

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

May 14, 2020

**PERMIT TO INSTALL**  
72-98K

**ISSUED TO**  
Plascore, Inc.

**LOCATED AT**  
615 North Fairview and 500 East Roosevelt  
Zeeland, Michigan 49464

**IN THE COUNTY OF**  
Ottawa

**STATE REGISTRATION NUMBER**  
N0824

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: <b>April 27, 2020</b>	
DATE PERMIT TO INSTALL APPROVED: <b>May 14, 2020</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

## PERMIT TO INSTALL

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## 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 <sub>2</sub> e	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 <sub>2</sub> S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO <sub>x</sub>	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 <sub>2</sub>	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 conditions 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.

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUPRINT01	Print Line #1 is a web printing line which applies adhesive in horizontal stripes across a substrate of Aluminum Foil, Stainless Steel Foil, Nomex Paper, Kevlar Paper or other types of Paper webs. This adhesive is the attachment point for the substrate to form a honeycomb shape. After the adhesive is applied to the substrate, it is cured in a continuous feed oven which is heated with electric infrared heaters and with a hot oil coil heat exchanger in a recirculated hot air convection oven. The VOC emissions, which are released from the adhesive as the substrate is cured in the oven, are controlled by Regenerative Thermal Oxidizer #4 or Regenerative Thermal Oxidizer #6. Under normal operations Thermal Oxidizer #6 will be the Control Device, Oxidizer #4 is only used as a backup to #6. In no circumstance will both run at the same time. After curing, the substrate is wound up on rolls for further processing. All additional processing of the substrate to form a honeycomb is done without any VOC emissions.	01-01-1999	FGFAIRVIEW

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUPRINT04	<p>Print Line #4 is a web printing line which applies adhesive in horizontal stripes across a substrate of Aluminum Foil, Stainless Steel Foil, Nomex Paper, Kevlar Paper or other types of Paper webs. This adhesive is the attachment point for the substrate to form a honeycomb shape. After the adhesive is applied to the substrate, it is cured in a continuous feed oven which is heated with electric infrared heaters and with a hot oil coil heat exchanger in a recirculated hot air convection oven. The VOC emissions, which are released from the adhesive as the substrate is cured in the oven, are controlled by Regenerative Thermal Oxidizer #4 or Regenerative Thermal Oxidizer #6. Under normal operations Thermal Oxidizer #6 will be the Control Device, Oxidizer #4 is only used as a backup to #6. In no circumstance will both run at the same time. After curing, the substrate is wound up on rolls for further processing. All additional processing of the substrate to form a honeycomb is done without any VOC emissions.</p>	12-01-2016	FGFAIRVIEW
EUPRINT05	<p>Print Line #5 is a web printing line which applies adhesive in horizontal stripes across a substrate of Aluminum Foil, Stainless Steel Foil, Nomex Paper, Kevlar Paper or other types of Paper webs. This adhesive is the attachment point for the substrate to form a honeycomb shape. After the adhesive is applied to the substrate, it is cured in a continuous feed oven which is heated with electric infrared heaters and with a hot oil coil heat exchanger in a recirculated hot air convection oven. The VOC emissions, which are released from the adhesive as the substrate is cured in the oven, are controlled by Regenerative Thermal Oxidizer #4 or Regenerative Thermal Oxidizer #6. Under normal operations Thermal Oxidizer #6 will be the Control Device, Oxidizer #4 is only used as a backup to #6. In no circumstance will both run at the same time. After curing, the substrate is wound up on rolls for further processing. All additional processing of the substrate to form a honeycomb is done without any VOC emissions.</p>	Not Built Yet	FGFAIRVIEW

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUCLEAN03	Clean Line #3 is an aluminum/stainless steel foil web cleaning line. Its primary function is to clean and coat metal foils with a water-based non-VOC-based cleaner. After cleaning, the metallic foil will be coated with either a water-based or a solvent-based coating. The substrate is cured in a natural gas-fired oven. The VOC emissions from the coating materials are controlled by Regenerative Thermal Oxidizer #4 or Regenerative Thermal Oxidizer #6. Under normal operations Thermal Oxidizer #6 will be the Control Device, Oxidizer #4 is only used as a backup to #6. In no circumstance will both run at the same time.	12-01-2016	FGFAIRVIEW
EUCLEAN04	Clean Line #4 is an aluminum/stainless steel foil web cleaning line. Its primary function is to clean and coat metal foils with a water-based non-VOC-based cleaner. After cleaning, the metallic foil will be coated with either a water-based or a solvent-based coating. The substrate is cured in a natural gas-fired oven. The VOC emissions from the coating materials are controlled by Regenerative Thermal Oxidizer #4 or Regenerative Thermal Oxidizer #6. Under normal operations Thermal Oxidizer #6 will be the Control Device, Oxidizer #4 is only used as a backup to #6. In no circumstance will both run at the same time.	Not Built Yet	FGFAIRVIEW

