



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

October 24, 2003

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

TO: Interested Parties / Applicant
RE: AOC, LLC / 127-18019-00003
FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 and 326 IAC 2, this approval is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-MOD.dot 9/16/03

October 24, 2003

Ms. Yolanda Fields
AOC, LLC
2552 Industrial Drive
Valparaiso, IN 46383

Re: 127-18019
First Minor Permit Revision to
FESOP 127-13997-00003

Dear Ms. Fields:

AOC, LLC was issued a FESOP on April 8, 2003 for a stationary polyester and acrylic resin production source. A letter requesting changes to this permit was received on August 4, 2003. Pursuant to the provisions of 326 IAC 2-8-11.1 a minor permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of the addition of one (1) gelcoat spray booth identified as J290, and one (1) Resin Transfer Molding (RTM) unit.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the minor permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Madhurima D. Moulik, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (800) 451-6027, press 0 and extension 3-0868, or dial (317) 233-0868.

Sincerely,
Original signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

mm

cc: File - Porter County
U.S. EPA, Region V
Porter County Health Department
Northwest Regional Office
Air Compliance Section Inspector – Rick Massoels
Compliance Data Section - Karen Nowak
Administrative and Development
Technical Support and Modeling - Michele Boner

**FEDERALLY ENFORCEABLE STATE
OPERATING PERMIT (FESOP) RENEWAL
OFFICE OF AIR QUALITY**

**AOC, L.L.C.
2552 Industrial Drive
Valparaiso, Indiana 46383-9510**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F127-13997-00003	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: Expiration Date:

1 st Minor Permit Revision No.: 127-18019	Pages Modified: 9, 10, 10a, 41, 42, 43, 43a, 58a
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: October 24, 2003

- (o) Three (3) loading stations for polyester resin, described as follows, with fugitive VOC and HAP emissions:
 - (1) One (1) loading station, identified as Tanker Bays 1 and 2, constructed in 1984, with a maximum throughput of sixty-five million (65,000,000) pounds per year;
 - (2) One (1) loading station, identified as Tanker Bays 3 and 4, constructed in 1984, with a maximum throughput of sixty-five million (65,000,000) pounds per year; and
 - (3) One (1) loading station, identified as Tanker Bays 5 and 6, constructed in 2000, with a maximum throughput of sixty-five million (65,000,000) pounds per year.
- (p) One (1) gelcoat spray booth, identified as J290, using air-assisted airless spray guns for the application of gelcoat at a maximum rate of 74.05 pounds per hour, exhausting to Stack No. J290.
- (q) One (1) Resin Transfer Molding (RTM) facility for closed molding, using a maximum of 43.83 pounds per hour of polyester resin, and 15.7 pounds per hour of fiberglass, for the production of test molds including flow test, small boats, small trays, and multiple insert tooling, equipped with vent hoods identified as J291.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Emission units with PM and PM10 emissions less than five (5) tons per year, SO₂, NO_x, and VOC emissions less than ten (10) tons per year, CO emissions less than twenty-five (25) tons per year, and lead emissions less than two-tenths (0.2) tons per year:
 - (1) One (1) tank storing phthalic anhydride, identified as storage tank 1, constructed in 1973, with a maximum capacity of sixteen thousand (16,000) gallons;
 - (2) One (1) tank storing maleic anhydride, identified as storage tank 16, constructed in 1986, with a maximum capacity of forty thousand (40,000) gallons;
 - (3) Two (2) tanks storing DCPD, identified as storage tanks 4 and 7, constructed in 1973 and 1981, respectively, each with a maximum capacity of thirty thousand (30,000) gallons, and each controlled by an activated carbon conservation vent;
 - (4) Five (5) tanks storing glycol, identified as storage tank 5, 10, 11, 17, and 18, constructed in 1974, 1976, 1975, 1976, and 1977, respectively, and each with a maximum capacity of thirty thousand (50,000) gallons;
 - (5) One (1) 6,000 gallon distillate hold tank and one (1) 500 gallon aqueous ammonium storage tank used to hold and neutralize process wastewater prior to incineration;
 - (6) One (1) 3,200 gallon glycol boil tank;
 - (7) Piping fugitives;
 - (8) Inhibitor room;

