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

November 27, 2024

PERMIT TO INSTALL
136-24

ISSUED TO
Atlas Molded Products, a Division of Atlas Roofing Corp.

LOCATED AT
8240 Byron Center Ave SW
Byron Center, Michigan 49315

IN THE COUNTY OF
Kent

STATE REGISTRATION NUMBER
N1794

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: **August 27, 2024**	
DATE PERMIT TO INSTALL APPROVED: **November 27, 2024**	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_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 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.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUEXPANDER5	Hirsch Vacutrans Polystyrene expander with VOC emissions controlled by a shared regenerative thermal oxidizer	07-01-2002 / 5-22-2008	FGEPS
EUEXPANDER6	Hirsch PX 14000 batch expander with VOC emissions controlled by a shared regenerative thermal oxidizer	02-12-2019	FGEPS
EUBEADAGING	Bead aging area for EPS beads prior to molding	09-27-1984	FGEPS
EUMOLD5	Berndorf 33" x 216" polystyrene block molding machine with a capacity of 4,000 pounds of beads per hour	08-01-1997 / 5-22-2008	FGEPS
EUMOLD6	Berndorf 40" by 48" polystyrene shape press with a capacity of 198 pounds of beads per hour	5-22-2008	FGEPS
EUMOLD7	Berndorf 33" x 288" polystyrene block molding machine with a capacity of 5,200 pounds of beads per hour	01-01-2012	FGEPS
EUMOLD8	Idro 43-inch polystyrene block molding machine with a capacity of 5,370 pounds of beads per hour	02-25-2022	FGEPS
EUMOLD9	Modix MDX 230 EPS shape molding machine with a capacity of 389 pounds of beads per hour	TBD	FGEPS
EUBOILER4	12.56 MMBTU/hr natural gas-fired boiler	03-09-2019	FGEPS
EURTO	Regenerative thermal oxidizer used to control all emissions from EUEXPANDER5 and EUEXPANDER6.	10-29-2021	FGEPS

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.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGEPS	Polystyrene bead expansion and molding operations consisting of expanders, molding machines, and the bead aging area, with a regenerative thermal oxidizer to control emissions from the expanders and process steam supplied by a 12.56 MMBTU/hr boiler.	EUEXPANDER5 EUEXPANDER6, EUBEADAGING, EUMOLD5, EUMOLD6, EUMOLD7, EUMOLD8, EUMOLD9, EURTO, EUBOILER4

FGEPS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Polystyrene bead expansion and molding operations consisting of expanders, molding machines, and the bead aging area, with a regenerative thermal oxidizer to control emissions from the expanders and process steam supplied by a 12.56 MMBTU/hr boiler.

Emission Unit: EUEXPANDER5, EUEXPANDER6, EUBEADAGING, EUMOLD5, EUMOLD6, EUMOLD7, EUMOLD8, EUMOLD9, EURTO, EUBOILER4

POLLUTION CONTROL EQUIPMENT

Regenerative thermal oxidizer, to control emissions from EUEXPANDER5 and EUEXPANDER6.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	272.4 lb/hr[3]	Daily hours of operation average	FGEPS	SC V.1, SC V.2, SC VI.2-9	R 336.1220(1)(a)(i)(A) R 336.1702 R 336.2908
2. VOC	374.5 tpy[3]	12-month rolling time period as determined at the end of each calendar month	FGEPS	SC V.1, SC V.2, SC VI.2-9	R 336.1220(1)(a)(i)(A) R 336.1702 R 336.2908
3. VOC	1.86 pph	Hourly	EURTO	SC IV.2-4, SC IV.6-8	R 336.1205 R 336.1225 R 336.1702(a)
4. Styrene	80 lb/month[1]	Calendar month	EUMOLD8	SC VI.15, SC VI.16	R 336.1225
5. VOC	23.9 tpy	12-month rolling time period as determined at the end of each calendar month	EUMOLD8	SC VI.15 SC VI.17	R 336.1205 R 336.1702(a)
6. VOC	11.8 tpy	12-month rolling time period as determined at the end of each calendar month	EUMOLD9	SC VI.19	R 336.1225 R 336.1702(a)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Ethylbenzene processed	16,900 lb/yr[1]	12-month rolling time period as determined at the end of each calendar month	FGEPS	SC VI.12	R 336.1225(2)
2. Styrene processed	84,400 lb/yr[1]	12-month rolling time period as determined at the end of each calendar month	FGEPS	SC VI.13	R 336.1225(2)