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUPRINT03	<p>Print Line #3 is a web printing line which applies adhesive in horizontal stripes across a substrate of Aluminum Foil, Stainless Steel Foil, Nomex Paper, Kevlar Paper or other types of Paper webs. This adhesive is the attachment point for the substrate to form a honeycomb shape. After the adhesive is applied to the substrate, it is cured in a continuous feed oven which is heated with electric infrared heaters and with a hot oil coil heat exchanger in a recirculated hot air convection oven. The VOC emissions, which are released from the adhesive as the substrate is cured in the oven, are controlled by Regenerative Thermal Oxidizer #3 or Regenerative Thermal Oxidizer #5. Either Oxidizer may be used by positioning control dampers to select which one. This allows the line to be able to function while either oxidizer is shut off for service, Never will it use both at the same time. After curing, the substrate is wound up on rolls for further processing. All additional processing of the substrate to form a honeycomb is done without any VOC emissions.</p>	01-01-2013 / PTI Issuance Date	FGROOSEVELT

<b>Emission Unit ID</b>	<b>Emission Unit Description (Including Process Equipment &amp; Control Device(s))</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EUARAMID (Formerly EUNOMEX)	<p>The Aramid process involves secondary processing after the paper substrate has been formed into a honeycomb. This process is the same for any of the paper based substrates. The process consists of several groups of like equipment to perform the same task. A group consists of (1) Oxidizer, (2) Ovens, (1) Dip Tank and (1) Devolatilization Chamber. These groups run independently from each other. The groups may or may not all run at the same time. Oxidizer 5 and 3 have the ability to connect their ducts together in case of a break down to allow either oxidizer to work for 2 groups. This will be at a reduced production capacity based on the size of the Oxidizer running. Never will both be connected together while both are running. Under normal operation of a group the product will flow from Dip tank to Devolatilization Chamber to any available Oven, as long as the Oxidizer that supports that oven is running. The paper honeycomb block is dipped in a phenolic resin solution in one of Four (4) dip tanks. The block is then dried in one of four (4) devolatilizing rooms. Emissions from the dip tanks and devolatilizing rooms are controlled by Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5, or Regenerative Thermal Oxidizer #7. After the block is dried, it is placed into one of eight (8) cure ovens which will remove any residual emissions and cure the resin. These ovens will be heated with a hot oil coil heat exchanger in a recirculated hot air convection loop. The emissions from each oven are captured and destroyed by Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5, or Regenerative Thermal Oxidizer #7. The dipping and curing process is repeated several times before the product is finished and ready for final processing. The last step is sawing the blocks into slices to be packaged. This is done without any further VOC emissions.</p>	03-21-1990 / PTI Issuance Date	FGROOSEVELT

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.

### FLEXIBLE GROUP SPECIAL CONDITIONS

#### FLEXIBLE GROUP SUMMARY TABLE

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

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FGFAIRVIEW	Three (3) print lines and two clean line controlled by either Regenerative Thermal Oxidizer #4 or Regenerative Thermal Oxidizer #6. The equipment is located at 615 N. Fairview Rd.	EUPRINT01, EUPRINT04, EUPRINT05, EUCLEAN03. EUCLEAN04
FGROOSEVELT	The Aramid Process Consisting of (4) Equipment Groups described above (EU Description) and print line No. 3 are controlled by Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5 and/or Regenerative Thermal Oxidizer #7. The equipment is located at 500 E. Roosevelt Ave.	EUPRINT03, EUARAMID

**FGFAIRVIEW  
EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Three (3) print lines and two clean line controlled by either Regenerative Thermal Oxidizer #4 or Regenerative Thermal Oxidizer #6. The equipment is located at 615 N. Fairview Rd.