- (9) Seven (7) lab vents, one (1) IPA surge vent, and one (1) maintenance building vent;
- (10) Two (2) fume hoods;
- (11) Acrylic bead blower exhaust;
- (12) Waste oil tank vent;
- (13) SMC machine (R & D); and
- (14) Talc charging blower exhaust;
- (b) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons:
 - (1) Two (2) gasoline storage tanks, each with a maximum capacity of 250 gallons;
- (c) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.
- (d) Diesel generators not exceeding 1600 horsepower;
 - (1) Diesel generator for boilers;
 - (2) Diesel (backup) generator for the process;
- (e) Natural gas-fired combustion source with heat input equal to or less than ten million (10,000,000) British thermal units per hour:
 - (1) Eight (8) furnaces;
- (f) Noncontact cooling tower systems with either of the following:
 - (1) Forced and induced draft cooling tower system not regulated under a NESHAP;
- (g) Stationary fire pumps:
 - (1) Diesel fire pump; and
- (h) Insignificant activities including the following: vacuum pump, compressor, chiller heater, monorail crane, high sheer mixer, and glass cutter.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either

AOC, LLC
Valparaiso, Indiana
Permit Reviewer: ERG/KC

(1) Incorporated as originally stated,
1st Minor Permit Revision No. 127-18019
Revised By: Madhurima D. Moulik

Page 10a of 60
OP No. F 127-13997-00003

(2) revised, or

(3) deleted

by this permit.

(b) All previous registrations and permits are superseded by this permit.

SECTION D.5 FACILITY OPERATION CONDITIONS (Continued)

Facility Description [326 IAC 2-8-4(10)]:

- (5) One (1) unloading station, identified as Railsiding, constructed in 1999, with a maximum throughput of seven-three million (73,000,000) pounds of polyester resin per year;
- (6) One (1) unloading station, identified as Ethylene Glycol/Methyl Propanediol, constructed in 1984, with a maximum throughput of twenty-nine million two hundred thousand (29,200,000) pounds per year;
- (7) One (1) unloading station, identified as Phthalic Anhydride, constructed in 1987, with a maximum throughput of fourteen million six hundred thousand (14,600,000) pounds per year;
- (8) One (1) unloading station, identified as Diethylene Glycol/Propylene Glycol, constructed in 1984, with a maximum throughput of twenty-nine million two hundred thousand (29,200,000) pounds per year;
- (9) One (1) unloading station, identified as 1,3 Butylene Glycol at P4, constructed in 1989 (this station has not been in operation for 3 years); and
- (10) One (1) unloading station, identified as Flammable Unloading of Polyester Resin, constructed in 1984, with a maximum throughput of forty-three million eight hundred thousand (43,800,000) pounds per year;
- (o) Three (3) loading stations for polyester resin, described as follows, with fugitive VOC and HAP emissions:
 - (1) One (1) loading station, identified as Tanker Bays 1 and 2, constructed in 1984, with a maximum throughput of sixty-five million (65,000,000) pounds per year;
 - (2) One (1) loading station, identified as Tanker Bays 3 and 4, constructed in 1984, with a maximum throughput of sixty-five million (65,000,000) pounds per year; and
 - (4) One (1) loading station, identified as Tanker Bays 5 and 6, constructed in 2000, with a maximum throughput of sixty-five million (65,000,000) pounds per year.
- (p) One (1) gelcoat spray booth, identified as J290, using air-assisted airless spray guns for the application of gelcoat at a maximum rate of 74.05 pounds per hour, exhausting to Stack No. J290.
- (q) One (1) Resin Transfer Molding (RTM) facility for closed molding, using a maximum of 43.83 pounds per hour of polyester resin, and 15.7 pounds per hour of fiberglass, for the production of test molds including flow test, small boats, small trays, and multiple insert tooling, equipped with vent hoods identified as J291.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.5.1 FESOP Limitations [326 IAC 2-8]

Pursuant to R127-9880-00003 and 326 IAC 2-8 (FESOP), the styrene monomer resin usage for the development and testing pultrusion unit shall be limited to less than 1578.9 tons per twelve (12) consecutive month period. This limit is equivalent volatile organic compound (VOC) emissions of less than 1.53 tons per year and HAP emissions of less than 1.53 tons per year. The source will be in compliance with this emission limit by using a carbon adsorption unit with an overall efficiency of 81%. Pursuant to 326 IAC 2-8 (FESOP), the gelcoat usage at spray booth J290 shall be limited to less than 3.09 tons per twelve (12) consecutive month period with compliance determined at the end of each month. This limit is equivalent to VOC emissions of less than 0.4 tons per year, styrene (single HAP) emissions of less than 0.4 tons per year, and combined HAP emissions of 0.58 tons per year.