3. The permittee shall limit the annual throughput of EPS beads in FGEPS at expansion as specified below, based on a 12-month rolling time period as determined at the end of each calendar month.[3] **(R 336.1702, R 336.1220(1)(a)(i)(A), R 336.2908)**

$$\sum_{12-months}\left(\left(\frac{\sum_i (U_i \times V_i)}{100}\times(1-P_w)\right)-\left(\frac{\sum_i (U_i \times V_i)}{100}\times\left(PE\times\frac{DE}{100}\right)\right)+DS\right)\leq 749{,}000\ \text{pounds}$$

Ui = Pounds of EPS beads from lot i used during the calendar month.
V_i = VOC content of EPS beads from lot i, in pounds of VOC per 100 pounds of beads.
P_w = Production-weighted average fraction of VOC retained in product. "Production-weighted average fraction of VOC retained in product" means the average fraction of VOC contained in the raw beads that is retained in the product shipped from the facility for each month's production. This average is determined by dividing the VOC content of each product by the VOC content of the respective raw beads and weighting this ratio by the fraction, by weight, of the month's production that the product constitutes.
PE = Weight fraction of VOC emissions in the raw beads that are emitted during expansion.
DE = VOC destruction efficiency (percent of VOC in the inlet to the thermal oxidizer that is destroyed in the thermal oxidizer) of the thermal oxidizer. The default value for this shall be 98.0 percent; the actual tested value may be used with the approval of the AQD District Supervisor.
DS = Densified scrap. This is the production weighted average of VOC emissions between trimming scrap from the EPS product and the shipping of densified scrap as a secondary product. This is calculated as P_w minus the average fraction of VOC retained in the densified product, times the pounds of densified shipped.

4. The permittee shall limit the annual throughput of EPS beads through EUMOLD8 to 18,500,000 pounds per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205, R 336.1225, R 336.1702)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Input feed to the expanders shall cease immediately, consistent with safe operating procedures, upon initiation of the regenerative thermal oxidizer bypass. Input feed to the expanders shall not restart until the regenerative thermal oxidizer is back online and functioning properly.[3] **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910, R 336.1220(1)(a)(i)(A), R 336.2908)**

2. The permittee shall not operate more than four (4) block mold machines at any given time.[3] **(R 336.1220(1)(a)(i)(A), R 336.2908)**

3. The permittee shall not operate EURTO unless a malfunction abatement plan (MAP) as described in Rule 911(2), is implemented and maintained.

   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 AQD 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 336.1205, R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device in the combustion chamber of EURTO to monitor and record the temperature on a continuous basis, during operation of EURTO. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

2. The permittee shall not input feed into any expander unless it is vented to the regenerative thermal oxidizer and the regenerative thermal oxidizer is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining a minimum VOC destruction efficiency in the regenerative thermal oxidizer of 98.0 percent by weight, a minimum combustion temperature of 1500°F and a minimum retention time of 0.63 seconds.[3] **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910, R 336.1220(1)(a)(i)(A), R 336.2908)**

