1910)**

See Appendices 10-S3 and 12-S3

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain the W-Rotoclones with automatic low water pressure shut-off switches. **(R 336.1910)**

2. The permittee shall equip and maintain the N-Rotoclones with automatic low water level shut-off switches. **(R 336.1910)**

3. The permittee shall equip and maintain each scrubber with a line water flow gauge. All recirculating scrubbers shall have gauges capable of measuring the recirculation rate in gallons per minute for the entire design recirculation range of the wet scrubber. **(R 336.1910)**

4. The permittee shall equip and maintain each bag house, dust collector, fabric filter or HEPA filter system with a differential pressure gauge. **(R 336.1910)**

5. The appropriate control equipment shall be used to control the size category of particles as defined in Appendix 10-S3. **(R 336.1224, R 336.1910)**

See Appendix 10-S3

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep records of the calculation methods or actual test data used to determine the particulate diameter for each emitted raw material listed in the permit application. This shall be made available to the AQD upon request. **(R 336.1225, R 336.1331(c))**

2. For each particulate Toxic Air Contaminant (TAC) emitted from the particulate processes, the permittee shall record the associated screening and averaging time and the predicted ambient impact based on dispersion modeling. Particulate TAC's first used in a process building covered by this permit before April 17, 1992, shall be excluded from this requirement.[1] **(R 336.1225)**

3. The permittee shall keep records of the chemical steps performed to make each lot of product.[1] **(R 336.1225)**

4. The permittee shall conduct and record the results of a visible emission observation (described in Appendix 3-S3 of the particulate control device exhausts once per calendar month during a period when the particulate control devices are being operated. **(R 336.1331)**

5. The permittee shall conduct and record the results of a water level gauge inspection of the N-Rotoclones once per calendar month during a period when the N-Rotoclones are being operated. The reading shall be compared to the acceptable range detailed in Appendix 12-S3. **(R 336.1910)**

6. The permittee shall conduct and record the results of a water pressure gauge inspection of the W-Rotoclones once per calendar month during a period when the W-Rotoclones are being operated. The reading shall be compared to the acceptable range detailed in Appendix 12-S3. **(R 336.1910)**

7. The permittee shall conduct and record the results of a recirculating water flow rate inspection of the particle scrubbers once per calendar month during a period when the particle scrubbers are being operated. The reading shall be compared to the acceptable range detailed in Appendix 12-S3. **(R 336.1910)**

8. The permittee shall conduct and record the results of a differential pressure gauge inspection of the bag houses, dust collectors, fabric filters or HEPA filter systems once per calendar month during a period when the bag houses, dust collectors, fabric filters or HEPA filter systems are being operated. The reading shall be compared to the acceptable range detailed in Appendix 12-S3. **(R 336.1225, R 336.1702(a))**

See Appendices 3-S3 and 12-S3

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENTS

1. The permittee shall implement the Malfunction Abatement Program, detailed in Appendix 9-S3, when the following occurs: **(R 336.1911)**
   a) Visible emissions are observed according to the requirement in SC VI.4.
   b) N-Rotoclone water levels are observed outside the acceptable range according to the requirements in SC VI.5.
   c) W-Rotoclone operating pressures are observed outside the acceptable range according to the requirement SC VI.6.
   d) The recirculating water flow rate in the particle scrubbers are outside the acceptable operating range listed in Appendix 12-S3 according to the requirements in SC VI.7.
   e) The differential pressure across the bag houses, dust collectors, fabric filters or HEPA filters are outside the acceptable operating range listed in Appendix 12-S3 according to the requirements in SC VI.8.

See Appendices 9-S3 and 12-S3

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

Appendix 3-S3. Monitoring Requirements

The following monitoring procedures, methods, or specifications are the details to the monitoring requirements identified and referenced in FGCRALLPART-S3. Alternative monitoring procedures, methods, or specifications must be approved by the AQD District Supervisor.

A “visible emissions observation” refers to a survey to be performed for the purpose of determining if there is the presence of visible emissions or if there are no visible emissions, other than uncombined water vapor. Visible emission observation shall be taken at least once per month, for a 1-minute duration, during daylight hours. This can be performed by either a certified or non-certified reader. A log of the required observations shall contain the following information: date, time, observer, status of visible emissions (Yes/No).