These limits are structured such that when including VOC and HAP emissions from other units at the source, the source total VOC emissions remain below twenty-five (25) tons per twelve (12) consecutive month period, the source total single HAP emissions remain below ten (10) tons per twelve (12) consecutive month period, and the source total combination HAP emissions remain below twenty-five (25) tons per twelve consecutive month period. This limit renders 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) not applicable. Since this limit ensures that emissions from the development and testing pultrusion unit and the gelcoat spray booth each are less than twenty-five (25) tons per year, this limit renders the requirements of 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) and 326 IAC 2-3 (Emission Offset) not applicable.

D.5.2 Particulate Matter (PM) [326 IAC 6-3-2] and 40 CFR 52 Subpart P

Pursuant to 326 IAC 6-3-2(d), particulate matter from the new gelcoat booth J290 shall be controlled by a control device, and the permittee shall operate the control device in accordance with manufacturer's specifications.

For the gelcoat spray booth J290, the air-assisted airless spray application method has been determined to satisfy this requirement for a control device.

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the listed units shall be limited as follows when operating at the listed process weight rate.

Process	Process Weight Rate (ton/hr)	Limit (lb/hr)
Development and testing pultrusion unit	0.405	2.23
Pneumatic conveying system (IPA unloading)	0.03	0.43
Bulk isophthalic acid handling system	0.03	0.43

These limits were calculated using the following equation.

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

D.5.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device

Compliance Determination Requirements

D.5.4 Particulate Matter (PM)

In order to comply with D.5.2, the baghouse for PM control shall be in operation and control emissions from the development and testing pultrusion unit and the pneumatic conveying system at all times that the facilities are in operation.

D.5.5 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs)

In order to comply with Condition D.5.1, the carbon adsorption units for VOC and HAP control shall be in operation and control emissions from the development and testing pultrusion unit at all times that the unit is in operation.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.5.6 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.5.7 Activated Carbon

An activated carbon canister shall be used at all times to control styrene emissions. Emission concentrations for each activated carbon unit shall be measured weekly by either a draeger tube or flame ionization detector. When styrene concentrations are in excess of 50 parts per million (ppm) stand-by carbon canisters shall be placed into service and the spent carbon shall be removed, regenerated, and placed into stand-by service.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.5.8 Record Keeping Requirements

- (a) To document compliance with Condition D.5.1, the Permittee shall maintain records of styrene monomer resin usage and the gelcoat usage at spray booth identified as J290.

- (b) To document compliance with Condition D.5.7, the Permittee shall maintain a log of the following:
 - (1) The weekly styrene concentration at the carbon canister stack outlet; and
 - (2) A log of the dates of carbon replacement and regeneration.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.5.12 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.5.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

FESOP Quarterly Report

Source Name: AOC, L.L.C.
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Mailing Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
FESOP No.: F127-13997-00003
Facility: Gelcoat Spray Booth No. J290
Parameter: Gelcoat usage
Limit: Less than 3.09 tons per twelve (12) consecutive month period with compliance determined at the end of each month

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter
- Deviation occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Minor Permit Revision to a Federally
Enforceable State Operating Permit

Source Background and Description

Source Name:	AOC, LLC
Source Location:	2552 Industrial Drive, Valparaiso, Indiana 46383
County:	Porter
SIC Code:	2821
Operation Permit No.:	F127-13997-00003
Operation Permit Issuance Date:	April 8, 2003
Minor Permit Revision No.:	127-18019
Permit Reviewer:	Madhurima D. Moulik

The Office of Air Quality (OAQ) has reviewed a revision application from AOC, LLC relating to the construction and operation of one (1) new gelcoat spray booth and one (1) new Resin Transfer Molding facility for research and development related to the production of small and large boats, trays and other fiberglass/resin/wood and foam products.