3. The permittee shall equip and maintain EURTO with an audible and visual alarm system to alert operators of regenerative thermal oxidizer bypass. **(R 336.1205, R 336.1225, R 336.1702, 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 determine the VOC content, as received and as shipped, of product from FGEPS. The permittee shall use sampling and analysis methods approved by the AQD District Supervisor. An approved analysis may include, but is not limited to, a Certificate of Analysis obtained from the manufacturer for every batch received. The samples, or batches, shall represent the full range of VOC content of EPS beads used in FGEPS and shall support an estimate of the production-weighted average fraction of VOC retained in product from FGEPS.[3] **(R 336.1702, R 336.1220(1)(a)(i)(A), R 336.2908)**

2. The permittee shall determine the VOC content of the regrind, or densified scrap, from FGEPS. The permittee shall use sampling and analysis methods approved by the AQD District Supervisor. The results shall be submitted to the AQD District Supervisor in an acceptable format within 14 days following the receipt of analytical results. **(R 336.1702)**

3. The permittee shall conduct the required sampling and analysis outlined in SC V.2 and SC V.3 on an annual basis or on an alternate sampling schedule or analysis approved by the AQD District Supervisor. **(R 336.1702)**

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 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1220(1)(a)(i)(A), R 336.2908)**

2. The permittee shall record the daily hours of operation for the EPS process. **(R 336.1702)**

3. The permittee shall record the monthly throughput at pre-expansion for each lot of EPS beads.[3] **(R 336.1205(1), R 336.1702, R 336.1220(1)(a)(i)(A), R 336.2908)**

4. The permittee shall record the total EPS bead throughput at pre-expansion, for each calendar month and for a 12-month rolling time period, as determined at the end of each calendar month.[3] **(R 336.1205(1), R 336.1702, R 336.1220(1)(a)(i)(A), R 336.2908)**

5. The permittee shall record total pounds of regrind shipped and the VOC content of the regrind, for each calendar month and for a 12-month rolling time period, as determined at the end of each calendar month.[3] **(R 336.1205(1), R 336.1702, R 336.1220(1)(a)(i)(A), R 336.2908)**

6. The permittee shall record the pounds of VOC per 100 pounds of EPS beads as received, for each lot of EPS beads used in FGEPS.[3] **(R 336.1205(1), R 336.1702, R 336.1220(1)(a)(i)(A), R 336.2908)**

7. The permittee shall record the weight fraction of the total VOC emissions emitted at pre-expansion and the VOC destruction efficiency of the thermal oxidizer.[3] **(R 336.1205(1), R 336.1702, R 336.1220(1)(a)(i)(A), R 336.2908)**

8. The permittee shall calculate and keep a record of the pounds of VOC per 100 pounds of EPS beads used at pre-expansion, for each calendar month and for a 12-month rolling time period, as determined at the end of each calendar month.[3] **(R 336.1205(1), R 336.1702, R 336.1220(1)(a)(i)(A), R 336.2908)**

9. The permittee shall calculate and keep a record of the total VOC emissions from FGEPS (based on throughput at pre-expansion and the amount of densified scrap shipped), using the method detailed in Appendix A, for each calendar month and a 12-month rolling time period, as determined at the end of each calendar month.[3] **(R 336.1702, R 336.1220(1)(a)(i)(A), R 336.2908)**

10. The permittee shall monitor and record, in a satisfactory manner, the regenerative thermal oxidizer combustion chamber temperature on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

11. The permittee shall calibrate, operate and maintain a low temperature alarm, equipped with audible and visible cues on the regenerative thermal oxidizer in accordance with manufacturer's specifications. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

12. The permittee shall keep the following information on a calendar month basis for FGEPS:
    a) Pounds of each ethylbenzene-containing material used.
    b) Ethylbenzene content, in pounds per pound, of each ethylbenzene-containing material used.
    c) Calculations determining the monthly amount of ethylbenzene processed in pounds per calendar month.
    d) Calculations determining the cumulative amount of ethylbenzene processed during the first 12-months and the annual amount of ethylbenzene processed thereafter, in pounds per 12-month rolling time period as determined at the end of each calendar month.