Appendix 4-S3. Recordkeeping

The permittee shall use the following approved formats and procedures for the recordkeeping requirements referenced in EUCR466-S3. Alternative formats must be approved by the AQD District Supervisor. An alternative format has been approved.

MONTHLY RECORDKEEPING FORMAT- REGION III TSP PROCESSES			
Process Building	Particulate Maximum (lbs/lot)	Actual Number of lots/month	Estimated Particulate Emissions (lbs/month)
66	2.5		

Appendix 9-S3. Rotoclone/Wet Scrubber/Dry Filter Maintenance and Malfunction Abatement Program

The permittee shall use the following approved formats and procedures for the maintenance and malfunction abatement program requirements referenced in FGCRALLPART-S3.

These procedures are in addition to the normal periodic preventative maintenance program that is to be performed on the control equipment. All records shall be maintained for a minimum of 5 years.

These procedures are to be implemented when the monthly control device operating parameter monitoring detailed in the emission group tables results in a pressure, water flow, differential pressure outside the acceptable range listed in Appendix 12-S3.

These procedures are also to be implemented when the monthly visible emission monitoring detailed in the emission group tables results in the presence of visible emissions, as defined in Appendix 3-S3.

DRY FILTER DEVICES (Dust Collector, Bag house, HEPA Filter, HEF Bag in/Bag out Filter)

If the observed differential pressure reading (mm Hg or inches H2O) is outside the acceptable operating range, or visible emission are observed, implement the following Malfunction Abatement Program:
1. Initiate a root cause analysis for the device.
2. Issue a work order request for the appropriate repair.
3. Following repairs, re-inspect the device and document that it is operating properly, and the differential pressure is within the acceptable operating range.
4. Repeat the visible emissions observation for the respective stack.
5. Document any additional comments.
6. Submit completed documentation of the repairs and re-inspection to the appropriate Environmental Compliance personnel.

WET SCRUBBERS

If the water flow reading (GPM) is outside the acceptable operating range, or if visible emissions are observed, implement the following Malfunction Abatement Program:
1. Initiate a root cause analysis for the device.
2. Issue a work order request for the appropriate repair.
3. Following repairs, re-inspect the device and document that it is operating properly, and the water flow is within the acceptable operating range.
4. Repeat the visible emissions observation for the respective stack.
5. Document any additional comments.
6. Submit completed documentation of the repairs and re-inspection to the appropriate Environmental Compliance personnel.

W-ROTOCLONES

If the observed water pressure (psi) or water flow reading (gal/min) is below the acceptable minimum operating set point, or if visible emissions are observed, implement the following Malfunction Abatement Program:
1. Initiate a root cause analysis for the device.
2. Issue a work order request for the appropriate repair.
3. Following repairs, re-inspect the device and document that it is operating properly, the water pressure is above the acceptable minimum operating set point, and that the automatic low-pressure cutoff is working properly.
4. Repeat the visible emissions observation for the respective stack.
5. Document any additional comments.
6. Submit completed documentation of the repairs and re-inspection to the appropriate Environmental Compliance personnel.

N-ROTOCLONES

If the observed water level (inches) is below the acceptable operating range, or if visible emissions are observed, implement the following Malfunction Abatement Program:

1. Initiate a root cause analysis for the device.
2. Issue a work order request for the appropriate repair.
3. Following repairs, re-inspect the device and document that it is operating properly, the water level is within the acceptable operating range, and that the automatic low-level cutoff is working properly.
4. Repeat the visible emissions observation for the respective stack.
5. Document any additional comments.
6. Submit completed documentation of the repairs and re-inspection to the appropriate Environmental Compliance personnel.

Appendix 10-S3. Particle Size Categories

The permittee shall use the following approved procedures for determination of the particle size category and appropriate control equipment for the requirements referenced in FGCRALLPART-S3.