History

AOC, LLC was issued a FESOP on April 8, 2003, for the operation of a polyester and acrylic resin source. On August 4, 2003, a construction permit application was submitted for the installation of one (1) gelcoat spray booth and vent hoods, and one (1) Resin Transfer Molding (RTM) facility for research and development activities.

New Emission Units and Pollution Control Devices

- (1) One (1) gelcoat spray booth, identified as J290, using air assisted airless spray guns for the application of gelcoat at a maximum rate of 74.05 pounds per hour, exhausting to Stack No. J291.
- (2) One (1) Resin Transfer Molding (RTM) facility for closed molding, using a maximum of 43.83 pounds per hour of polyester resin, and 15.7 pounds per hour of fiberglass, for the production of test molds including flow test, small boats, small trays, and multiple insert tooling, equipped with vent hoods identified as J291.
- (3) Insignificant activities including the following: Vacuum pump, air compressor, chiller heater, monorail crane, high sheer mixer, and glass cutter.

Justification for the Revision

The FESOP is being modified through a Minor Permit Revision. The gelcoat spray booth and RTM facility have a combined potential to emit of styrene of more than 25 tons per year. The existing emission units have FESOP emission limits on styrene and VOC, to keep the total limited VOC emissions below 25 tons per year, and the styrene emissions below 10 tons per year. In this permit revision, a limit will be added for the styrene emissions from the gelcoat spray booth and the RTM facility. This revision is being performed pursuant to 326 IAC 2-8-11.1(d)(5)(E) which states in part that a Minor Permit Revision can be used for "modifications for which the potential to emit is limited to less than twenty-five (25) tons per year of any regulated pollutant other than

Permit Reviewer: Madhurima D. Moulik

hazardous air pollutants, ten (10) tons per year of any single hazardous air pollutant as defined under Section 112(b) of the CAA, or twenty-five (25) tons per year of any combination of hazardous air pollutants, by complying with one (1) of the following constraints: limiting raw material throughput”.

Existing Approvals

The source was issued a FESOP 127-13997-00003 on April 8, 2003.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary of New Emission Units

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
J290	Spray Booth	17	2.5	14,000	77
J291	Vent Hoods	17	2.3	4,500	77

Recommendation

The staff recommends to the Commissioner that the Minor Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on August 4, 2003.

Emission Calculations

Potential to Emit of Gelcoat Booth:

Maximum usage rate of gelcoat = 74.05 pounds per hour
= 74.05 lb/hr x 8760 hr/yr x 1 ton/2000 lb = 324 tons per year

Styrene content = 40%

Emission factor for gelcoat application based on “Unified Emission Factors for Open Molding of Composites”, July 23, 2001: (gelcoat non-atomized application at 40% styrene content)

EF = 259 pounds of styrene/ton of gelcoat processed

PTE of styrene = 324 tons of gelcoat/yr x 259 lb styrene/ton gelcoat x 1 ton/2000 lb
= **42 tons per year**

Methyl methacrylate (MMA) content = 8%

Emission factor for gelcoat application based on “Unified Emission Factors for Open Molding of Composites”, July 23, 2001: (gelcoat application at 8% MMA content)

EF = 120 lb of MMA/ ton of gelcoat processed

PTE of MMA = 324 tons of gelcoat/yr x 120 lb MMA/ton gelcoat x 1 ton/2000 lb

= 19.44 tons per year

Solid content of gelcoat = 60%

Transfer efficiency = 80%

Potential to Emit of PM/ PM10 = 0.60 x 324 tons/yr x 0.20 = **38.9 tons per year**

Potential to Emit of RTM facility:

Maximum usage rate of resin = 43.83 pounds per hour

= 43.83 lb/hr x 8760 hr/yr x 1 ton/2000 lb = 192 tons/yr

Emission factor for RTM (closed molding) submitted by source = 0.11%

Styrene content = 40%

PTE of styrene = 192 tons of resin/yr x 0.40 tons styrene/ton resin x 0.0011 (EF) = **0.1 tons/yr**

Unrestricted Potential to Emit of Existing Source

This table reflects the unrestricted potential emissions of the source, excluding any emission limits in FESOP No. 127-13997-00003.