    The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request.[1] **(R 336.1225(2))**

13. The permittee shall keep the following information on a calendar month basis for FGEPS:
    a) Pounds of each styrene-containing material used.
    b) Styrene content, in pounds per pound, of each styrene-containing material used.
    c) Calculations determining the monthly amount of styrene processed in pounds per calendar month.
    d) Calculations determining the cumulative amount of styrene processed during the first 12-months and the annual amount of styrene processed thereafter, in pounds per 12-month rolling time period as determined at the end of each calendar month.

    The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request.[1] **(R 336.1225(2))**

14. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, records of all EURTO bypass events that include the date and time of each bypass, the length of the bypass, and the reason for the bypass. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

15. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, monthly and 12-month rolling time period, as determined at the end of each calendar month, records of the EUMOLD8 EPS bead throughput. The permittee shall keep all records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

16. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, calendar month records of the EUMOLD8 styrene emission rate. The permittee shall keep all records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request.[1] **(R 336.1225)**

17. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, monthly and 12-month rolling time period, as determined at the end of each calendar month, records of the EUMOLD8 VOC emission rate. The permittee shall keep all records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205, R 336.1702(a))**

18. The permittee shall calculate and keep records of the annual emissions of VOC from FGEPS described in Appendix B, in tons per calendar year. Calculations and record keeping shall begin the month in which regular operations of EUMOLD8 commence and shall continue for ten (10) years. **(R 336.2818)**

19. The permittee shall keep the following information on a calendar month basis for EUMOLD9:
    a) Pounds of expanded EPS beads processed.
    b) The VOC emission factor used for the expanded EPS beads processed:
        i) The emission factor of 0.007398 pounds of VOC emitted per pound of expanded EPS beads processed.
        ii) An alternate emission factor may be used with the approval of the AQD District Supervisor.
    c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month, and 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 on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205, R 336.1702(a))**

20. The permittee shall record and maintain records of the amount of natural gas combusted in the boiler EUBOILER4 during each calendar month. **(40 CFR 60.48c(g)(2))**

VII. REPORTING

1. The permittee shall submit records of the annual emission of VOC from FGEPS described in Appendix B, in tons per calendar year, to the AQD Permit Section Supervisor within 60 days following the end of each reporting year if both the following occur:

    a) The calendar year actual emissions of VOC exceed the baseline actual emissions (BAE) by a significant amount, and
    b) The calendar year actual emissions differ from the pre-construction projection. The pre-construction projection is the sum of the projected actual emissions from each existing emission unit and the potential emissions from each new emission unit included in the Hybrid Applicability Test used for FGEPS.

    The report shall contain the name, address, and telephone number of the facility (major stationary source); the annual emissions as calculated pursuant to SC VI.18, and any other information the owner or operator wishes to include (i.e., an explanation why emissions differ from the pre-construction projection). **(R 336.2818)**

2. 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 the startup of EUMOLD9. **(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:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV0035 (RTO Stack)	22	39	R 336.1225 40 CFR 52.21(c)&(d)
2. SV0201 (EUEXPANDER5 Bypass)	8	45	40 CFR 52.21(c)&(d)
3. SV0202 (EUMOLD5 Blower)	11.5	45	40 CFR 52.21(c)&(d)
4. SV0203 (EUMOLD5 Stack)	16	45	40 CFR 52.21(c)&(d)
5. SV0153 (EUMOLD6)	20	10	40 CFR 52.21(c)&(d)
6. SV0204 (EUMOLD7 Vacuum)	12	34.5	40 CFR 52.21(c)&(d)
7. SV0205 (EUMOLD7 Vacuum)	8	40	40 CFR 52.21(c)&(d)
8. SV0029 (EUMOLD7 West End)	16[1]	41[1]	R 336.1901
9. SV0213 (EUMOLD8 Exhaust)	12	38	R 336.1225 40 CFR 52.21(c)&(d)
10. SV0214 (EUMOLD8 Blower)	8.5	38	R 336.1225 40 CFR 52.21(c)&(d)
11. SV0215 (EUMOLD9 Exhaust)	6	35	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).