**Flexible Group ID:** EUPRINT01, EUPRINT04, EUPRINT05, EUCLEAN03, EU-CLEAN04.

**POLLUTION CONTROL EQUIPMENT**

Regenerative Thermal Oxidizer (Regenerative Thermal Oxidizer #4 or Regenerative Thermal Oxidizer #6)

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC	20.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGFAIRVIEW	SC VI.4	R 336.1205, R 336.1702(a)
2. Isopropyl Alcohol (CAS No. 67-63-0)	125.956 lb/day	Calendar Day	FGFAIRVIEW	SC VI.6	R 336.1225(1)
3. Formaldehyde (CAS No. 50-00-0)	167.84 lb/yr	12-month rolling time period as determined at the end of each calendar month	FGFAIRVIEW	SC VI.5	R 336.1225(1)

**II. MATERIAL LIMIT(S)**

NA

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall capture all waste materials and shall store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1225, R 336.1702(a))**
2. The permittee shall handle all VOC and / or HAP containing materials, including coatings, reducers, solvents and thinners, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
3. The permittee shall not operate the Regenerative Thermal Oxidizers in FGFAIRVIEW unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted for all Regenerative Thermal Oxidizers within 90 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
  - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
  - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

- c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall equip and maintain each EU in FGFAIRVIEW with roller or comparable application technology with equivalent transfer efficiency. **(R 336.1702(a))**
2. The permittee shall not operate any EU in FGFAIRVIEW unless the associated oven / dryer is installed, maintained and operated in a satisfactory manner. Satisfactory operation requires that the associated oven / dryer is operating at a pressure lower than all adjacent areas so that air flows into the associated oven / dryer through all natural draft openings at all times. This shall be achieved by using built-in interlock systems which will trigger automatically and shut off associated line if the oven /dryer is not operating in negative pressure. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.1910)**
3. The permittee shall not operate any EU in FGFAIRVIEW unless the associated Regenerative Thermal Oxidizers (Regenerative Thermal Oxidizer #4 or Regenerative Thermal Oxidizer #6) are installed, maintained and operated in a satisfactory manner. Satisfactory operation of each Regenerative Thermal Oxidizer includes a minimum VOC destruction efficiency of 95 percent (by weight), maintaining a minimum combustion chamber temperature of 1500°F, and a minimum retention time of 0.5 seconds. **(R 336.1205(1)(a)(ii)&(3), R 336.1225, R 336.1702(a), R 336.1910)**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device in the combustion chambers of each Regenerative Thermal Oxidizer (Regenerative Thermal Oxidizer #4 and Regenerative Thermal Oxidizer #6) to monitor and record the temperature on a continuous basis, during operation of FGFAIRVIEW. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.1910)**

#### **V. TESTING/SAMPLING**

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

1. The permittee shall annually test and certify the built-in interlock systems for each oven / dryer in FGFAIRVIEW to show compliance with SC. IV.2. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
2. The permittee shall determine the VOC content, water content, and density of any material as applied and as received, using federal Reference Test Method 24. Upon prior approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**
3. Upon request from the AQD District Supervisor, the permittee shall verify the VOC destruction efficiency of the existing Regenerative Thermal Oxidizer #4 and/or Regenerative Thermal Oxidizer #6, by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**

## **VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15<sup>th</sup> day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
2. The permittee shall monitor and record, in a satisfactory manner, the temperature in the combustion chamber of the associated Regenerative Thermal Oxidizer on a continuous basis, during operation of any EU in FGFAIRVIEW. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
4. The permittee shall keep the following information on a monthly basis for the FGFAIRVIEW:
  - a) Gallons (with water) of each material used and reclaimed.
  - b) Use of associated Regenerative Thermal Oxidizer with appropriate Identification number.
  - c) VOC content (with water) of each material as applied.
  - d) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
  - e) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records using mass balance, or an alternative format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702(a))**

5. The permittee shall keep the following information on a monthly basis for the FGFAIRVIEW:
  - a) Gallons (with water) of each Formaldehyde (CAS No. 50-00-0) containing material used.
  - b) Where applicable, gallons or pounds of each Formaldehyde (CAS No. 50-00-0) containing material reclaimed.
  - c) Formaldehyde (CAS No. 50-00-0) content of each material as applied.
  - d) Formaldehyde (CAS No. 50-00-0) mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records using mass balance, or an alternative format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.<sup>1</sup> **(R 336.1205(3), R 336.1225, R 336.1702(a))**

6. The permittee shall keep the following information on a daily basis for the FGFAIRVIEW:
  - a. Gallons or pounds of each Isopropyl Alcohol (CAS No. 67-63-0) containing material used.
  - b. Where applicable, gallons or pounds of each Isopropyl Alcohol (CAS No. 67-63-0) containing material reclaimed.
  - c. Isopropyl Alcohol (CAS No. 67-63-0) content of each material as applied.
  - d. Isopropyl Alcohol (CAS No. 67-63-0) mass emission calculations determining the daily emission rate in pounds per calendar day.