Pollutant	Unrestricted Potential to Emit (tons/yr) ¹
PM	11.12
PM-10	5.51
SO ₂	141.5
VOC	30.33
CO	39.45
NO _x	50.51

HAPs ²	Unrestricted Potential to Emit (tons/yr) ¹
Styrene	26.5
Methanol	0.47
MMA	0.12
Xylene	0.04
Dimethylaniline	0.35
Acrylic Acid	0.03
Pthalic Anhydride	0.46
Maleic Anhydride	0.67
Formaldehyde	0.02
Hexane	0.44
Total	> 25

¹ Based on Technical Support Document for FESOP No. 127-13997-00003.
² HAPs with negligible PTE have been excluded.

Potential to Emit of the Revision Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant,

Permit Reviewer: Madhurima D. Moulik

including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential to Emit (tons/yr)
PM	38.9
PM-10	38.9
SO ₂	-
VOC	42.1
CO	-
NO _x	-

HAPs	Potential to Emit (tons/yr)
Styrene	42.1
MMA	19.4
Total	>25

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-8-11.1(f). However, the source has chosen to limit the PTE of styrene to less than 10 tons per year, and combination of HAPs to less than 25 tons per year. Therefore, pursuant to 326 IAC 2-8-11.1(d)(5), a Minor Permit Revision will be granted.

Unrestricted Potential to Emit of Source After Revision

This table reflects the unrestricted potential emissions of the source, after this minor permit revision.

Pollutant	Unrestricted Potential to Emit (tons/yr)
PM	50.0
PM-10	50.0
SO ₂	141.5
VOC	72.43
CO	39.45
NO _x	50.51

HAPs	Unrestricted Potential to Emit (tons/yr)
Styrene	68.6
Methanol	0.47
MMA	19.44
Xylene	0.04
Dimethylaniline	0.35
Acrylic Acid	0.03
Pthalic Anhydride	0.46
Maleic Anhydride	0.67
Formaldehyde	0.02

Hexane	0.44
Total	> 25

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit of a combination of HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) Pursuant to 326 IAC 2-8, this source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict PTE to below Title V emission levels. This source has chosen to limit the emissions of a single HAP to below ten (10) tons per twelve consecutive month period, and the emissions of any combination of HAPs to below twenty-five (25) tons per per twelve consecutive month period, including the emissions from the new spray booth and RTM facility. This limitation will render the requirements of 326 IAC 2-7 not applicable.
- (c) Fugitive Emissions

This type of operation is one of the twenty-eight listed source categories under 326 IAC 2-2, and since there are applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive VOC emissions are counted toward determination of PSD and Emission Offset applicability.

Potential to Emit After Issuance

This source, issued a FESOP on April 8, 2003, has opted to remain a FESOP source, rather than apply for a Part 70 Operating Permit. The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered enforceable only after issuance of this permit, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential to Emit After Issuance (tons/year)						
	PM	PM-10	SO2	VOC	CO	NOx	Total HAPs
Reactors	0.08	0.08	0	< 1.68	17	6.91	< 1.68
Combustion	4.0	4.0	< 99	1.4	21.7	21.7	---
Thinning Tanks	0	0	0	< 0.48	0	0	< 0.48
Blend Tanks	0	0	0	< 0.24	0	0	< 0.24
Storage Tanks	0	0	0	< 0.67	0	0	< 0.67
Drum-Off Tank	0	0	0	< 0.12	0	0	< 0.12
Development & Testing – Pultrusion Unit	2.23	0	0	< 1.53	0	0	< 1.53
Gelcoat Spray Booth	38.9	38.9	0	< 0.4	0	0	< 0.59
RTM process	0	0	0	0.1	0	0	0.1
Fugitive Emissions	0	0	0	15.27	0	0	4.4

Total Insignificant Activities	7.04	1.43	0.4	0.36	0.75	3.9	---
Total PTE After Issuance	52.25	44.41	Less than 100	Less than 25	39.45	50.51	< 10 for single HAP < 25 for a combination of HAPs

County Attainment Status

The source is located in Porter County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	severe non-attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Porter County has been designated as nonattainment for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.
- (b) Porter County has been classified as attainment or unclassifiable for PM10, SO2, NO2, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2. See the State Rule Applicability for the source section.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to the gelcoat spray booth and Resin Transfer Molding unit.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14, 20 and 40 CFR Part 61, 63) applicable to the new gelcoat spray booth and Resin Transfer molding unit. This source has accepted limits on HAP emissions and is not a major source of HAPs. Therefore, 40 CFR 63, Subpart JJJ (Group IV Polymers and Resins) is not applicable to this source.