2 This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

3 This condition was established pursuant to Rule 220 as it applied at the time of permitting in 1997. This limit was established under Non-attainment New Source Review which required LAER emission offsets for VOC's. Rule 220 has been rescinded, and the current equivalent rule is Rule 336.1908 (R 336.2908).

APPENDIX A: Monitoring Requirements

The following monitoring procedures, methods, or specifications are the details to the monitoring requirements identified and referenced in FGEPS.

I. The pounds of VOC per 100 pounds of EPS beads used in the processes during a calendar month shall be calculated as follows:

$$P = \frac{\sum_i \left(U_i \times V_i\right)}{\sum_i U_i}$$

where:

P = Pounds of VOC per 100 pounds of EPS beads used in the processes during the calendar month.

U_i = Pounds of EPS beads from lot *i* used during the calendar month.

V_i = VOC content of EPS beads from lot *i*, in pounds of VOC per 100 pounds of beads.

II. For each lot of EPS beads (*i*) used in the processes, the VOC emission for the calendar month shall be calculated as follows:

$$E_i = \left(\frac{U_i \times V_i}{100} \times \left(1 - P_w\right)\right) - \left(\frac{U_i \times V_i}{100} \times \left(PE \times \frac{DE}{100}\right)\right)$$

where:

E_i = VOC emissions due to use of EPS beads from lot *i* during the calendar month, in pounds.

U_i, V_i = As above.

P_w = Production-weighted average fraction of VOC retained in product. "Production-weighted average fraction of VOC retained in product" means the average fraction of VOC contained in the raw beads that is retained in the product shipped from the facility for each month's production. This average is determined by dividing the VOC content of each product by the VOC content of the respective raw beads and weighting this ratio by the fraction, by weight, of the month's production that the product constitutes.

PE = Weight fraction of VOC emissions in the raw beads that are emitted during expansion.

DE = VOC destruction efficiency (percent of VOC in the inlet to the regenerative thermal oxidizer that is destroyed in the regenerative thermal oxidizer) of the regenerative thermal oxidizer. The default value for this shall be 98.0%; the actual tested value may be used with the approval of the AQD District Supervisor.

III. The total VOC emission for the calendar month due to the use in the processes of all lots of EPS beads shall be calculated as follows:

$$T_m = \sum_i E_i + DS$$

where:

T_m = Total VOC emissions during the calendar month, in pounds.

E_i = As above.

DS = VOC emissions for the month due to densifying of EPS containing VOC.

APPENDIX B: Recordkeeping Provisions for Source Using Hybrid Applicability Test

All information in this Appendix shall be maintained pursuant to R 336.2818 for ten years after EUMOLD8 becomes operational and shall be made available to the Department upon request.

A. Project Description:

Installation of a new block molding machine (EUMOLD8) to replace an existing block molding machine (EUMOLD4). The new mold is faster and more efficient than the old mold.

B. Applicability Test Description:

The applicability test is a hybrid test with project emissions accounting and excludable emissions. The baseline period selected was December 2015 through November 2017. Projected actual emissions, based on the proposed future production rate, were used for all existing equipment. The potential to emit was used for the new mold based on the mold throughput limit in the permit conditions. Emissions that could have been accommodated during the baseline period, calculated using the production level achieved in June of 2017, were excluded from the projected emission increase. Emissions from EUMOLD4 were subtracted out as the mold is being removed as part of the project.

C. Emission Limitations

		Emissions (tpy)			
Emission Unit/Flexible Group ID	**Pollutant**	**Baseline Actual**	**Projected Actual**	**Excluded**	**Reason for Exclusion**
FGEPS	VOC	215.58	279.71	45.18	Excluded emissions could have been accommodated based on the highest month's production during the baseline period