Category A Mean particle size by weight <100 microns
Category B Mean particle size by weight >100 microns but <200 microns
Category C Mean particle size by weight >200 microns

Control Device	Particle Size/ Control Class
Rotoclone	A, B, C
Exhaust Fan	B, C
Scrubber	A, B, C
Baghouse	A, B, C
Dust Collector	A, B, C

Appendix 12-S3. Particulate Control Equipment Operating Ranges

Rotoclone/ Scrubber	Fabric Filter	Emission Unit	Acceptable min/max or min GPM water	Acceptable minimum water pressure (psi)	Acceptable min/max differential pressure (inches of water)	Acceptable minimum water level (inches)
	EE-33	EUC41MICRONIZING-S3			0.25/2.0	
	KK-33	EUC41MICKK33-S3			0.25/2.6	
G-33		EUC41MICRONIZING-S3	4			
	Y-32	EUC41MICRONIZING-S3			0.4/1.5	
T-18		EUC41MILLING-S3	1			
T-26		EUC41NEOSPRAYDRYER-S3	3			
G-26		EUC41NEOSTOR&HANDL-S3	2			
EX-104		EUCR138-S3		40		
038ROTO0214-1		EUCR138-S3		40		
EX-T245		EUCR138-S3				1
EX-OT354		EUCR138-S3				1
	DUST1018	EUCR138-S3			0.6/8	
127ROTO3127-1		EUCR1127-S3		40		
127ROTO3128-1		EUCR1127-S3		40		
SCRB1044		EUCR1155-S3	30/70			7
EX-OT356		EUCR1166-S3				1
EX-T288		EUCR1166-S3				1
EX-T289		EUCR1166-Se				1
EX-17		EUCR1195-S3		40		
EX-19		EUCR1195-S3			0.1/10	
EX-31		EUCR244-S3		40		
EX-9		EUCR2149-S3		40		
EX-10		EUCR2149-S3		40		
EX-28		EUCR2149-S3		40		
SCRB-1003		EUCR2149-S3	40/100			
SCRB-1004		EUCR2149-S3	120/200			
SCRB-1005		EUCR2149-S3	70/150			
	DUST1008	EUCR373-S3			0.2/5.0	
EX-6		EUCR3173-S3		40		
EX-25		EUCR3173-S3		40		
EX-34		EUCR3173-S3		40		
SCRB1002		EUCR3173-S3	300/400			
	DC1/207	EUCR3207-S3			0.2/5.0	
SCRB1036		EUCR3207-S3	52/132 upper nozzle			
SCRB1036		EUCR3207-S3	52/132 lower nozzle			
SCRB1006		EUCR3225-S3	175/275			
SCRB1007		EUCR3225-S3	75/150			
	EF1C1HB1	EUCR3225-S3			0.1/2.5	

Rotoclone/ Scrubber	Fabric Filter	Emission Unit	Acceptable min/max or min GPM water	Acceptable minimum water pressure (psi)	Acceptable min/max differential pressure (inches of water)	Acceptable minimum water level (inches)
	EX-27	EUCR3225-S3			0.1/2.5	
	EX-30	EUCR3225-S3			0.1/2.5	
	EX-34	EUCR3225-S3			0.1/2.5	
	FANE1119	EUCR466-S3			0.70 min	
	FANE1120	EUCR466-S3			0.05/2.5	
	FILT3114	EUCR466-S3			0.1/2.5	
	FILT1543	EUCR466-S3			0.1/2.5	
	HEPE1517	EUCR466-S3			0.1/2.5	
EX-23		EUCR476-S3		15		
	DUST1010	EUCR491COM-S3			2.0/12.0	
	EX-27 1049	EUCR491COM-S3			0.1/2.5	
	EX-27 1056	EUCR491COM-S3			0.1/2.5	
	EX-117	EUCR491COM-S3			0.1/3	
	EX-118	EUCR491COM-S3			0.1/3	
	EX-119	EUCR491COM-S3			0.1/3	
	DC25C	EUCR4335-S3			0.1/2.5	
	DC22C	EUCR4335-S3			0.1/2.5	
	DUST242	EUCR4335-S3			0.1/2.5	
	DC39	EUCR4335-S3			0.1/2.5	
	335DUST5 000-1	EUCR4335-S3			0.05/6.5	
	FANE0210 -1	EUCR4335-S3			0.2/3.0	
SB180		EUCR4335-S3	132/475			
SB385		EUCR4335-S3	20/50			
	FILT0841-1	EUCR4335-S3			0.1/4.0	
	FILT0842-1	EUCR4335-S3			0.1/4.0	
	335DUST3 007-1	EUCR4335-S3			0.2/8.0	
	DUST3010	EUCR4335-S3			0.2/8.0	
038ROTO0217-1		EUC38R6ALL-S3		40		
SCRB1047		EUC120R6ALL-S3	20/80			