The permittee shall keep the records using mass balance, or an alternative format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.<sup>1</sup> **(R 336.1225(1))**

7. The permittee shall keep annual testing and certification records of the built-in interlock systems to show compliance with SC V.1. All records shall be kept on file and made available to the Department upon request. (R 336.1205(3), R 336.1225, R 336.1702(a))

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVOX4 (Regenerative Thermal Oxidizer #4)	16	30	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVOX6 (Regenerative Thermal Oxidizer #6)	36	30	R 336.1225, 40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**FGROOSEVELT  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

The Aramid Process Consisting of (4) Equipment Groups described in the EU Description and print line No. 3 are controlled by Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5 and/or Regenerative Thermal Oxidizer #7. The equipment is located at 500 E. Roosevelt Ave.

**Flexible Group ID:** EUPRINT03, EUARAMID

**POLLUTION CONTROL EQUIPMENT**

Regenerative Thermal Oxidizers (Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5, and/or Regenerative Thermal Oxidizer #7)

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC	65.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGROOSEVELT T	SC VI.4	R 336.1205, R 336.1702(a)
2. Formaldehyde (CAS No. 50-00-0)	0.41 tpy	12-month rolling time period as determined at the end of each calendar month	FGROOSEVELT T	SC VI.5	R 336.1225(1)

**II. MATERIAL LIMIT(S)**

NA

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall capture all waste materials and shall store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1225, R 336.1702(a))**
2. The permittee shall handle all VOC and / or HAP containing materials, including coatings, reducers, solvents and thinners, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
3. The permittee shall not operate the Regenerative Thermal Oxidizers in FGROOSEVELT unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted for all Regenerative Thermal Oxidizers (Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5, and Regenerative Thermal Oxidizer #7) within 90 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
  - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.

- b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
- c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall equip and maintain EUPRINT03 of FGROOSEVELT with roller or comparable application technology with equivalent transfer efficiency. **(R 336.1702(a))**
2. The permittee shall not operate any EU in FGROOSEVELT unless the associated oven / dryer is installed, maintained and operated in a satisfactory manner. Satisfactory operation requires that the associated oven / dryer is operating at a pressure lower than all adjacent areas so that air flows into the associated oven / dryer through all natural draft openings at all times. This shall be achieved by using built-in interlock systems which will trigger automatically and shut off associated line if the oven / dryer is not operating in negative pressure. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.1910)**
3. The permittee shall not operate any EU in FGROOSEVELT unless the associated Regenerative Thermal Oxidizers (Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5, and Regenerative Thermal Oxidizer #7) are installed, maintained and operated in a satisfactory manner. Satisfactory operation of each Regenerative Thermal Oxidizer includes a minimum VOC destruction efficiency of 95 percent (by weight), maintaining a minimum combustion chamber temperature of 1500°F, and a minimum retention time of 0.5 seconds. **(R 336.1205(1)(a)(ii)&(3), R 336.1225, R 336.1702(a), R 336.1910)**
4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device in the combustion chambers of each Regenerative Thermal Oxidizer (Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5, and Regenerative Thermal Oxidizer #7) to monitor and record the temperature on a continuous basis, during operation of FGROOSEVELT. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.1910)**

#### **V. TESTING/SAMPLING**

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

1. The permittee shall annually test and certify the built-in interlock systems for each oven / dryer in FGROOSEVELT to show compliance with SC. IV.2. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
2. The permittee shall determine the VOC content, water content, and density of any material as applied and as received, using federal Reference Test Method 24. Upon prior approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**
3. Within 180 days from issuance of this permit, the permittee shall verify the VOC destruction efficiency of the existing Regenerative Thermal Oxidizer #5 and Regenerative Thermal Oxidizer #7, by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 days prior to testing, the

permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**

4. Upon request from AQD District Supervisor, the permittee shall verify the VOC destruction efficiency of the existing Regenerative Thermal Oxidizer #2 and/or Regenerative Thermal Oxidizer #3, by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**
5. Upon request from AQD District Supervisor, the permittee shall verify capture efficiency of EUPRINT03 and/or EUARAMID portion of FGROOSEVELT, by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 51, Appendix M. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(3), R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**

## **VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15<sup>th</sup> day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
2. The permittee shall monitor and record, in a satisfactory manner, the temperature in the combustion chamber of the associated Regenerative Thermal Oxidizers (Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5, and Regenerative Thermal Oxidizer #7) on a continuous basis, during operation of any EU in FGROOSEVELT. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702(a))**
4. The permittee shall keep the following information on a monthly basis for the FGROOSEVELT:
  - a) Gallons (with water) of each material used and reclaimed.
  - b) Use of associated Regenerative Thermal Oxidizer(s) with appropriate Identification number
  - c) VOC content (with water) of each material as applied.
  - d) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
  - e) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records using mass balance, or an alternative format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702(a))**