State Rule Applicability – Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This source, located in an attainment county for PM10, SO2, NO2, CO, and Lead, is one of the twenty-eight (28) listed source categories, and has limited potential emissions of PM10, SO2, NO2, CO below 100 tons per year. Therefore, 326 IAC 2-2 does not apply.

326 IAC 2-3 (Emission Offset)

The VOC emissions from this source, located in a severe non-attainment county for ozone, and belonging to one of the twenty-eight listed source categories, has limited potential VOC emissions of less than 25 tons per year, including fugitive emissions and limited potential VOC emissions from the gelcoat spray booth and RTM unit. Therefore, 326 IAC 2-3 does not apply.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this polyester and acrylic resin processing source, will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs, including the emissions from the new gelcoat spray booth and Resin Transfer Molding unit. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-8 (FESOP)

The gelcoat usage in the new gelcoat spray booth identified as J290 shall be limited to 3.09 tons per twelve (12) consecutive month period. This limit is equivalent to VOC emissions of less than 0.4 tons per year and HAP (styrene) emissions of less than 0.4 tons per year.

This limit is structured such that when including VOC and HAP emissions from other units at this source, the total VOC emissions remain below 25 tons per year, the source total single HAP emission remains below 10 tons per year, and the total source combination HAPs emissions remain below 25 tons per year.

The remaining state rule applicability for the entire source remains unchanged from that determined in Technical Support Document for FESOP No. F127-13997-00003.

State Rule Applicability – Individual Facilities

326 IAC 20-25 (Styrene Rule)

This source has opted to limit emissions of a single HAP to 10 tons per year, and that of any combination of HAPs to 25 tons per year. Therefore, 326 IAC 20-25 does not apply to the new gelcoat spray booth.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirement)

The potential VOC emissions from the RTM unit is 0.1 tons per year, and the source has opted to limit the potential VOC emissions from the new gelcoat spray booth to less than 25 tons per year. Therefore 326 IAC 8-1-6 does not apply.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)

326 IAC 8-7 does not apply to the new gelcoat spray booth because the FESOP limit ensures that it does not emit greater than twenty-five (25) tons per year of VOC.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2(d), particulate matter from the new gelcoat booth J290 shall be controlled by a control device, and the permittee shall operate the control device in accordance with manufacturer's specifications.

For the gelcoat spray booth J290, the air-assisted airless spray application method has been determined to satisfy this requirement for a control device.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in

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conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to the gelcoat spray booth are as follows:

There are no compliance monitoring requirements for the gelcoat spray booth J290.

Conclusion

The permit revision shall be added to the conditions of the FESOP as Minor Permit Revision No. 127-18019-00003.

CHANGES TO FESOP

The following changes were made to FESOP No. 127-18019-00003 (~~strikeout~~ to show deletions and **bold** to show additions)

(1) Section A.2 is modified as follows:

- (o) Three (3) loading stations for polyester resin, described as follows, with fugitive VOC and HAP emissions:
 - (1) One (1) loading station, identified as Tanker Bays 1 and 2, constructed in 1984, with a maximum throughput of sixty-five million (65,000,000) pounds per year;
 - (2) One (1) loading station, identified as Tanker Bays 3 and 4, constructed in 1984, with a maximum throughput of sixty-five million (65,000,000) pounds per year; and
 - (3) One (1) loading station, identified as Tanker Bays 5 and 6, constructed in 2000, with a maximum throughput of sixty-five million (65,000,000) pounds per year.
- (p) **One (1) gelcoat spray booth, identified as J290, using air assisted airless spray guns for the application of gelcoat at a maximum rate of 74.05 pounds per hour, exhausting to Stack No. J290.**
- (q) **One (1) Resin Transfer Molding (RTM) facility for closed molding, using a maximum of 43.83 pounds per hour of polyester resin, and 15.7 pounds per hour of fiberglass, for the production of test molds including flow test, small boats, small trays, and multiple insert tooling, equipped with vent hoods identified as J291.**

(2) Section A.3 is modified as follows:

- (g) Stationary fire pumps:
 - (1) Diesel fire pump; **and**

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- (h) **Insignificant activities including the following: vacuum pump, air compressor, chiller heater, monorail crane, high sheer mixer, and glass cutter.**