5. The permittee shall keep the following information on a monthly basis for the FGROOSEVELT:
  - a) Gallons (with water) of each Formaldehyde (CAS No. 50-00-0) containing material used.
  - b) Where applicable, gallons or pounds of each Formaldehyde (CAS No. 50-00-0) containing material reclaimed.
  - c) Formaldehyde (CAS No. 50-00-0) content of each material as applied.
  - d) Formaldehyde (CAS No. 50-00-0) mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records using mass balance, or an alternative format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.<sup>1</sup> **(R 336.1205(3), R 336.1225, R 336.1702(a))**

6. The permittee shall keep annual testing and certification records of the built-in interlock systems to show compliance with SC V.1. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702(a))**

**VII. REPORTING**

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of fourth (4) dip tank and fourth (4) devolatilizing chamber (both controlled by Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #5, and/or Regenerative Thermal Oxidizer #7) of FGROOSEVELT. **(R 336.1201(7)(a))**

**VIII. STACK/VENT RESTRICTION(S)**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVOX2 (Regenerative Thermal Oxidizer #2)	26	45	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVOX3 (Regenerative Thermal Oxidizer #3)	26	45	R 336.1225, 40 CFR 52.21(c) & (d)
3. SVOX5 (Regenerative Thermal Oxidizer #5)	26	45	R 336.1225, 40 CFR 52.21(c) & (d)
4. SVOX7 (Regenerative Thermal Oxidizer #7)	36	45	R 336.1225, 40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

## FGFACILITY CONDITIONS

### DESCRIPTION

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment and exempt equipment.

### POLLUTION CONTROL EQUIPMENT

FGFAIRVIEW and FGROOSEVELT controlled by Regenerative Thermal Oxidizers (Regenerative Thermal Oxidizer #2, Regenerative Thermal Oxidizer #3, Regenerative Thermal Oxidizer #4, Regenerative Thermal Oxidizer #5, Regenerative Thermal Oxidizer #6, and/or Regenerative Thermal Oxidizer #7)

#### I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Each Individual HAP	Less than 9.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)
2. Aggregate HAPs	Less than 22.5 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)
3. VOC	89.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(3)
4. Formaldehyde (CAS No. 50-00-0)	2,018.4 lb/yr	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.4	R 336.1225(2)

#### II. MATERIAL LIMIT(S)

NA

#### III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

#### 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))**

- The permittee shall determine the HAP content of any material, as received and as applied, using manufacturer's formulation data. Upon request of the AQD District Supervisor, the permittee shall verify the manufacturer's HAP formulation data using EPA Test Method 311. **(R 336.1205(3))**

2. The permittee shall determine the VOC content, water content, and density of any material as applied and as received, using federal Reference Test Method 24. Upon prior approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. **(R 336.1205(3), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**

## **VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15<sup>th</sup> day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3))**
2. The permittee shall keep the following information on a monthly basis for FGFACILITY:
  - a) Gallons or pounds of each HAP containing material used.
  - b) Where applicable, gallons or pounds of each HAP containing material reclaimed.
  - c) HAP content, in pounds per gallon or pounds per pound, of each HAP containing material used.
  - d) Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month.
  - e) Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep records using mass balance, or an alternative format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3))**

3. The permittee shall keep the following information on a monthly basis for FGFACILITY:
  - a) Gallons or pounds of each VOC containing material used.
  - b) Where applicable, gallons or pounds of each VOC containing material reclaimed.
  - c) VOC content, in pounds per gallon or pounds per pound, of each VOC containing material used.
  - d) VOC emission calculations determining the monthly emission rate in tons per calendar month.
  - e) VOC emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records using mass balance, or an alternative format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3))**

4. The permittee shall keep the following information on a monthly basis for FGFACILITY:
  - a) Gallons or pounds of each Formaldehyde (CAS No. 50-00-0) containing material used.
  - b) Where applicable, gallons or pounds of each Formaldehyde (CAS No. 50-00-0) containing material reclaimed.
  - c) Formaldehyde (CAS No. 50-00-0) content, in pounds per gallon or pounds per pound of each material used.
  - d) Formaldehyde (CAS No. 50-00-0) mass emission calculations determining the monthly emission rate in pounds per calendar month.
  - e) Formaldehyde (CAS No. 50-00-0) mass emission calculations determining the annual emission rate of in pounds per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep records using mass balance, or an alternative format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.<sup>1</sup> **(R 336.1225(2))**

## **VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).