(3) The facility description in Section D.5 is modified as follows:

- (o) Three (3) loading stations for polyester resin, described as follows, with fugitive VOC and HAP emissions:
- (1) One (1) loading station, identified as Tanker Bays 1 and 2, constructed in 1984, with a maximum throughput of sixty-five million (65,000,000) pounds per year;
 - (2) One (1) loading station, identified as Tanker Bays 3 and 4, constructed in 1984, with a maximum throughput of sixty-five million (65,000,000) pounds per year; and
 - (3) One (1) loading station, identified as Tanker Bays 5 and 6, constructed in 2000, with a maximum throughput of sixty-five million (65,000,000) pounds per year.
- (p) **One (1) gelcoat spray booth, identified as J290, using air assisted airless spray guns for the application of gelcoat at a maximum rate of 74.05 pounds per hour, exhausting to Stack No. J290.**
- (q) **One (1) Resin Transfer Molding (RTM) facility for closed molding, using a maximum of 43.83 pounds per hour of polyester resin, and 15.7 pounds per hour of fiberglass, for the production of test molds including flow test, small boats, small trays, and multiple insert tooling, equipped with vent hoods identified as J291.**

(4) Section D.5.1 is modified as follows:

D.5.1 FESOP Limitations [326 IAC 2-8]

Pursuant to R127-9880-00003 and 326 IAC 2-8 (FESOP), the styrene monomer resin usage for the development and testing pultrusion unit shall be limited to less than 1578.9 tons per twelve (12) consecutive month period. This limit is equivalent volatile organic compound (VOC) emissions of less than 1.53 tons per year and HAP emissions of less than 1.53 tons per year. The source will be in compliance with this emission limit by using a carbon adsorption unit with an overall efficiency of 81%. **Pursuant to 326 IAC 2-8 (FESOP), the gelcoat usage at spray booth J290 shall be limited to less than 3.09 tons per twelve (12) consecutive month period with compliance determined at the end of each month. This limit is equivalent to VOC emissions of less than 0.4 tons per year, styrene (single HAP) emissions of less than 0.4 tons per year, and combined HAP emissions of less than 0.58 tons per year.**

~~This limit~~ **These limits is are** structured such that when including VOC and HAP emissions from other units at the source, the source total VOC emissions remain below twenty-five (25) tons per twelve (12) consecutive month period, the source total single HAP emissions remain below ten (10) tons per twelve (12) consecutive month period, and the source total combination HAP emissions remain below twenty-five (25) tons per twelve consecutive month period. This limit renders 326 IAC 2-7 (Part 70 Permit Program) not applicable. Since this limit ensures that emissions from the development and testing pultrusion unit **and the gelcoat spray booth are each** less than twenty-five (25) tons per year, this limit renders the requirements of 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) and 326 IAC 2-3 (Emission Offset) not applicable.

(5) Section D.5.2 is modified as follows:

D.5.2 Particulate Matter (PM) [326 IAC 6-3-2] and 40 CFR 52 Subpart P

Pursuant to 326 IAC 6-3-2(d), particulate matter from the new gelcoat booth J290 shall be controlled by a control device, and the permittee shall operate the control device in accordance with manufacturer's specifications.

For the gelcoat spray booth J290, the air-assisted airless spray application method has been determined to satisfy this requirement for a control device.

(6) Section D.5.8 is modified as follows:

D.5.8 Record Keeping Requirements

- (a) To document compliance with Condition D.5.1, the Permittee shall maintain records of styrene monomer resin usage **and the gelcoat usage at spray booth identified as J290.**
- (b) To document compliance with Condition D.5.6, the Permittee shall maintain records of daily visible emission notations of the **gelcoat spray booth stack number J290, the** development and testing pultrusion unit, and the pneumatic conveying system stack exhaust.

(7) A quarterly report is added for the gelcoat spray booth no. J290 as follows:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

FESOP Quarterly Report

Source Name: AOC, L.L.C.
Source Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
Mailing Address: 2552 Industrial Drive, Valparaiso, Indiana 46383
FESOP No.: F127-13997-00003
Facility: Gelcoat Spray Booth No. J290
Parameter: Gelcoat Usage
Limit: Less than a 3.09 tons per twelve (12) consecutive month period with compliance determined at the end of each month

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.